Winter 2015

Better Medicine

Lehigh Valley Health Network

Epic Will Transform How We Communicate With Each Other

By Judith Brooks, CRNP, with LVPG Internal Medicine—3080 Hamilton Blvd.

Judith Brooks, CRNP
Internal Medicine

The way we practice medicine is constantly changing. Starting this month, all of us at Lehigh Valley Physician Group (LVPG) are embarking on a bold transition. We are introducing Epic, a powerful new electronic medical record (EMR) system that will create a single, integrated EMR. Epic will dramatically change the way we communicate with our patients — and with each other as providers.

Epic is an enterprise-level patient record that will be used for registration, scheduling, patient care documentation and billing. With Epic, referrals will become smoother handoffs, allowing us to focus more on the questions that need answering and less on the transfer of information. Messages will be integrated into our daily work flows, facilitating provider-to-provider communication.

Providers who refer patients to us from outside of LVPG or Lehigh Valley Health Network (LVHN) will have access to a robust Web-based portal where they can interact with Epic. From that portal — called LVHN Link — referring providers will be able to access patient-centric data such as medication lists, allergies and medical problems, as well as appointment summaries, labs and other documents. This is true whether a provider is referring a patient into LVHN or LVPG, or if they have a clinical relationship with the patient and want to keep track of an emergency department or hospital admission.

From a patient care perspective, Epic will be truly transformative as well. Providers will document a patient visit directly at the point of care using a 24-inch computer monitor. This will ensure clear and accurate communications with our patients.

As exciting as Epic is, it also will be a great learning experience for all of us. Wave 1 of our rollout — which includes all ambulatory areas — began this month. Wave 2 — which includes LVHN's hospitals in Lehigh and Northampton counties — will take place in August. We have hundreds of support personnel to accompany us, along with internal staff, super users, provider site champions and people who have worked on Epic go-lives at other organizations. Even with this great support, there will be a learning curve, and we thank you in advance for your patience during this transition. Once fully implemented, Epic will lead to better communications, added efficiency and more robust patient engagement.

To learn more about Epic, call 610-402-CARE (2273).

Winter 2015

Advanced Pain-Free Burn Care Reduces Trauma

Daniel Lozano, MD
Burn Surgery
Watch a video to learn more about him.

Lehigh Valley Health Network's (LVHN's) Regional Burn Center treats more than 800 burn patients annually, compared with the 250 patients the average burn center sees. This extensive experience has allowed LVHN burn specialists to develop precise anesthesia protocols to provide pain-free treatment for children and adults.

"No other hospital in the nation offers this type of treatment in both the inpatient and outpatient setting," says burn surgeon Daniel Lozano, MD, with the burn center and LVPG Burn Surgery-1210 Cedar Crest; he instituted the program's pain management protocols. "Because we're not causing burn patients appreciable pain during treatment, those who traditionally had to be admitted for observation don't have to be."

Levels of sedation

Lozano and his team of anesthetists, anesthesiologists and other physicians offer patients levels of sedation that allow them to endure wound manipulating, scrubbing and debriding with minimal pain and psychological suffering.

- For minor burns, patients can receive oral medication 30 minutes before the burn is cleaned and dressed to reduce the level of pain during the procedure.
- Patients with burns that comprise a larger percentage of the body can receive anesthesia that allows them to verbally respond but not retain any memory of the procedure being performed.

- Deep sedation, in which patients can't be easily aroused, is available for those with extensive burns.

"A patient's response to painful stimuli and the size of a burn determine the type of sedation they receive," Lozano says.

Closing the distance between hospitals

LVHN's Regional Burn Center also offers the fractional CO2 laser, the most advanced laser scar treatment available, as well as TeleBurn, a free 24/7 service that allows referring physicians at 85 partner hospitals to upload high-resolution photos of burns to a secure website. Lozano and his burn specialist team then view photos from an app to make the appropriate assessments and referrals.

"At hospitals with a lower volume of burn patients, burns are often misdiagnosed in terms of depth and size, which has a clinical impact on patients' length of hospital stay, how quickly they return to work and their cosmetic appearance," Lozano says. "We can triage burn patients from other hospitals without having to physically see them, so referring physicians can use their burn center or hospital more effectively."

LVHN's Regional Burn Center is the only burn center in northeastern Pennsylvania certified by the American Burn Association and the American College of Surgeons.

Winter 2015

A Focused Approach to Pancreatic and Liver Resectioning

Jeffrey Brodsky, MD, has performed more than 100 complex pancreatic and liver surgeries in just the last year. His extensive experience can mean a shorter operation, with fewer complications, which can lead to better outcomes. In his own words, “I don’t like cancer. I like taking it out and getting people back to normal health.”

Surgical techniques in pancreatic and liver surgery at Lehigh Valley Health Network (LVHN) are improving outcomes for oncology patients.

By using what he calls a precise, anatomic-based approach to these complex surgeries, LVHN surgical oncologist and hepatic and pancreatobiliary specialist Jeffrey Brodsky, MD, has significantly reduced typical operating times.

Liver resection procedures that may require 3.2–5.2 hours at other high-volume hospitals[1,2] are completed in an average of 2.4 hours at LVHN. This results in decreased blood transfusion rates (8 percent vs. 10–11 percent) and length of stay (LOS; four days vs. six to seven days).[1,2]

Similarly, Whipple procedures, or pancreatoduodenectomies, at LVHN are completed in 3.7 hours on average, as compared to 6.5 hours.[3] Only 23 percent of Whipple patients at LVHN enter the intensive care unit (ICU), while 100 percent of patients at other institutions are admitted to the ICU.[2]

“Shorter operative times may correlate with decreased rate of pancreatic complications,” Brodsky says. “Shorter procedures are better for patients. Patients are more stable because blood loss, intravenous fluid and anesthesia are all lessened.”

High volume

Brodsky performed more than 100 pancreatic and liver surgeries in 2014, well above the high-volume minimum of 20 pancreatic resections and 20 liver resections. Studies suggest a correlation between improved patient outcomes and high-volume centers and high-volume surgeons.[4,5,6,7,8] Crucial components of LVHN’s high-volume center include an experienced surgical oncologist, gastrointestinal (GI) expertise and high-quality diagnostic and

interventional radiology. In addition, LVHN is the only cancer center in the region to have been selected as a National Cancer Center Community Cancer Centers Program (NCCCP, 2010-2014).

"Experience is essential to performing these procedures well," Brodsky says. "But high volume does not guarantee good outcomes. It's important to use a standardized approach, to be precise and to avoid blunt trauma."

Robotics and the future

Brodsky's use of robotics for selected liver and pancreatic resections improves visualization of anatomy and reduces incision size. Patients experience decreased pain and trauma response with the minimally invasive approaches. LOS also is decreased, with some liver resection patients able to leave the hospital the day after surgery.

Patient migration

Beyond the accumulated knowledge and treatment decisions associated with high-volume surgeons and high-volume centers, Brodsky and the LVHN pancreatic and liver oncology team focus on communication with patients.

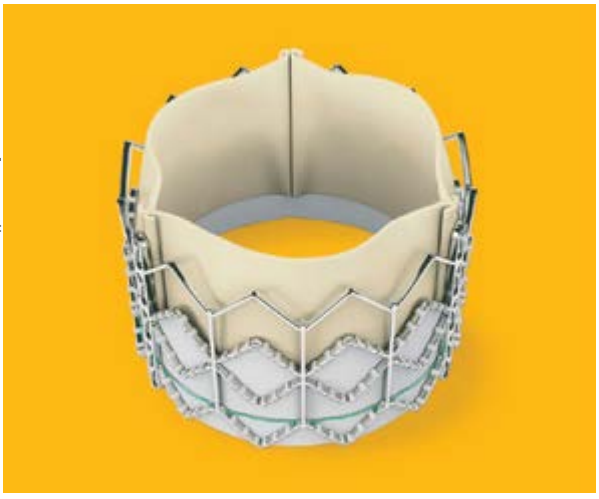
"It's important to dispel the myths about these procedures and to give patients information about outcomes so they can have confidence," Brodsky says. "Patients should know that they can receive excellent care right here."

1."Right hepatic lobectomy using the staple technique in 101 patients." F. Balaa et al. J Gastrointest Surg. 2008 Feb; 12(2): 338-43.
2. "Morbidity and mortality in 1,174 patients undergoing hepatic parenchymal transection using a stapler device." M. Raoof et al. Ann Surg Oncol. 2014 Mar; 21(3): 995-1001.
3. "The HYSLAR Trial. A prospective randomized controlled trial of the use of a restrictive fluid regimen with 3% hypertonic saline versus lactated ringers in patients undergoing pancreaticoduodenectomy." H Lavu et al. Ann Surg 2014 Sep; 260(3): 445-55.
4. "High volume and surgical mortality in the United States." J. Birkmeyer et al. N Engl J Med. 2002, 346: 1128-37.
5. "Assessment of pancreatic cancer care in the United States based on formally developed quality indicators." K. Bilimoria et al. J Natl Cancer Inst. 2009, 101:848-59.
6."Patient and hospital characteristics on the variance of perioperative outcomes for pancreatic resection in the United States: A plea for outcome-based and not volume-based referral guidelines." S. Teh et al. Arch Surg 2009, 144:713–21.
7. "Surgeon volume impacts hospital mortality for pancreatic resection." R. Eppsteiner et al. Ann Surg 2009,

249:635–40.
8. “217 high volume surgery and outcome after liver resection: Surgeon or center?” R. Eppsteiner et al. J Gastroenterology Surg. 2008, 134:1709–16.

Winter 2015

TAVR Provides Option for High-Risk Patients



Cardiothoracic surgeons and interventional cardiologists at Lehigh Valley Health Network (LVHN) will soon complete their 200th transcatheter aortic valve replacement (TAVR) procedure, a minimally invasive alternative to traditional open-valve replacement. The milestone comes less than three years after LVHN became the first in the region to participate in the commercial introduction of TAVR.

“Although the conventional surgical approach remains the gold standard, this is a transformative procedure that offers hope to high-risk patients,” says Raymond Singer, MD, chief of LVHN’s division of cardiothoracic surgery.

LVHN’s experienced multispecialty clinical team meets weekly to evaluate aortic valve stenosis patients. Using a transfemoral or transapical approach, LVHN surgeons perform the procedure in a hybrid operating room (OR). The specialized OR blends the diagnostic imaging equipment of a cardiac catheterization laboratory with standard cardiac OR equipment.

The combination of high volumes, an expert team approach and specialized facilities has led to national[1,2] and state recognition. A Pennsylvania Health Care Cost Containment Council (PHC4) report shows LVHN is among the top three highest-volume cardiothoracic surgery programs in the state; PHC4 reports have shown higher-volume surgeons and institutions have better outcomes.[3]

1. “Centers for cardiac care.” BlueCross BlueShield Association. 2013. bcbs.com/why-bcbs/blue-distinction/blue-distinction-cardiac/bluedistinctioncardiac.pdf.
2. “Find a magnet center.” 2014. American Nurses Credentialing Center. nursecredentialing.org/Magnet/FindaMagnetFacility.
3. PHC4 Cardiac Surgery in Pennsylvania 2011-2012.

Winter 2015

LVHN Surgeon Performs High Volume of Cardiac Mitral Valve Surgery

Raymond Singer, MD
Cardiothoracic Surgery
Watch a video to learn more about him.

Surgeons at Lehigh Valley Health Network (LVHN) perform more than 450 complex heart valve surgeries yearly.[1] While the average heart surgeon in the United States performs fewer than five isolated mitral valve repair operations per year,[2] LVHN's Raymond Singer, MD, chief of the division of cardiothoracic surgery, and his colleagues perform more than 100.

Singer has received specialized training in mitral valve repair at renowned heart centers in France, Belgium and England.

Mitral valve replacement

Mitral valve stenosis, which frequently was associated with rheumatic fever prior to the development of antibiotics, often requires replacement rather than repair due to the buildup of calcium. Patients with significant damage to the mitral valve also may need replacement.

Replacement options at LVHN include mechanical valves and those typically made from pig or cow tissue. Patients who receive a mechanical mitral valve require lifelong anticoagulation therapy, while biological valve recipients often are prescribed anticoagulation medication for a limited period postoperatively.

Mitral valve repair

Raymond Singer, MD, is the only cardiothoracic surgeon in Pennsylvania to achieve better than expected outcomes in heart valve surgery. He describes why the best outcomes are achieved by access to a heart surgeon and team with years of experience and high volume.

For patients with a leaking mitral valve, also known as insufficiency or regurgitation, repair may be an option. Approximately 90 percent of the mitral valve patients treated by Singer undergo a repair procedure. Causes of a leaking mitral valve may include mitral valve prolapse, ischemic and nonischemic cardiomyopathy, or rheumatic heart disease.

“Mitral valve repair is extremely challenging, and every patient is different, which is why I have many different techniques in my armamentarium,” Singer says.

Repair techniques include placing Gortex neochords to resuspend the valve or removing the prolapsed or diseased segment and reattaching the valve leaflets. Once the valve is repaired, Singer and the LVHN team place an annuloplasty ring around the valve. Mitral valve repair avoids the need for anticoagulants, reduces the risk for endocarditis and preserves overall ventricular function.

Singer, who has performed more than 6,300 major heart and lung procedures, began focusing on mitral valve procedures in 1999. He trained in Paris with Alain Carpentier, MD, who is considered the father of mitral valve reconstruction. Singer also is among the leaders in mitral valve repair who attend Carpentier’s annual “Club Mitrale” and in 2011 was honored to share the podium with his teacher.

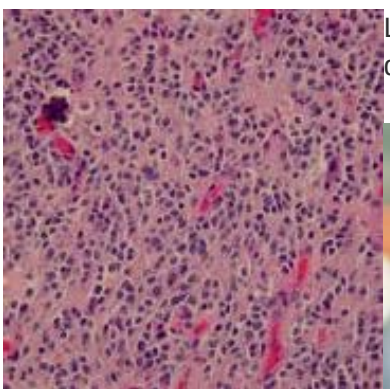
Patient outcomes

Of Singer’s last 200 consecutive isolated mitral valve repairs, the complication rate was less than 5 percent and the mortality rate was 0 percent, putting the health network among the nation’s leading valve surgery programs.[2] In addition, Singer was the only surgeon in Pennsylvania identified by a Pennsylvania Health Care Cost Containment Council (PHC4) report for achieving “significantly better than expected” outcomes for mortality.[1] LVHN also is among the top three highest-volume cardiothoracic surgery programs in the state; PHC4 reports have shown higher-volume surgeons and institutions have better outcomes.[1]

1. PHC4 Cardiac Surgery in Pennsylvania 2011-2012.
2. “Lehigh Valley Health Network 2014 Heart and Vascular Center Statistical Report and Physician Referral Guide.” 2014.

Winter 2015

Multidisciplinary, Comprehensive Care for Brain Tumor Patients

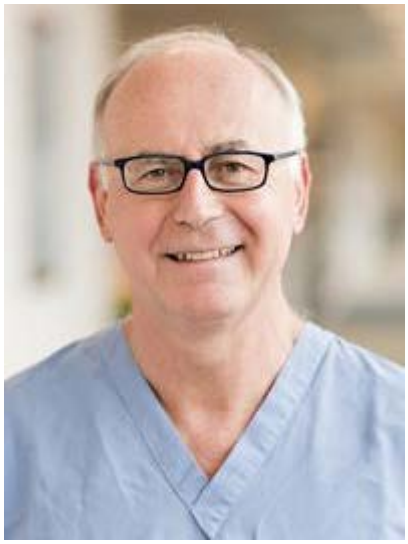


Low-grade oligodendroglioma: Uniform round nuclei, perinuclear halos and a delicate capillary vasculature

P. Mark Li., MD, PhD
Neurology
Watch a video to learn more about him.

Tara Morrison, MD
Neuro-oncology

Watch a video to learn more about her.



Stefano Camici, MD
Neurological surgery

Alyson McIntosh, MD
Radiation oncology

Daniel Brown, MD
Neuropathology

Over the past decade, Lehigh Valley Health Network (LVHN) has built a team of neuroscience subspecialists that works seamlessly to manage every aspect of care for patients with brain tumors.

Twice a month, these physicians gather for neuro-oncology tumor board meetings, led by P. Mark Li, MD, PhD, a neurosurgeon with LVPG Neurosurgery (formerly Neurosurgical Associates of LVPG) and chief of neurosurgery at LVHN.

“Tumor board meetings give our board-certified specialists a forum where they can tap their most important resources — each other,” he says. “The depth and breadth of their experience, as well as the high level of mutual respect and collaboration, is unparalleled in this region.” The tumor board consists of a neurosurgeon, neuro-oncologist, radiation oncologist, neuropathologist and neuroradiologists.

Developing treatment plans

The collegiality and the opportunity to be part of a comprehensive team were what appealed to neuro-oncologist Tara Morrison, MD, when she joined the LVHN team in October 2013. Morrison is the area’s only neuro-oncologist and also is board-certified in neurology. She is the primary oncologist for all brain tumor patients, directing chemotherapy regimens, supervising bloodwork and imaging schedules, and managing any symptoms resulting from tumors or treatment. She also provides consultations for patients whose cancer has metastasized to the brain and are experiencing neurologic effects of cancer treatment. She also provides consultations for patients whose cancer has metastasized to the brain and are experiencing neurologic effects of cancer treatment.

Morrison works closely with LVHN neurosurgeons including Stefano Camici, MD, and radiation oncologists Alyson McIntosh, MD, and Robert Prosnitz, MD, to develop integrated treatment plans that include surgery, radiation and/or chemotherapy.

“All of us are committed to considering the information that each specialist brings to the table,” Morrison says. “We then develop treatment plans based on clinical guidelines and the patient’s personal situation.”

Treatment may start with surgery to remove as much of the tumor as possible, followed by chemotherapy and some type of radiation therapy, such as intensity-modulated radiation therapy (IMRT), stereotactic radiotherapy or

Gamma Knife radiosurgery. Morrison, McIntosh and Prosnitz work particularly closely during this period, sometimes coordinating chemotherapy and radiation treatments on the same day to provide maximum convenience for patients.

Lifelong learning

Camici, who did a fellowship in neurological surgery at Memorial Sloan Kettering Cancer Center, views the tumor board as a vital learning opportunity for all participants. “Medicine, and especially neuro-oncology, is always in a state of continuous evolution,” he says. “Even though all of the physicians on the tumor board completed residencies and fellowships long ago, we are still learning from each other. The board is a vital, well-structured forum that allows us to continue our professional development and treat patients from a truly multidisciplinary perspective.”

McIntosh says: “In some cases, the board provides a forum for a spirited debate about different ways to treat the patient based on current studies and guidelines, and the benefits and risks of each approach. This ends up benefiting the patient in the long run. It’s vital to get all those opinions out on the table before treatment begins.”

The LVHN neuro-oncology program is the only one in the region to have a board-certified neuropathologist on staff. Daniel Brown, MD, often is among the first to present cases at tumor board meetings, because interpreting pathology results and rendering definitive neuropathologic diagnoses is essential in the development of appropriate clinical treatment plans.

“Many nonacademic pathology departments outsource their neuropathology services,” Brown says. “Because our neuropathology program is fully integrated into our brain tumor team, we’re able to provide much faster turnaround of pathology results, have important dialogue around the nuances of individual cases and offer feedback on treatment plans.”

Winter 2015

LVHNACO Joins Medicare Shared Savings Program

Mark Wendling, MD
Medical director, LVHNACO

On Dec. 22, Lehigh Valley Health Network's Accountable Care Organization (LVHNACO) was selected by the Centers for Medicare & Medicaid Services (CMS) as one of 89 new Medicare Shared Savings Program Accountable Care Organizations (ACOs) nationwide.

These organizations take on medical and financial responsibility for providing comprehensive, well-coordinated care to defined populations of Medicare beneficiaries in order to improve quality, access and efficiency. LVHN is joining 400 other health care organizations that serve more than 7 million Medicare beneficiaries as ACOs.

Jeff Etchason, MD, senior vice president, health systems research and innovation, serves as executive director of LVHNACO. Mark Wendling, MD, associate medical director, Lehigh Valley Physician Group, serves as medical director of LVHNACO.

LVHNACO's participation as an ACO in the Medicare Shared Savings Program became effective Jan. 1. Going forward, the LVHNACO initiative will endeavor to improve the care of the Medicare beneficiaries in the Lehigh Valley area as the network overall continues to adapt to the changes being brought about by the Affordable Care Act and other efforts to reform the delivery and financing of health care.

Community Care Teams Improve Compliance and Lower Costs

Susan Lawrence, MS
Care continuum

Kay Werhun, DNP
Population Health

Primary care physician (PCP) practices strive to provide the best possible care to all patients. But within the highest-risk, most vulnerable populations, significant barriers exist that lead to challenges adhering to medication regimens and higher rates of hospitalization and emergency department (ED) utilization — which drive health care costs higher.

As part of its “Triple Aim” initiative to improve the patient experience and health of populations while lowering costs, Lehigh Valley Health Network (LVHN) began deploying Community Care Teams (CCTs) in 2012. CCTs integrate with PCP offices to provide care management and coordination for their high-risk patients and remove barriers that can impede adherence, especially post-hospitalization. According to LVHN data collected through the initiative, patients working with CCTs show substantially reduced hospital admissions and lower ED utilization,

which can lead to lower overall health care costs.

“We believe robust and integrated primary care is the foundation of population health management,” says Susan Lawrence, MS, LVHN senior vice president of care continuum. “But practices rarely have the internal resources to deal with these complex patients, who may not have transportation or resources to fill their medications. Providing strong primary care for this population takes more than just excellent medical care. They need the support of a team to help them improve and maintain their health.”

CCTs in practice

Today, six LVHN CCTs support 17 primary care physician practices in five counties. Each team includes a registered nurse care manager, pharmacist, behavioral health specialist and social services coordinator.

The teams work on site at PCP offices, and their time in the practice is dependent upon the number of identified at-risk patients. Through this model, CCT team members provide telephonic outreach and also have the ability to see patients during their scheduled post-discharge PCP visit, eliminating the need to schedule separate appointments. CCT members also communicate with patients extensively by phone between appointments.

Under the CCT model, the physician continues to provide primary care, but CCT members work with providers to manage the patient’s condition and high-risk factors.

“Our nurse care managers use a high-risk registry that’s generated daily,” says Kay Werhun, DNP, director of population health services for LVHN. “They identify at-risk patients within the practice who were recently admitted or discharged from the hospital and reach out to them within two business days of discharge. They perform a full transition-of-care review during this call to help patients understand their care plan and identify barriers that would prevent them from complying with it. Based on that call, the nurse may identify social, financial or medication issues, and refer the patient to other CCT team members.”

Who is considered at risk?

Patients are referred to the CCT program if they:

- Have five or more chronic conditions
- Take seven or more medications (excluding eyedrops, herbals and creams)
- Have three or more abnormal clinical indicators (such as hypertension, high cholesterol or fall risk)
- Have had two hospitalizations or ED visits within 180 days

Practice providers who have a CCT team also can refer patients who are experiencing nonmedical hardships. “If patients are having financial struggles, housing issues or behavioral issues or are going through bereavement, we encourage providers to refer them,” Werhun says. “These are predictors that place patients at risk if we don’t identify them and intervene quickly.”

Concrete results

The CCT program has shown remarkable progress. Comparing patient outcomes before and after engagement with the CCT between July 2012 and October 2014, patients involved with CCTs had a 49 percent reduction in unplanned hospital admissions and a 26 percent decline in ED visits.

CCTs also benefit the practices with which they work. “By making team-based support available for these patients, physicians and nurse practitioners can spend a greater part of their day on more complex clinical issues, as opposed to navigating coordination of care,” Lawrence says.

Serving vulnerable populations

The benefits that CCTs accrue to practices and the health network are substantial, but the most important aspect of the program is the impact it has on patients’ lives.

“You will hear people talk about patients who are noncompliant with their medication, but if you dig beneath the surface, there are often reasons,” Lawrence says. “The patient may have to choose between filling her own prescription or her child’s or parent’s, or between filling all her prescriptions or paying the electric bill. Many people in these at-risk populations are living at the edge. We help facilitate connections to resources they may not know about.”

Community care teams help achieve the ‘Triple Aim’

The CCT program plays an important role in the LVHN Triple Aim initiative of Better Health, Better Care and Better Cost.

CCTs help:

- Provide Better Health for patient populations by identifying the most vulnerable patients within practices and providing the extra assistance they need
- Provide Better Care and improve the patient experience by providing personalized services to help overcome the barriers to health maintenance and medication compliance
- Provide Better Cost by reducing hospital admissions and ED utilization among high-risk patients who make up the largest proportion of overall health care costs

Winter 2015

LVHN Implements Surgical Excellence With Robotic Surgery Training

Martin Martino, MD
Gynecologic oncology
Watch a video to learn more about him.

M. Bijoy Thomas, MD
Gynecologic oncology
Watch a video to learn more about him.

Lehigh Valley Health Network (LVHN) is among a select few hospital systems in the country that require surgeons

who perform robotic surgery to train and operate in a simulated environment before they operate on patients. A surgical skills test is required every other year for LVHN robotic surgeons to maintain credentialing.

“Airline pilots undergo simulation training before they’re allowed to fly. We believe there should be a similar type of standardization for education, training and testing before surgeons are allowed to perform robotic surgery,” says Martin Martino, MD, medical director for LVHN’s minimally invasive robotic surgery program.

LVHN surgeons have performed more than 4,000 robotic surgery cases across eight service lines since 2008. Volume is only one measure of quality. “When experienced centers standardize education and training in minimally invasive surgery, patients may have better outcomes because there’s less open surgery —which leads to fewer complications and ultimately a faster recovery,” says M. Bijoy Thomas, MD, a board-certified LVHN gynecologic oncologist.

Standardized training curriculum

In 2010, LVHN partnered with eight academic medical centers to form the Robotic Training Network. The centers shared best practices and developed an educational program known as the Robotic-Objective Structured Assessment of Technical Skills (R-OSATS). This comprehensive online training and simulation-based training program includes a validated test of surgical skill.[1]

Once a trainee passes this test, the doctor can then learn surgery alongside a board-certified surgeon in the operating room on a separate console.

“The robotic platform is a great teaching tool. We guide our surgeons-in-training through complex procedures in 3-D and high definition, educating and training each and every step of the way,” Thomas says.

LVHN has three da Vinci® Si surgical systems, with teaching consoles, surgical simulators and a surgical education center; the latter is accredited by the American College of Surgeons.

Instituting surgical excellence

LVHN is one of 60 hospital systems in the U.S. that includes R-OSATS as part of its curriculum. However, standardized testing for all surgeons who perform robotic surgery may soon be the norm. LVHN was selected by the Institute for Surgical Excellence as one of 15 international sites to validate a standardized robotic training and education program. “Our goal is to provide improved quality outcomes for our patients, which leads to better care as well,” Martino says.

1. “Validity and reliability of the robotic Objective Structured Assessment of Technical Skills.” M. Martino et al. Obstet Gynecol. 2014 June; 123(6): 1193-99.

Winter 2015

LVHN Accepts High-Risk Kidneys for Transplant

Michael Moritz, MD
Transplant Surgery
Watch a video to learn more about him.

Lehigh Valley Health Network's (LVHN's) kidney transplant program accepts kidneys with acute injuries that other centers might reject. "We do so because transplanting kidneys with acute injuries has been shown to be safe and effective. Acute injuries are reversible," says Michael Moritz, MD, an LVHN transplant and general surgeon. In a study Moritz co-conducted, recovered kidneys from selected deceased donors with acute renal failure (ARF) provided survival and function comparable with kidneys from non-ARF donors.[1] The one-year patient survival rate for all LVHN kidney transplant patients is 96 percent, which is as expected.[2] The one-year graft survival rate is 94.5 percent, on par with national averages.[2]

LVHN's renal transplant program transplants 74 kidneys annually. "It's a program with sufficient volume to support appropriate risk taking," Moritz says. "There aren't enough kidneys. We want to transplant as many people who can benefit as possible."

Avoiding long-term dialysis

Before a patient receives a high-risk donor kidney, the organ is biopsied to ensure viability. Donor kidneys with chronic disease, such as injury from diabetes or chronic hypertension, are turned down. Along with the organ, recipients receive induction immunosuppression in the operating room, which continues for several days to minimize rejection risk. Patients then receive maintenance immunosuppressive therapy for the duration of the

function of the transplant. “The kidney recovers in the new patient,” Moritz says.

Patients receiving a high-risk donor kidney have an increased risk for delayed graft function. Until the organ functions sufficiently, patients may need short-term dialysis. “Our program provides a wonderful opportunity to help patients who might otherwise be on dialysis long term,” Moritz says.

Kidney transplant referrals

The LVHN program considers all patients requiring a kidney transplant, including those with mitigating factors, such as obesity. “It’s uncommon that we find someone who isn’t a candidate for our program,” Moritz says. In addition to transplanting cadaveric organs, the program supports living donor donation. Such organs are preferred because they have better short- and long-term outcomes.

Due to advances in antirejection medications, it’s possible for patients to receive a living donor kidney from a spouse or friend too. LVHN participates in the United Network for Organ Sharing Kidney Paired Donation Program. It allows living donors who aren’t compatible with their intended recipients to donate their kidneys to others with whom they are compatible.

1. “Successful transplantation of kidneys from deceased donors with acute renal failure: Three-year results.” M. Moritz et al. Transplantation. 2006 Dec 27; 82(12): 1640-45.
2. Scientific Registry of Transplant Recipients.
srtr.org/csr/current/Centers/201406/pdf/PALVTX1KI201406PNEW.pdf.

Winter 2015

New Laser Therapy for BPH Now Available in Lehigh Valley

Find out what's causing your frequent urination

An emerging surgical intervention, holmium laser enucleation of the prostate (HoLEP), is becoming the standard of care for benign prostatic hyperplasia (BPH) in several parts of the world. Few U.S. centers offer the procedure, but Lehigh Valley Health Network (LVHN) is now among that select group, and it is the first in the Lehigh Valley to offer HoLEP for men with BPH, a noncancerous condition of the prostate that causes trouble with urination.

"HoLEP is the first minimally invasive technique for BPH that combines all the benefits of modern laser procedures with the results of open surgery, without the complications," says LVHN urologist James Johannes, MD, surgeon with LVPG Urology (formerly Lehigh Valley Urology Specialty Care).

Understanding HoLEP

For men with BPH, the surgical standard has been transurethral resection of the prostate (TURP). While this procedure has lower risks than suprapubic prostatectomy, it is not without drawbacks. Because the entire prostate is not removed, tissue can grow back, requiring retreatment. In addition, TURP is associated with longer catheterization times, erectile dysfunction and perioperative complications such as TURP syndrome, which results in longer hospital stays.[1]

James Johannes, MD
Urology
Watch a video to learn more about him.

Clifford Georges, MD
Urology
Watch a video to learn more about him.

HoLEP eliminates many of these issues. Surgeons enter through the urethra with a laser and excise the entire prostatic adenoma — the portion of the prostate causing obstruction. The noncancerous tissue is then pushed into the bladder and removed with a morcellator.

HoLEP offers several advantages over TURP, “GreenLight” laser treatment and traditional suprapubic prostatectomy. As an outpatient procedure, length of stay is shorter, and the catheter can be removed more quickly, reducing risk for infection.[1] In long-term studies, patients receiving HoLEP had markedly better BPH symptom scores after five years than those receiving TURP.[2] Risk for symptom recurrence also was significantly improved compared with TURP because more tissue was removed, resulting in complete resolution of the obstruction and more durable relief.[2]

While it is unusual to see randomized trials for surgical interventions, surgeons in Europe and New Zealand have

performed them. “Several years out, patients who received HoLEP have faster urination streams and lower symptom scores than patients who received TURP, with fewer complications,” Johannes says.

Bringing HoLEP to the region

During his residency, Johannes trained extensively with one of the surgeons who helped develop the procedure. Having performed dozens of HoLEPs side by side with a pioneer of the technique, he can now offer HoLEP for patients locally.

“Many patients, especially those with larger prostates or poorer health who cannot undergo open surgery, often need multiple procedures to achieve what HoLEP can accomplish in one,” says urologist Clifford Georges, MD, who is responsible for implementing best practices in BPH at LVPG Urology and will oversee the implementation of the HoLEP procedure. “It allows us to treat sicker patients on an outpatient basis and provide significant relief with fewer risks.”

1. “Holmium laser enucleation versus transurethral resection in patients with benign prostate hyperplasia: An updated systematic review with meta-analysis and trial sequential analysis.” S. Li et al. PLOS ONE. 2014 Jul; (9)7.
2. “Meta-analysis of functional outcomes and complications following transurethral procedures for lower urinary tract symptoms resulting from benign prostate enlargement.” S. Ahyai et al. Eur Urol. 2010; (58): 384-97

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Sleeve Gastrectomy Helps Obese Patients Regain Their Health

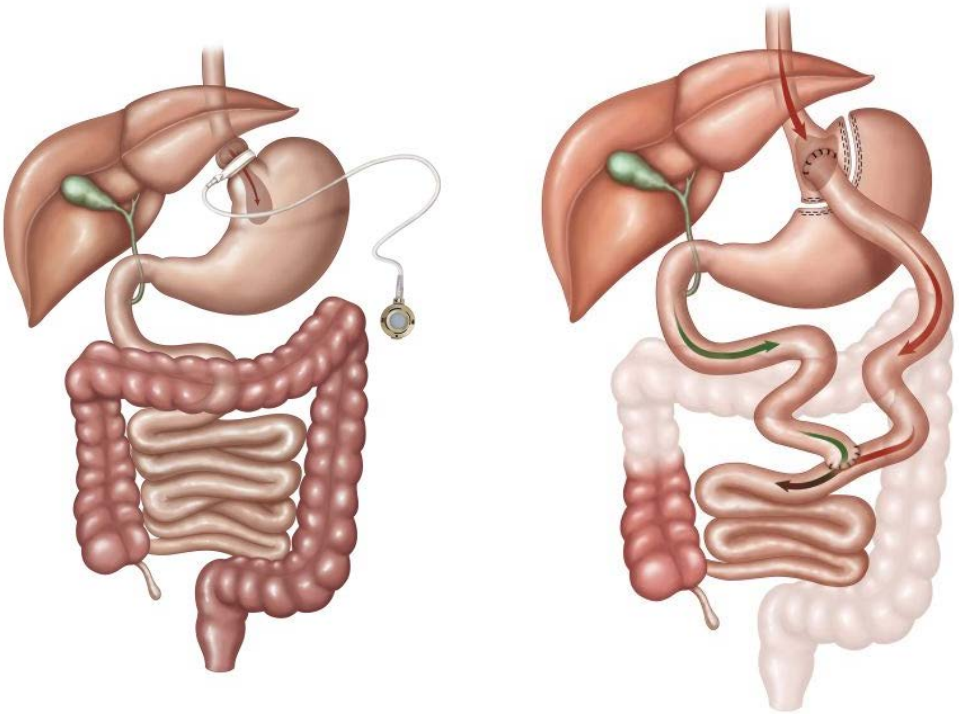
Richard Boorse, MD
General surgery
Watch a video to learn more about him.

Until recently, laparoscopic Rouxen-Y gastric bypass was one of the most common surgical weight-loss solutions for Lehigh Valley Health Network (LVHN) patients who were candidates for bariatric surgery. But over the past seven years, sleeve gastrectomy has been gaining ground among patients and health insurers.

“Sleeve gastrectomy is the newest kid on the block and a better choice for many bariatric patients,” says Richard Boorse, MD, FACS, chief, LVHN division of general surgery, and director of LVHN’s weight-loss surgery program, which is an accredited Center of Excellence for Bariatric Surgery.

During this 1.5-hour laparoscopic surgery, 70 percent of the fundus, the lateral part of the stomach, is removed, leaving a narrow sleeve. This helps patients lose weight by reducing appetite in two ways: It physically restricts stomach volume, making patients feel full sooner, and it makes patients feel less hungry. “The fundus produces the hunger hormone, ghrelin. When the fundus is removed, the hormone level drops, and so does a patient’s appetite,” Boorse says.

Weighing in on results



Top: Sleeve gastrectomy
Bottom: Gastric bypass

Sleeve gastrectomy helps patients shed 60 to 70 percent of their excess body weight. These results are on par with gastric bypass, which LVHN surgeons have been performing since 2000. Gastric bypass creates a small pouch in the stomach to restrict the volume of food it can hold and reconfigures the small intestine so that fewer calories can be absorbed.

Still, sleeve gastrectomy offers certain advantages. “Many patients prefer sleeve gastrectomy because it only affects the stomach,” Boorse says. And because the small intestine isn’t surgically altered, patients aren’t at risk for iron and vitamin B12 deficiencies and the resulting anemia like they can be with gastric bypass.

The contraindications of sleeve gastrectomy are few. It isn’t recommended for patients with severe reflux. “Sleeve gastrectomy can make reflux worse because it changes the stomach into a high-pressure system,” Boorse says. The operation also isn’t advised for patients with Barrett’s esophagus, who are at risk for adenocarcinoma of the esophagus.

Lifesaving solutions

Candidates for bariatric surgery have a BMI greater than 40, or a BMI between 35 and 40 with weight-related medical comorbidities, such as type 2 diabetes, hypertension or obstructive sleep apnea.

“Statistically, it’s safer for obese patients who’ve failed medical management to undergo weight-loss surgery than to do nothing,” he says. “With either approach, we can reverse type 2 diabetes in almost 85 percent of patients. After weight loss, patients don’t need medication. The resulting weight loss cures sleep apnea 80 percent of the time and high blood pressure about 67 percent of the time.”

Minimally Invasive Surgery for Pediatric Patients

Marybeth Browne, MD
Pediatric surgery

J. Nathan Hagstrom, MD
Pediatric hematology-oncology

The arrival of Marybeth Browne, MD, as chief of pediatric surgery at Children's Hospital at Lehigh Valley Hospital (LVH) brings a new focus on enhancing care through innovative surgical approaches. More than 26,000 pediatric

surgeries have been performed by LVH physicians over the past decade. The 40-bed neonatal intensive care unit, Children's ER and pediatric ambulatory surgery center represent a commitment to expanding the scope of services available to young patients and their families in the region.

"Children's health care is reaching new levels of quality," says J. Nathan Hagstrom, MD, physician-in-chief of Children's Hospital at LVH. "While some health systems are pulling back from pediatric services because of the specialization required, our plan is to do more."

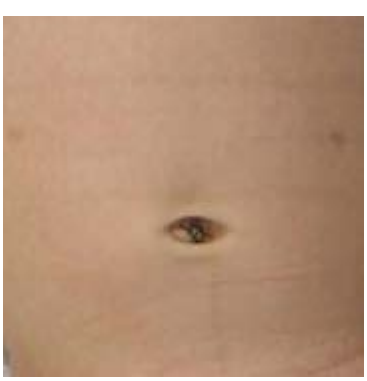
An evolution in pediatric care

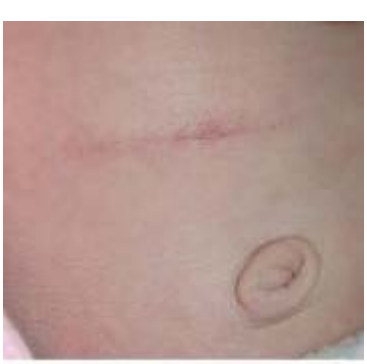
Browne, who previously served as director of surgical quality improvement and patient safety and as attending surgeon at the Ann & Robert H. Lurie Children's Hospital of Chicago, brings experience in treating many different pediatric conditions. Her expertise also includes minimally invasive surgery, which can be used for a variety of pediatric conditions, such as pyloric stenosis, intestinal atresia and ovarian cysts.

"Minimally invasive surgery represents an evolution in pediatric care that provides greater pain control and minimizes scarring," says Browne, an Allentown native who educated pediatric surgery fellows in the techniques while at the Northwestern University Feinberg School of Medicine. "Our focus is doing what is safest for the child and producing the best outcomes."

Focusing on continuous improvement

Children's Hospital at LVH is the region's only member of the Children's Hospital Association, a national organization of more than 200 children's hospitals, and the region's only organization participating in the Children's Hospital's Solutions for Patient Safety, which by sharing best practices across 80 children's hospitals has reduced unnecessary harm.





These pictures compare a laparoscopic pyloromyotomy (three 3-mm incisions) to an open procedure (one 4-cm incision.) Within 4–6 weeks, the minimally invasive incisions are difficult to identify on exam.

In addition, as of last month, the hospital is one of two other children's hospitals in Pennsylvania comparing surgical outcomes with those of other leading children's hospitals through the American College of Surgeons National Surgical Quality Improvement Program–Pediatric (ACS NSQIP®–Peds). Beyond the clinical data, Children's Hospital at LVH tracks patient satisfaction to improve communication between clinicians and families.

"We've increased our efforts to improve patient safety, and the results are benefiting patients," Hagstrom says. "Our seven-day readmission rate has consistently remained below the national average, and our rate has decreased by 30 percent over the past two years. We've also celebrated a decrease in overall serious harm events, which are down by 70 percent."

"The open-mindedness of medicine is really improving patient care," Browne says. "Lehigh Valley Health Network has the resources to be a member of these organizations and to use the data to make process improvements. We're striving to give the best care possible."