

Spring 2017

Better Medicine

Lehigh Valley Health Network

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Family Medicine: Patient-Centered Care

By Grant Greenberg, MD

About the author: Grant Greenberg, MD, is Chair, Department of Family Medicine, Lehigh Valley Health Network.

No matter where one looks, health care delivery and reform are at the center of the national conversation. While there is no simple solution, the specialty of family medicine is committed to ensuring that it can meet the health care needs of every American. Locally, we are committed to meeting the health care needs of our communities in the Lehigh Valley and beyond.

Family medicine is a discipline with a focus on the whole person and family, and integrates both social as well as medical concerns into management of a person, family or even a population of patients. A family physician is trained to care for patients of all ages. Family medicine clinicians provide a wide range of clinical care, including prevention/screening; management of chronic disease; acute and urgent care; women's health care, including obstetrics and family planning; sports medicine; pediatrics; and a wide variety of dermatologic and other office-based procedures.



Grant Greenberg, MD
Family medicine

The discipline of family medicine is working across the country to improve the health of every American. Our goal is to ensure that every person will have a personal relationship with a trusted family physician or other primary care professional in the context of a medical home.

Advancing the use of technology and training, and ensuring access to a high-quality primary care workforce, are also important areas of focus. Family medicine is committed to providing a high value of care to our patients – care that is costeffective, of high quality and appropriate for the patient and situation. We are here, in the community, ready to deliver the best care available to our patients.

What Is a Family Physician?

“Family physicians are personal doctors for people of all ages and health conditions. They are a reliable first contact for health concerns and directly address most health care needs. Through enduring partnerships, family

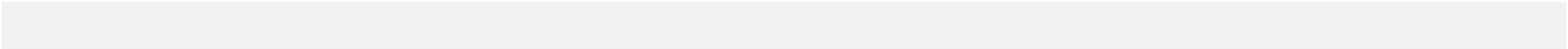
physicians help patients prevent, understand and manage illness, navigate the health system, and set health goals.

Family physicians and their staffs adapt their care to the unique needs of their patients and communities. They use data to monitor and manage their patient population, and use best science to prioritize services most likely to benefit health. They are ideal leaders of health care systems and partners for public health.”¹

1. “The future role of the family physician in the United States: a rigorous exercise in definition.” R.L. Phillips Jr. et al. *Annals of Family Medicine*. 2014; 12(3): 250-5.

To refer a patient to family medicine, call 888-402-LVHN.

Spring 2017

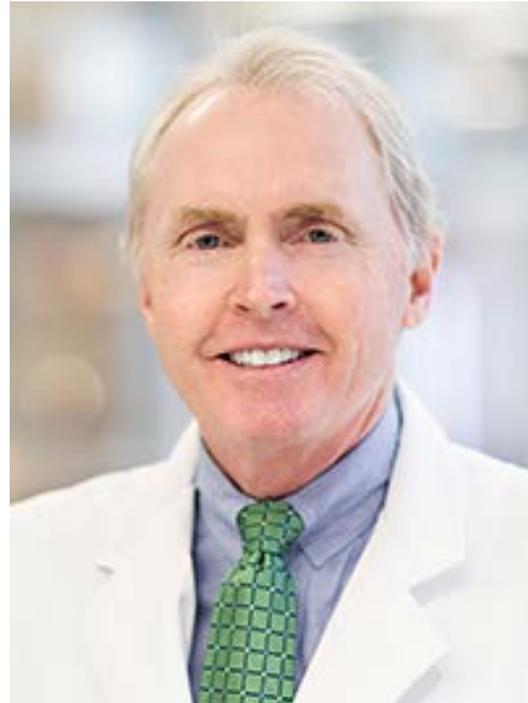


A Look at LVHN and the Changing World of Health Care

By Robert Murphy Jr., MD

About the author: Robert Murphy Jr., MD, is a plastic surgeon for Lehigh Valley Health Network (LVHN) who specializes in hand surgery. He is Chief Integration Officer for LVHN; Chief Medical Officer for Populytics, the network's advanced analytics firm specializing in population health management; and Professor of Surgery for the University of South Florida Health Morsani College of Medicine.

You don't have to look any further than Lehigh Valley Health Network (LVHN) to develop an insight into the changing world of medicine. With the evolving changes dictated by the Affordable Care Act and the Centers for Medicare & Medicaid Services, as well as the addition of our three regional campuses in the past few years, LVHN is caring for more people with more governmental oversight for fewer dollars. This new health care paradigm requires us to focus more proactively on keeping people healthy along with our traditional role of caring for the ill. Health care in the new era has truly become a team sport.



Robert X. Murphy Jr., MD
Chief Integration Officer

A proactive approach

LVHN has made several investments to help us thrive in this new era. Our Epic medical records system provides LVHN with a precise understanding of demographic, medical and behavioral information like never before, enhancing our ability to treat the patient at the point of care. In addition, LVHN's ability to process and understand insurance claims data through Populytics, our advanced analytics firm specializing in population health management, yields a comprehensive grasp of a patient's clinical DNA. The integration of this data informs our proactive approach to drive interventions and target initiatives to improve the health of the population we serve.

We're now charged with finding ways to care for more people with fewer resources. To meet this challenge, LVHN is evolving a new paradigm. Population health management, led by Chief Transformational Officer Debbie Salas-Lopez, MD, partners with our employed or aligned physicians through its relationship with our physician

hospital organization to provide care in a manner that results in the Triple Aim – better health, better care and better cost. This care model is driven by a strategy defined by data collated and analyzed within Populytics.

Through this partnership, we can provide excellent, quality care while still being compliant with governmental requirements defined by MACRA (Medicare Access and CHIP Reauthorization Act). MACRA, with its merit-based incentive payment systems and advanced alternative payment models, requires providers to participate in programs where they're rewarded for the quality and effectiveness of their care rather than the number of patients they treat.

Addressing the challenge

On average, 5 percent of the population that are most ill consume 50 percent or more of health care resources in a given community. Having analytics that identifies these patients and directs skilled resources to assist them is crucial. However, it's equally important to maintain the "wellness" of the remaining 95 percent while identifying patients with "rising risk," those who may move into the top 5 percent in the future. It's only by understanding this data and having the analytic skill set to direct resources appropriately that LVHN can thrive into the future.

That's quite a challenge, and it's a challenge that will always exist. We address it by understanding our populations to the point of clearly identifying what resources in clinical integration – hospitals, outpatient facilities, new models for providing health care, such as community care teams and visiting nurses – are most appropriate. We address it by partnering with health insurance companies such as Highmark Blue Shield to develop products such as Lehigh Valley Flex Blue to lower costs while improving outcomes. And we address it by maintaining an excellent clinical reputation across our network so as we continue to grow, more people will be drawn to us because we are LVHN.

Even with the uncertainties ahead, LVHN is well prepared for what's to come. Along with a handful of networks nationally, we are pioneers in using data and analytics to define the future of medicine. It's exciting to be a trailblazer in that health care journey.

Spring 2017

New Technology Offers Long-Term Relief for Dry Eye

[LVPG Ophthalmology–17th Street](#) is now offering a new treatment for dry eye that addresses the condition's root cause. For 86 percent of dry eye patients, symptoms stem from obstructed meibomian glands, which produce the oily lipid layer of the tear film. The LipiFlow® Thermal Pulsation System, a 12-minute office procedure, applies controlled heat to the inner eyelids and gentle massaging pressure to the outer eyelids to liquefy and express the contents of the meibomian glands. This allows the natural flow of lipids to resume.

LipiFlow is the only FDA-approved device for treating meibomian gland dysfunction. Patients undergo a comprehensive exam, including tear film imaging and evaluation of the meibomian glands, to determine eligibility. Clinical studies have shown that LipiFlow treatment can reduce symptoms to approximately half the preprocedure level.¹ Compared to traditional dry eye treatments (warm compresses, wetting drops, ointments) that only alleviate symptoms, LipiFlow may provide longterm, convenient, effective relief.

1. "Treatment for meibomian gland dysfunction and dry eye symptoms with a single-dose vectored thermal pulsation: a review." C. Blackie et al. *Current Opinion in Ophthalmology*. 2015; 26(4): 306-13.

To refer a patient for dry eye treatment, call 888-402-LVHN.

Lung Cancer Screening Offered at LVHN Cancer Center–Hazleton

Lehigh Valley Health Network Cancer Center–Hazleton now offers low-dose CT screening for patients with a significant smoking history.

“Low-dose CT screening is something that primary care providers should be talking about with their patients who are 55 to 74 and have 30-plus pack years,” says Michael Evans, MD, Medical Director of LVPG–Hazleton. These patients smoke or have smoked at least one pack a day for 30 years.

Patients in this age range with this smoking history who quit within the last 15 years are also candidates for screening, as are those with a history of smoking-related disease or a family history of lung cancer, or who have worked with asbestos or other chemicals that affect the lungs.

The National Lung Screening Trial published in the New England Journal of Medicine in the June 29, 2011, issue found that low-dose CT scans for this specific patient population resulted in a 20 percent lung cancer specific mortality benefit compared to patients receiving conventional chest X-rays.

In addition to the Hazleton location, low-dose CT screening is available at Lehigh Valley Hospital (LVH)–Cedar Crest, LVH–17th Street, LVH–Muhlenberg and LVH–Pocono.

To refer a patient for low-dose CT screening, call 888-402-LVHN.

Spring 2017

LVHN Opens Two Elite Cancer Trials

Patients enrolled for study of targeted therapies, recurrent glioblastoma treatment

Lehigh Valley Health Network (LVHN) is offering patients who have advanced forms of cancer access to two leading clinical trials.

Targeted Agent and Profiling Utilization Registry (TAPUR)

The TAPUR study provides eligible patients with medication not yet approved by the FDA for their particular cancer type and collects data on the clinical response.

Affiliated with the federal government's Cancer Moonshot program to accelerate cancer research, "TAPUR will help realize the promise of genomic-targeted therapies," says LVHN hematologist oncologist Suresh Nair, MD, Medical Director, LVHN Cancer Institute. TAPUR began enrolling patients at LVHN – one of only two sites in Pennsylvania – in December 2016.



Suresh Nair, MD
Hematology oncology

LVHN is **one of only two** TAPUR sites in Pennsylvania.

TAPUR begins with an evaluation of a patient's tumor biopsy. "There are about 20,000 genes in every cell in the body," Nair says. "But 95 percent of cancers are due to mutations in only about 500 genes." If the genetic profile of a patient's tumor indicates actionable mutations, physicians can consult TAPUR to see if there's a match between the patient and a medication being investigated. A molecular tumor board will help guide patient eligibility for the registry.



P. Mark Li, MD, PhD
Neurological surgery

In partnership with collaborating pharmaceutical companies, TAPUR can provide patients with immunologic or targeted therapies for free that otherwise may cost \$5,000 to \$50,000 per month. “It’s a huge plus for our patients and doctors to have this study,” Nair says. Eligible patients must be at least 18 years of age and have failed standard-of-care treatments.

CAPTIVE

LVHN patients ages 18 and older with recurrent glioblastoma may be eligible for the CAPTIVE study. Lehigh Valley Hospital–Cedar Crest is the only hospital in the region participating in the trial, which is sponsored by biotechnology company DNAtrix in conjunction with Merck. “We’re fortunate to be selected for the study,” says LVHN neurologic surgeon P. Mark Li, MD, PhD, Chief, Division of Neurological Surgery.

CAPTIVE patients will receive one injection of a modified adenovirus (a common cold virus) into the brain tumor mass under general anesthesia to allow the virus to replicate inside the tumor. “The adenovirus has been modified to replicate only in tumors with a defective retinoblastoma gene, which is almost universally defective in glioblastoma,” says LVHN neuro-oncologist Tara Morrison, MD, FRCPC, FAAN, of LVPG Hematology Oncology. Patients also receive infusions of Keytruda (pembrolizumab) to stimulate the immune system. Initial research with virus injection has shown promising results.

CAPTIVE has very strict inclusion criteria. Patients must have a single mass localized in one half of the brain only,

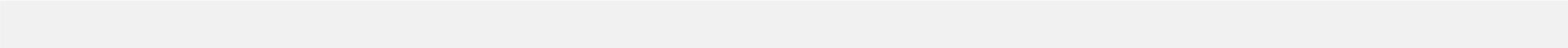


Tara Morrison, MD, FRCPC, FAAN
Hematology oncology

and not near the ventricular system. Patients must have adequate liver function and blood counts. They should be free of autoimmune diseases and active infections. If they've undergone chemotherapy or radiation, it must be several weeks from their last treatment. They also must have good performance status. Patients can begin enrolling in CAPTIVE at LVHN in spring 2017.

To refer a patient for a cancer research trial, call 888-402-LVHN

Spring 2017





Bringing Multidisciplinary Perspectives to Gastrointestinal Cancers

Disease management team promotes state-of-the-art care

Expertise across multiple specialties is essential to the treatment of gastrointestinal (GI) cancers. That's why most large cancer centers use multidisciplinary clinics to guide treatment for individual cases.

Lehigh Valley Health Network (LVHN) goes even further, embedding multidisciplinary perspectives into the very structure of its program. The GI Disease Management Team (DMT) brings together experts – both at LVHN and Memorial Sloan Kettering (MSK) Cancer Center – who continually evaluate care protocols and ensure the latest advances are available to patients.

“The DMTs function to provide more comprehensive, collaborative care at a very granular level,” says Usman Shah, MD, of LVPG Hematology Oncology—1240 Cedar Crest, GI DMT leader.

“We’re continually looking at our compliance with national standards, as well as comparing ourselves to what MSK is doing. For our patients, the benefit is state-of-the-art care, both in terms of national guidelines and what may be on the horizon.”

Inside the GI DMT

The DMT includes representatives from all specialties involved in the treatment of GI cancers – medical oncologists, radiation oncologists, surgeons, pathologists, nurses and more. Team members review the latest literature in their areas and evaluate LVHN protocols and procedures on a monthly basis.

“It’s important for us to prospectively evaluate the way we treat our patients in a multidisciplinary setting,” says LVHN radiation oncologist Alyson McIntosh, MD, of Allentown Radiation Oncology Associates. “At the DMT, we have an opportunity to sit around the table to collaborate on important issues that directly benefit our patients. For example, we hear our colleagues in other disciplines review practice-changing literature in their fields, we evaluate best practice imaging guidelines or discuss which national protocols we should open at our institution.”

For example, recent changes enacted by the DMT



Usman Shah, MD
Hematology oncology



Alyson McIntosh, MD
Radiation oncology

include:

- Ensuring that patients undergoing CT scans of the abdomen and pelvis also have a CT scan of the chest to search for metastatic disease
- Implementing MRI in preoperative staging of patients with rectal cancer
- Expanding the parameters covered in MRI reports to enable more accurate tumor staging
- Implementing routine RAS mutation testing for targeted molecular therapies

By examining and validating procedures with MSK, LVHN physicians are also able to evaluate the very latest standards of care, sometimes even before they appear in national guidelines.

“We’re exposed to some of the newer developments in the field of molecular genetics, where MSK is at the forefront,” says Robert Sinnott, DO, of Colon-Rectal Surgery Associates, PC, Director of LVHN’s Colorectal Surgery Fellowship. “Down the road, that’s where the biggest breakthroughs in cancer medicine will be. Through this partnership, our patients will have access to those therapies.”

A higher standard of multidisciplinary care

The DMT provides a structure to bring the latest evidence-based practice to GI cancer patients in the Lehigh Valley. Through the collaboration with MSK, LVHN specialists can continually validate protocols against one of the leading cancer centers in the world.

“It’s very unique for a community hospital to have this opportunity,” says Mandy Hendricks, MSN, RN, AOCNS, Oncology Nursing Program Quality Specialist and Administrative Lead for the DMT. “We’ve always been proud of our quality at LVHN Cancer Center, but this work really validates that. We are holding ourselves to the same standards as one of the world’s best institutions. The fact we can do that and live up to those standards allows for the best possible patient care.”



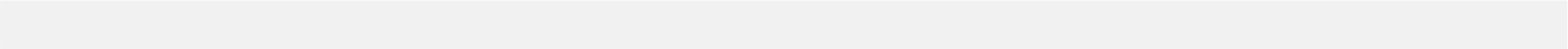
Robert Sinnott, DO
Colon and rectal surgery



Mandy Hendricks, MSN, RN
Clinical services

To refer a patient for GI cancer treatment, call 888-402-LVHN.

Spring 2017



LVH–Pocono Debuts Advanced Radiosurgery Treatment

The Dale and Frances Hughes Cancer Center at Lehigh Valley Hospital (LVH)–Pocono has deployed the Edge™ Radiosurgery System, which delivers highly targeted, noninvasive radiosurgical ablation treatment while minimizing exposure to healthy tissue. LVH–Pocono physicians are currently using it to treat brain, spine, lung and prostate cancers.

The system features Calypso® 4D Localization, which works like a GPS to determine the exact location and position of a tumor during treatment delivery, enabling physicians to make real-time adjustments.

“The Edge System allows us to customize the shape of the radiation beam and deliver a higher dose per treatment,” says Chief Physicist Louis Nardella. Overall length of treatment can be cut drastically, in some cases from eight weeks to between one and five treatment days. “Almost 500 patients receive radiation therapy at LVH–Pocono annually,” adds Francine Constable, dosimetrist and Manager of Oncology. “The Edge System demonstrates our continuing commitment to providing our patients with the highest level of care.”

To refer a patient for cancer care, call 888-402-LVHN.

A Closer Look at LVHN's Leadership in Cardiac Care

Surgical expertise, innovative treatments and optimal outcomes – with a personal touch

The experts at Lehigh Valley Health Network's (LVHN's) Charles Chrin Heart and Vascular Center are the region's undisputed leaders in cardiac care.

The program excels on multiple levels:

- **Volumes:** Lehigh Valley Hospital (LVH) surgeons perform more heart surgeries than any other hospital in the region, and its patient volumes are among the highest in the state.
- **Results:** LVHN consistently ranks in the top 10 percent in the nation for myocardial infarction survival.

Partnering with physicians

These facts speak to LVHN's surgical expertise, but they are also evidence of the high degree of trust that has been built with the physician community. Whether a patient arrives at an LVHN facility in cardiac arrest, in the early stages of cardiac disease or with a complex issue that requires specialized care, the aim is to collaborate with the patient's primary care physician to determine the best treatment and optimize recovery.

"We have more board-certified cardiac specialists, including nine cardiac surgeons, than any of our competitors, so patients can always get an appointment quickly, and referring physicians are always kept informed with phone calls and written reports," says Ronald Freudenberger, MD, Chief, Division of Cardiology, of LVPG Cardiology—1250 Cedar Crest. "A personal touch goes a long way with medical professionals and patients."



Ronald Freudenberger, MD
Cardiology



Raymond Singer, MD
Cardiothoracic surgery

Choosing technology wisely

Clinical innovation is another cornerstone of LVHN's cardiac program. "Our physicians sit on the advisory boards of biomedical companies and are involved in developing new technologies from concept to bedside," Freudenberger says. "We often have a five- to seven-year jump on understanding those technologies before they're approved by the FDA."

But he adds that LVHN physicians take a measured approach when offering these new technologies to patients. "It has to be the right technology for the right patient at the right time," he says. "There are times when we will be the first adopter, and there are times when we are not convinced that the research demonstrates a benefit to our patients."

In recent months, three cardiovascular technologies – the Absorb GT1™ Bioresorbable Vascular Scaffold, the Micra™ Transcatheter Pacing System and the MitraClip® – have captured the region's attention due to local advertising and marketing efforts. Although LVHN offers all of these modalities, the network's cardiology specialists are committed to helping physicians and patients understand their nuances, including when they might be appropriate and when traditional techniques are preferable.

LVHN has the most experienced heart valve surgeon in the region, Raymond Singer, MD, Chief, Division of Cardiothoracic Surgery, of LVPG Cardiac and Thoracic Surgery–1250 Cedar Crest. With 25 years of experience and specialized training in mitral valve repair and complex valve procedures, Singer routinely performs more than 200 valve operations yearly. In the most recent PHC4 report, Singer performed 246 valve procedures with a zero percent mortality. "The MitraClip is a palliative procedure that is reserved for 'high-risk' patients, but what constitutes high risk depends on the experience and confidence of the team," Singer says, noting that he's successfully performed mitral valve repair on many patients who may have been considered too high-risk for traditional mitral valve repair at other surgical programs.

Absorb GT1™ Bioresorbable Vascular Scaffold (BVS)

- **Proposed benefit:** The BVS opens diseased coronary arteries as traditional metallic stents do, but they dissolve completely over time, allowing the healed artery to flex and pulsate naturally.

- **Caveat:** Current research has not shown a benefit over traditional stents. In March, the FDA issued a safety alert due to an increased risk of major adverse cardiac events with this device when compared to metallic stents. Freudenberger notes the BVS may still be considered for certain patients with a large single-vessel blockage.

Micra™ Transcatheter Pacing System

- **Benefit:** LVHN started implanting this 26-mm, 1.75-gram device, “the world’s smallest pacemaker,” in selected patients this year, soon after it became covered through Medicare. In addition to being 93 percent smaller than conventional pacemakers, the device has no leads, making it particularly beneficial for patients who have experienced lead-related issues with traditional pacemakers.
- **Caveat:** The Micra is only able to pace one chamber of the heart and is costly compared to traditional pacemakers. Many patients will still benefit from standard devices.

MitraClip® Transcatheter Mitral Valve Repair

- **Benefit:** This device allows physicians to clip the leaflets of the mitral valve together, preventing valve regurgitation. It is placed during a catheter-based, minimally invasive procedure.
- **Caveat:** The MitraClip is only appropriate for patients for whom traditional surgery is not an option. For the vast majority, repair of the natural valve, or replacement with a biological or mechanical valve, offers a far more effective and durable repair.

Offering innovative treatments

When clinical evidence supports it, LVHN has often been the first to offer new technology. For instance, LVHN is a regional leader in providing innovative treatments for atrial fibrillation, the most common cardiac arrhythmia in the U.S. In 2016, an LVHN patient was the first in the region to receive a WATCHMAN™ implant, which reduces the risk of stroke for patients who are unable to take blood thinners.

LVHN is also one of the few hospitals in the nation with a specialty program for heart disease in pregnancy, offering a multidisciplinary team that monitors both cardiovascular and maternal-fetal health in women with congenital or acquired cardiac disease.

“We applaud patients for seeking second opinions and researching their options,” Singer says. “But at the end of the day, the fundamental questions patients and their physicians should be asking are, ‘How experienced are you, and what are your outcomes?’ By those measures, LVHN is the clear choice.”

Comprehensive Cardiac Care in the Poconos

The ESSA Heart and Vascular Institute at Lehigh Valley Hospital–Pocono offers the full breadth and depth of cardiovascular services and the highest level of cardiovascular care in Monroe County.

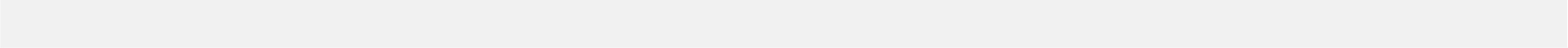
The Institute became the Pocono region’s first provider of open-heart surgery and interventional cardiac procedures 10 years ago. Today, the team includes interventional and noninterventional cardiologists (including Patricia Rylko, MD, Monroe County’s only female cardiologist), vascular surgeons and electrophysiologists, as well as a dedicated staff of certified registered nurse practitioners and physician assistants who specialize in caring for cardiac patients.

For patients who require emergency cardiac catheterization, door-to-balloon time is an average of 58 minutes, well below the national benchmark of 90 minutes. Patients can then be assured of receiving comprehensive and

coordinated follow-up care, education and outpatient rehabilitation services.

To refer a patient to cardiology, call 888-402-LVHN.

Spring 2017



12-Lead EKG Speeds STEMI Care

New 12-lead EKG systems provided by Lehigh Valley Hospital (LVH)–Pocono are enabling emergency medical services (EMS) professionals to better identify acute cardiac events, including ST-elevation myocardial infarction (STEMI), and electronically transmit real-time cardiac activity to physicians. LVH–Pocono began rolling out the new systems in October 2016 to local EMS providers, including Bushkill EMS, Pocono Mountain Regional EMS, Suburban EMS and West End Community Ambulance Association.

“Once we receive the EKG transmission and suspect that an intervention will be required, we can immediately start assembling the cardiac team and setting up the cardiac catheterization laboratory, which can take up to 30 minutes,” says Anil Gupta, MD, Chief of Cardiology at LVH–Pocono. He added that the hospital’s average door-to-balloon time of 58 minutes is already well under the American College of Cardiology/American Heart Association guideline of 90 minutes. He expects the 12-lead EKG systems (which replace three- and six-lead machines) to help cut the time even further. “From the moment patients arrive, we’re able to treat them with much more speed and confidence,” he says.

A donation from Lehigh Valley Health Network’s cardiology service line funded the enhanced EKG capabilities for ambulance personnel in Lehigh, Northampton, Carbon and Schuylkill counties.

To refer patients for cardiology services, call 610-402-CARE.

Spring 2017

An Unsung Hero in Cancer Care

Pathology plays an expanding role in understanding and treating malignancies

In some ways, pathology is an invisible specialty. Patients rarely see their pathologist. Historically, even some clinicians viewed pathology as a “black box” service – send in a specimen and out comes a report. However, as new molecular therapies evolve, pathologists are playing an increasingly critical role.

“In the past, physicians often looked to pathology to answer a single question: Benign or malignant?” says Elizabeth Dellers, MD, Vice Chair, Department of Pathology and Laboratory Medicine, Lehigh Valley Hospital–Muhlenberg and Network Affairs. “Today, we’re relied on to provide extremely detailed knowledge of tumor type, size, invasiveness and information across a huge number of parameters for tumor staging.”



Elizabeth Dellers, MD
Pathology

Inside LVHN pathology services

Lehigh Valley Health Network (LVHN) pathology services are provided by the Center for Anatomic Pathology, part of Health Network Laboratories. The department includes 24 board-certified pathologists with expertise well beyond standard anatomic and clinical pathology. Subspecialists have board certifications in cytology, dermatopathology, hematopathology, neuropathology, molecular and genetic pathology, and other areas. Some have fellowship training in gastrointestinal, gynecology, renal, transplant and oncology.

“Because we have these subspecializations, our pathologists are well-versed in the latest literature and advances in knowledge regarding their respective organ systems,” says Daniel Brown,



Daniel Brown, MD, MBA
Pathology

MD, MBA, Chair, Department of Pathology and Laboratory Medicine. “It’s rare to see that breadth of expertise in a community hospital setting.”

An evolving discipline

Oncologists have long depended on pathologists’ understanding of disease processes to ensure accurate diagnoses. In fact, for the vast majority of cases, treatment decisions depend almost entirely on tissue studies. With the emergence of targeted genetic therapies, pathology becomes even more important.“

“Often, it’s the pathology that dictates therapy.” – Daniel Brown, MD, MBA

The vast majority of molecular testing today is done on tissue,” Dellers says. “We’re looking at surrogate markers for gene mutations, viral infections and things of that nature. Without that pathology testing, patients can’t be appropriately selected for those therapies.”

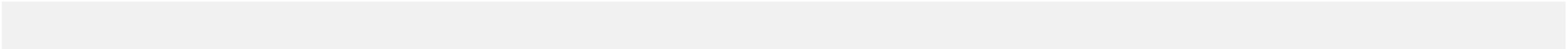
Pathologists play an active role on clinical teams at LVHN, including multidisciplinary clinics and tumor boards. LVHN pathologists also participate on the disease management teams (DMTs) that review protocols and procedures for cancer care. DMTs include multidisciplinary specialists from LVHN, as well as from Memorial Sloan Kettering (MSK) Cancer Center as part of the MSK Cancer Alliance.

“When we participate in these conversations, we can be certain we know the specific questions that the clinicians are trying to address,” Dellers says. “We can make sure we’re all speaking the same language and work out the logistics of specimens and testing so that it’s done in the most efficient and appropriate manner.”

“It’s become extremely important for us to be part of these discussions because, often, it’s the pathology that dictates therapy,” Brown says. “It really does play an incredibly important role in the way patients are treated and what their outcomes ultimately are.”

To learn more about LVHN Pathology, call 888-402-LVHN.

Spring 2017



Promoting Quality Outcomes in Total Joint Replacement

Multidisciplinary approach emphasizes early mobilization

Recognizing that same-day ambulation following total joint arthroplasty contributes to decreased length of stay,¹ 97 percent of hip and knee replacement patients are mobilized on postoperative day zero using a protocol instituted by Lehigh Valley Health Network (LVHN). LVHN's team of 45 fellowship-trained orthopedic surgeons have performed more than 20,000 joint replacements, the most common inpatient procedure in the United States.²

Every patient out of bed

To promote early mobilization as a method to reduce length of stay, LVHN's multidisciplinary team established an every patient out of bed (OOB) goal on postoperative day zero by physical therapy and nursing staff. OOB includes walking or dangling. A key component of successful implementation of the protocol is patient education, which begins in the orthopedic surgeon's office.

"Joint replacement is an active contract between the care team and the patient," says orthopedic surgeon Eric Lebbby, MD, with LVPG Orthopedics and Sports Medicine, who is Chief of Orthopedics at LVHN. "Providing patients with good information and repeating that information in a number of ways to encourage engagement is crucial to good outcomes."

A preoperative education class and education packet helps the LVHN team set the expectation for early mobilization and discharge within one or two days. More than 1,000 patients and their family



Eric Lebbby, MD
Orthopedics



Susan Gross, MHA, BSN, RN
Clinical services

members have attended the classes during the past year.

Multidisciplinary commitment

In addition to patient education, early mobilization requires collaboration across the care team. “It’s important for patients to get up and get moving, and everyone on our team is committed to making sure that happens because we know that’s what is best for the patient,” says Susan Gross, MHA, BSN, RN, Director of Orthopedic Unit 7K. Beyond improving length of stay, studies show that early mobilization decreases venous thromboembolic events, hospital-acquired conditions and costs while improving functional outcomes.³

The multidisciplinary approach to early mobilization includes:

- **Pain management** – The anesthesia department and orthopedic surgeons worked collaboratively on adjusting medication given in the operating room, which has led to decreased pain, nausea and vomiting. This change has ultimately led to increased mobility, which has been a direct result in decreasing length of stay.
- **Nursing education** – Education sought to create a culture in which every patient out of bed became the expectation across both day and night shift nurses, and huddles are conducted with case managers to plan for discharge.
- **Physical therapy** – Physical therapists adjusted hours to meet the needs of patients for twice-daily sessions, and designated orthopedic physical therapists were assigned to the total joint replacement unit.

Early ambulation is instituted throughout LVHN, regardless of where patients have surgery. Joint replacement surgeries are scheduled at LVHN–Tilghman, the region’s only campus dedicated to orthopedic care; Lehigh Valley Hospital (LVH)–Cedar Crest, LVH–Muhlenberg, LVH–Hazleton, LVH–Pocono and LVH–Schuylkill.

To refer a patient to orthopedics, call 888-402-LVHN.

1. “Early mobilization of patients who have had a hip or knee joint replacement reduces length of stay in hospital: a systematic review.” M. Guerra et al. *Clinical Rehabilitation*. 2015; 29(9): 844-54.
2. “National hospital discharge survey.” Centers for Disease Control and Prevention website. 2010. ftp.cdc.gov/pub/Health_Statistics/NCHS/Dataset_Documentation/NHDS/NHDS_2010_Documentation.pdf.
3. “Improving value in primary total joint arthroplasty care pathways: changes in inpatient physical therapy

staffing.” C. Pelt et al. Arthritis Today. 2016. [sciencedirect.com/science/article/pii/S2352344116000212](https://www.sciencedirect.com/science/article/pii/S2352344116000212).

Surgical Options for Female Stress Incontinence

Autologous tissue slings may provide greater durability and ease patient fears

Maria Voznesensky, MD, of LVPG Urology—1250 Cedar Crest is offering women a surgical solution for stress urinary incontinence (SUI) that uses native tissue graft. The mid-urethral sling procedure, the most common surgery used to correct SUI, traditionally uses a synthetic polypropylene mesh strip placed beneath the urethra to support it and prevent urinary leakage. Although the medical community generally regards vaginal mesh slings as safe and effective,¹ negative public perception about surgical mesh may prevent patients from seeking surgery.

“Although mesh is considered standard of care, in patients’ minds, it might be a hurdle,” Voznesensky says. “Also, although the chance of complications, such as urethral erosion or extrusion, is very small with mesh, we can eliminate them entirely with an autologous graft. And because more women are seeking these procedures at a younger age – my typical patient is in her 50s – graft durability is critical.”



Maria Voznesensky, MD
Urology

Low complications, excellent outcomes

Voznesensky harvests the tensor fascia lata (TFL) via a 2-inch incision on the side of the leg. The TFL is easily obtainable and provides adequate length and uniform thickness. After forming the sling, she uses a vaginal incision and a retropubic approach to place it under the urethra. The procedure takes about 90 minutes and patients generally require an overnight stay with a urinary catheter and vaginal tamponade. Voznesensky also performs allograft (cadaveric tensor fascia lata) procedures, as well as standard mesh procedures, depending on the patient’s anatomy and preferences.

“Patients will notice a gradual decrease in urinary leaking over the next six weeks,” Voznesensky says. “Ultimately, 85 to 90 percent of patients have a complete resolution of leaking symptoms.”

Clinical expertise and collaborative care

Voznesensky earned her medical degree from the University of Connecticut School of Medicine in Farmington and completed her urology residency at Maine Medical Center in Portland. She completed a fellowship in female urology and pelvic reconstructive surgery at the University of Iowa Hospitals and Clinics in Iowa City. She is one of the few female urologists in the U.S. and the first focused on adult care at Lehigh Valley Health Network (LVHN). She treats men and women dealing with urinary incontinence, bladder prolapse and other urological issues.

“My goal is to try to make patients feel comfortable and encourage them to participate in selecting the treatment that feels appropriate to them,” she says. “This kind of collaboration creates good relationships, better management of expectations and good outcomes.”

1. “AUA position statement of the use of vaginal mesh for the surgical treatment of stress urinary incontinence, revised October 2013.” American Urological Association website. auanet.org/education/vaginal-mesh-for-sui.cfm.

To refer a patient for treatment of female incontinence, call 888-402-LVHN.

Spring 2017

Child Protection Medicine Serves Most Vulnerable Population

Number of consults increases significantly

Recognizing child abuse and neglect as one of the nation's most serious concerns, Lehigh Valley Health Network (LVHN) provides comprehensive inpatient and outpatient services through Child Protection Medicine. An estimated one in four children experience some form of child abuse or neglect in his or her lifetime.¹

'An epidemic'

A section of the Department of Pediatrics, Child Protection Medicine examines children when there is suspicion of abuse, failure to thrive or other maltreatment. Child Protection Medicine saw the number of inpatient consultations nearly double from 127 cases in 2015 to 247 cases in 2016, and the number of outpatient cases increased 165 percent during the same period to 597 consultations.

"This is an epidemic, and one that we urgently need to address," says LVHN pediatrician Debra Esernio-Jenssen, MD, of LVPG-Pediatrics. "Every day counts in the life of a child, which is why the work of Child Protection Medicine is so important."

Comprehensive approach

LVHN formally established Child Protection Medicine two years ago by bringing in Esernio-Jenssen, a board-certified child abuse pediatrician who serves as Chief of the section of Child Protection Medicine and Medical Director of the John Van Brakle Child Advocacy Center at Lehigh Valley Children's Hospital. In addition to Esernio-Jenssen, the Child Protection Medicine team includes two certified registered nurse



Debra Esernio-Jenssen, MD
Pediatrics



Elaine Donoghue, MD
Pediatrics

practitioners with expertise in child maltreatment and a licensed clinical social worker.

“The number of consults has skyrocketed because we have a team in place that has expertise to collaborate with physicians and others throughout the community with the goal of helping children and families,” says LVHN pediatrician Elaine Donoghue, MD, Vice Chair, Department of Pediatrics-Education.

The Child Protection Medicine team provides inpatient hospital consultations, working with the emergency department, intensive care unit, burn unit, radiology, orthopedics and other health professionals. The outpatient Child Advocacy Center at Lehigh Valley Children’s Hospital brings together community partners – Lehigh County Children and Youth staff, special victims unit detectives from the Allentown Police Department, Lehigh County District Attorney’s office representatives and staff from Lehigh County Child Abuse Prevention Network, a victim’s advocacy organization – to conduct forensic interviews and make team decisions about the investigation, treatment, management and prosecution of child abuse cases.

“All of the partners are co-located and work together in the Child Advocacy Center so the children and families can have a safe, common space to easily access the services they need,” Esernio-Jenssen says.

‘No-Hit Zone’ Creates a Safe Environment

As part of the Child Protection Medicine team’s work to reduce abuse incidents in the community and set an example throughout the health network, Lehigh Valley Children’s Hospital and each of LVHN’s Lehigh Valley facilities are designated as a “No-Hit Zone.” A No-Hit Zone designation means an environment is maintained in which:

- No adult shall hit a child.
- No adult shall hit another adult.
- No child shall hit an adult.
- No child shall hit another child.

Lehigh Valley Children's Hospital recommends all homes and schools become No-Hit Zones as well. The No-Hit Zone has been implemented in hospitals across the United States to promote a culture of safety and health for children, adults, families and communities. The designation recognizes that hitting is harmful to physical, emotional and mental health and that healthy relationships use nonviolent ways to work through conflict.

1. "Child abuse and neglect prevention." Centers for Disease Control and Prevention website.
[cdc.gov/ViolencePrevention/childmaltreatment](https://www.cdc.gov/ViolencePrevention/childmaltreatment).

To refer a patient to Child Protection Medicine, call 888-402-LVHN.

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