

Spring 2014

Better Medicine

Lehigh Valley Health Network

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Discharge Reconciliation Provides Planned, Proactive Care

By Internist [Eric Gertner, MD, MPH](#), with [LVPG-Internal Medicine](#)



[Eric Gertner, MD, MPH](#)
Internal medicine

The phone rings in your practice. It's one of your longtime patients, and she's worried. She's just been discharged from the hospital, she's unsure of what medications she should take, and she has lots of questions.

In the past, this kind of call represented one of my biggest challenges as a primary care physician. Many times the conversation was awkward, mostly because I wasn't aware the patient had been in the hospital until I heard it directly from the patient herself. That created extra work for me and my office staff and hampered our ability to be proactive.

Over the past few years, I'm glad to say these awkward calls are fewer and further between. At our practice, we now take advantage of a Discharge Reconciliation Report that helps us provide our patients with planned, proactive posthospital care. These reports are being used by both Lehigh Valley Physician Group and independent practices with LVHN privileges.

The report is updated daily and lets you know which of your practice's patients are hospitalized within Lehigh Valley Health Network (LVHN). It tells you the hospital (for example, Lehigh Valley Hospital–Muhlenberg), the floor (6T), and your patient's status. When your patient is discharged, the report changes color to make you aware.

In our practice, we are fortunate to have a care manager on staff. It's her role to reach out to patients within 48 hours of hospital discharge to ensure:

- All medications are reconciled. Often a patient's medications are changed in the hospital, so this step helps ease patient confusion and ensure quality care.
- Follow-up appointments and tests are scheduled. This includes a follow-up in our office within one week, along with any required specialist appointments and laboratory testing.
- Additional needs are cared for. These can include items like physical therapy and home care.

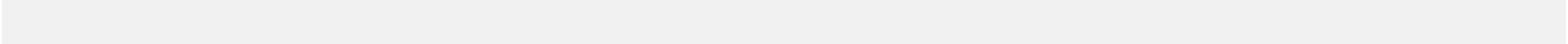
As helpful as these reports are, it's equally important for a practice to make posthospital follow-up calls a part of standard work.

While it can be a challenge in smaller practices, that time spent on follow-up calls can potentially prevent a hospital readmission. The sooner we can identify a patient's health concern — whether it's in our practice or at the hospital — the more proactive we can be.

Now more than ever, health care is a team sport. The Discharge Reconciliation Report is an important tool to make sure everyone on our team is working from the same playbook.

To learn more about Discharge Reconciliation Reports or Patient-Centered Medical Homes at LVHN, call 888-402-LVHN.

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Parata Max® Robot Enhances Pharmacy Efficiency

Pharmacies must strike a balance between speed and service. The more time technicians devote to addressing volume — filling more prescriptions more quickly — the less time remains for face-to-face consultation with patients.

This can be challenging in hospital pharmacies that serve large numbers of discharge patients, such as those within Lehigh Valley Health Network (LVHN), where such patients constitute approximately 40 percent of pharmacy customers. Consultation is important for this population, yet delays in filling prescriptions can slow discharge.



Matthew Yost, PharmD
Pharmacy

[Health Spectrum Pharmacy Services](#) at [Lehigh Valley Hospital \(LVH\)–Cedar Crest](#) is addressing these issues with a new robotic system. The Parata Max® high-speed medication dispensing system improves pharmacy efficiency while providing 100-percent accuracy.

The robot, which went live in March, provides automated labeling, filling, capping, dispensing and storage for up to 232 medications — tasks that were previously performed manually by pharmacy technicians. It also employs barcode checks throughout the process to ensure safety.

“The system frees up technicians from the repetitive functions of filling prescriptions,” says pharmacy supervisor Matthew Yost, PharmD. “We will be faster, we hope to accelerate the discharge process, and our pharmacists will be able to spend more face time with patients.”

To learn more about Health Spectrum Pharmacy Services, call 888-402-LVHN.

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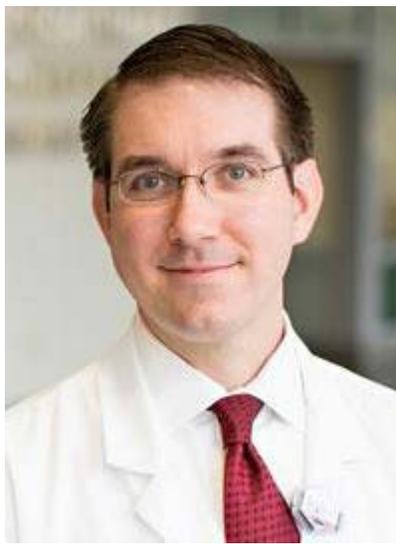
A Team Approach to Lung Cancer



Eliot Friedman, MD
Hematology oncology
[Watch a video to learn more about him.](#)



Robert Kruklytis, MD, PhD
Interventional pulmonology
[Watch a video to learn more about him.](#)



Dennis Sopka, MD
Radiation oncology

First impressions matter. For patients with newly diagnosed lung cancer, the first visit to the [thoracic multidisciplinary clinic \(MDC\)](#) at Lehigh Valley Health Network (LVHN) is especially memorable. Patients typically meet with a team of lung cancer experts from different medical specialties, all gathered in a single room at the same time.

“Having multiple doctors simultaneously outline a coordinated treatment plan for your lung cancer is a reassuring experience, and our patients love it,” says LVHN’s [Eliot Friedman, MD](#), chief, division of hematology and medical oncology. The MDC approach is a highly efficient way to plan cancer care. Data presented by Friedman and LVHN colleagues at the 2013 meeting of the International Association for the Study of Lung Cancer showed the time from first contact to initiation of therapy was reduced by almost 30 percent for patients seen in the MDC.¹

More than 220,000 people develop lung cancer in the U.S. each year.² The earlier it is identified, the better the outcomes.

The MDC team includes specialists from interventional pulmonology, thoracic surgery, medical oncology and radiation oncology. “Each of us has decided to focus on lung cancer as our professional passion,” says LVHN interventional pulmonologist [Robert Kruklitis, MD, PhD](#), chief, division of pulmonary. In addition to lung cancer, conditions that bring patients to the MDC include esophageal cancer and other tumors of the lung.

Team members have state-of-the-art technologies and techniques at their disposal, including:

- **Advanced bronchoscopic procedures:** “We have performed endobronchial ultrasound for five years and navigational bronchoscopy for two-and-a-half,” Kruklitis says. “We have experience with more than 1,000 patients.”
- **Minimally invasive thoracic surgery:** LVHN offers video-assisted thoracic surgery (VATS) and robotic-assisted lung surgery. In many cases, patients can be discharged the following day after major lung cancer operations.
- **Leading-edge cancer medications:** “We are participating in a clinical trial of the experimental anticancer drug nivolumab,” Friedman says.
- **State-of-the-art radiation therapy:** “We are equipped to provide the latest techniques, from stereotactic body

frame radiation therapy (SBRT) to incorporating 4-D CT imaging to deliver intensity-modulated radiation therapy with respiratory gating,” says LVHN radiation oncologist [Dennis Sopka, MD](#).

Nurse navigator Diane McHugh, RN, keeps the process flowing smoothly. She also can connect patients with other LVHN services as needed, including palliative medicine, nutrition, financial coordinators, physical therapy and rehabilitation, psychosocial services and smoking cessation.

Primary care physicians are kept in the loop, starting with a detailed letter outlining the proposed treatment plan. “As a referring physician, you can make one call and know your patient’s lung cancer needs are going to be met,” Sopka says.

To refer a patient to the thoracic MDC or for a lung cancer screening, call 610-402-CARE.

New insurance coverage for lung cancer screening

Last December, the U.S. Preventive Services Task Force recommended annual low-dose CT screening for lung cancer in patients who meet these criteria:

- Are between ages 55-80
- Have a 30 pack-year smoking history
- Are current smokers or quit within the past 15 years

Screening is now covered by some private insurers at no cost to patients, and more insurers are expected to follow suit by 2015.

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Improving Access to Early-Phase Cancer Clinical Trials



Suresh Nair, MD

Hematology-oncology

[Watch a video to learn more about him.](#)

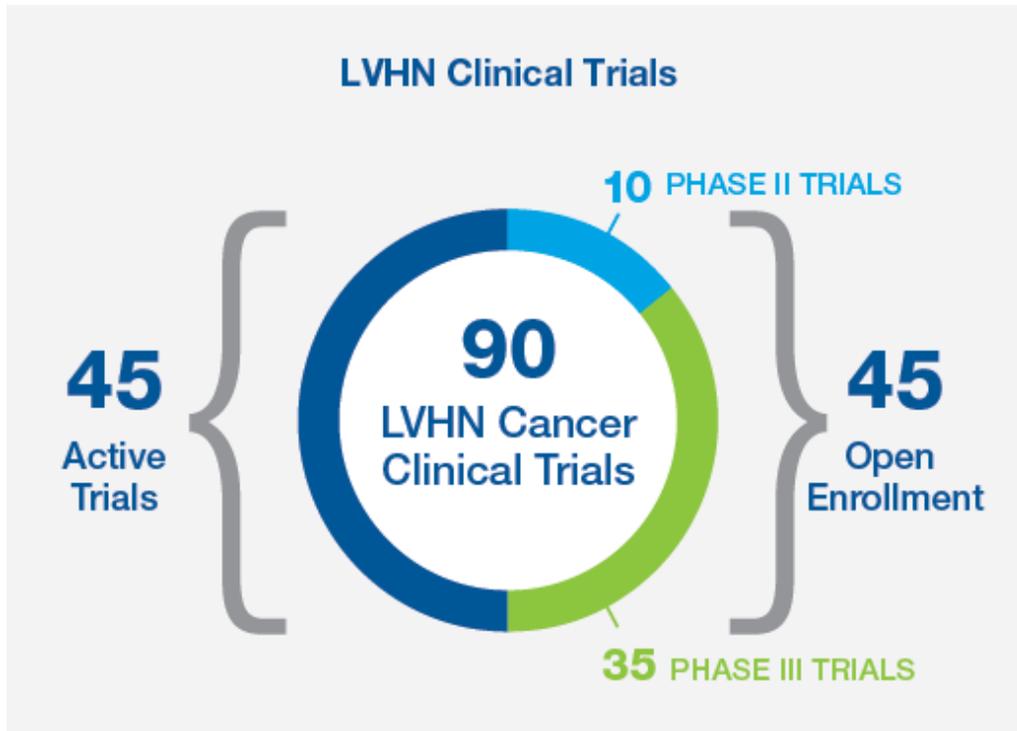
Clinical trials in cancer can sometimes offer the best possibility for extending life expectancy. To help patients take advantage of clinical research, Lehigh Valley Health Network's (LVHN) Cancer Center — one of 21 sites selected to be part of the [National Cancer Institute's \(NCI\) Community Cancer Centers Program](#) — partners with the NCI and other cancer centers to expand the availability of early-phase (phase I or II) studies.

As a result, LVHN now offers approximately 45 active [cancer clinical trials](#) open for enrollment; 10 of them are phase II, and the rest are phase III. Another 45 cancer clinical trials are ongoing at LVHN, but patient accrual has been completed. Any patient who fits the criteria for a research protocol is eligible to participate in any of LVHN's clinical studies, which also include new experimental surgical and radiation techniques. Inclusion specifics vary by clinical study. In general, patients whose cancers lack effective treatments, have failed previous treatments or who exhibit identified mutations may benefit most from a cancer clinical study.

"Having these trials available where patients live improves the availability of the newest experimental treatments for all patients," says LVHN hematologist oncologist [Suresh Nair, MD](#), who is national chair of the NCI Early Phase Central Institutional Review Board. He also is the senior medical director of research and academics for LVHN's cancer program.

Phase II trials — which are the first stage of clinical studies to show signs of efficacy — increasingly involve

specific, highly targeted investigational medicines and high-impact immunotherapy. “For some patients whose cancers exhibit known mutations or targets, having access to investigational medicines that are specifically intended to interfere with that cancer type in a phase II study may provide significant clinical benefits,” Nair says. Other experimental treatments “take the brakes off the immune system to allow the patient’s own T-cells to reject even some advanced states of cancer,” Nair says.



LVHN’s cancer research is bolstered by two partnerships — one with the Moffitt Cancer Center in Tampa, Fla., and another with [The Wistar Institute](#) in Philadelphia. “This allows LVHN to have a broad portfolio of clinical trials for the region,” Nair says.

“These studies include access to very new experimental treatments, including the phase II anti-PD-1 immunotherapy in lung cancer and melanoma (as one of only 10 select U.S. sites), as well as vaccine studies in kidney cancer and glioblastoma. It also includes Moffitt trials involving tumor banking for genomic analysis.” The results of these early-phase studies available at LVHN often are the highlight of the next year’s American Society of Clinical Oncology meeting, and in the process positively impact the life of patients in the Lehigh Valley.

LVHN is in the process of opening another 15 new cancer clinical trials in the next few months.

To refer a patient for evaluation and potential inclusion in a clinical trial at LVHN, call 888-402-LVHN.

Less-Invasive Defibrillator Implantation Now Available

Lehigh Valley Health Network (LVHN) is the first provider in the region to offer a new type of implantable cardioverter defibrillator (ICD).



Hari Joshi, MD

Cardiology

[Watch a video to learn more about him.](#)

The S-ICD System detects very fast and irregular life-threatening heart rhythms, provides electrical stimulation to restore the heart's normal rhythm, and prevents sudden cardiac arrest — all with no parts that are implanted or reside within the heart. It delivers a high-energy shock via a lead that runs beneath the skin from the device to just above the breastbone.

“This device is an innovation that reduces patient risk and provides a new alternative for young patients and those who previously did not want to have ICD implants,” says LVHN cardiologist [Hari Joshi, MD](#), with [LVPG Cardiology-Muhlenberg](#).

Unlike transvenous ICDs, the S-ICD uses a subcutaneous electrode and analyzes the heart rhythm — rather than individual beats — to effectively sense, discriminate and convert ventricular tachycardia and fibrillation.

Other benefits of the S-ICD, which the FDA approved last September, include:

- Placed by anatomical landmarks, eliminating the need for fluoroscopy at time of implant
- No risk for vascular injury and preserves venous access
- Avoids risks associated with endovascular lead extraction
- Low risk for systemic infection
- Appropriate for many body types
- Ideal for primary electrical or structural heart disease where there is no need for a simultaneous pacing device

To refer a patient to cardiology, call 610-402-CARE.

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LVHN is the first provider in the region to offer a new type of implantable cardioverter defibrillator (ICD). The S-ICD System is a non-invasive way to detect very fast and irregular life-threatening heart rhythms, provide electrical stimulation to restore the heart's normal rhythm, and prevent sudden cardiac arrest — all with no parts that are implanted or reside within the heart.

Mechanical Blood Circulation Technologies Benefit Cardiac Patients



Ronald Freudenberger, MD

Cardiology

[Watch a video to learn more about him.](#)



Timothy Misselbeck, MD

Cardiothoracic surgery

[Watch a video to learn more about him.](#)



Rita Pechulis, MD
Pulmonology

Patients with serious cardiac diseases that limit the heart's ability to pump effectively may benefit from the latest mechanical blood circulation technologies available at Lehigh Valley Health Network (LVHN).

A [left ventricular assist device \(LVAD\)](#) — a permanent circulation support — assumes the action of one of the heart's main pumping chambers. LVADs are indicated mainly for patients with advanced heart failure or heart disease whose cardiac function is deteriorating despite optimum medical management.

In 2013, LVHN surgeons implanted their first HeartMate II LVAD — the smallest and latest-generation continuous-flow LVAD approved for destination therapy. "This patient continues to do well and achieved her goal of dancing at her grandson's wedding," says cardiologist [Ronald Freudenberger, MD](#), with [LVPG Cardiology-1250 Cedar Crest](#) and chief of cardiology at LVHN.

Board-certified advanced cardiologists

The only health system to offer LVAD in the region, LVHN features an LVAD team that has completed seven implants, and all patients have returned to their activities of daily living after [cardiac rehabilitation](#). The LVAD program, which became certified by The Joint Commission last fall, includes the only two board-certified advanced heart failure and transplant cardiologists in the Lehigh Valley, Freudenberger says.

As destination therapy, LVAD provides an alternative to heart transplant when no further treatment is planned or as a bridge to transplant (BTT) prior to expected heart transplantation. Clinical trial data indicates that the one-year survival rate for BTT patients after HeartMate II LVAD placement is 85 percent.¹ The figures are lower for destination therapy survival: 73 percent and 63 percent at one and two years, respectively.² "Plus, LVADs provide a big quality-of-life boost," says LVHN cardiothoracic surgeon [Timothy Misselbeck, MD](#), with [LVPG Cardiac and Thoracic Surgery-1250 Cedar Crest](#).

LVAD placement can be considered for patients who would not survive transplant surgery, or for patients with recent cancer who are not candidates for transplant.

Short-term cardiac support

[Extracorporeal membrane oxygenation \(ECMO\)](#) helps stabilize critically ill heart or lung patients until recovery or

the medical team determines the best future treatment — which may include LVAD or heart transplantation. Since last year, more than 40 patients have received ECMO support at LVHN.

For cardiac patients, ECMO routes blood from a patient's vein to an external pump, which then pumps oxygenated blood directly back into an artery — a procedure known as veno-arterial ECMO (VA-ECMO). "VA-ECMO is acting as an external heart, pumping the returned blood through the body to perfuse the organs," says LVHN pulmonologist [Rita Pechulis, MD](#), with [LVPG Pulmonary and Critical Care Medicine-1250 Cedar Crest](#).



LVHN also provides venovenous ECMO for patients with severe refractory hypoxemia despite maximum mechanical ventilatory support. These patients often have acute respiratory distress syndrome or H1N1 influenza pneumonia. In these cases, venous blood is drawn from the inferior and superior vena cava, oxygenated and returned back to the right side of the heart, improving the patient's oxygenation and stabilizing their clinical status. "The survival of these patients is 71 percent, better than the national average. Most if not all of these patients would have died without ECMO support," Pechulis says.

ECMO incorporates the services of a multidisciplinary group of caregivers. "It is truly a team effort," Pechulis says.

To determine whether a patient may be a candidate for LVAD intervention, call 610-402-CARE to schedule an evaluation.

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Moving Beyond Management of Hepatitis C to Provide Long-Term Cure

Drawing on new drug combinations and other innovative treatment approaches, the [Hepatitis Care Center at Lehigh Valley Hospital-17th Street](#) cured its 100th patient in December. Clinicians anticipate curing another 100 patients this year.



[Joseph Yozviak, DO](#)
Internal medicine

A different approach

The efficacy of [hepatitis C treatment](#) regimens involving pegylated interferon therapy combined with ribavirin (and often a protease inhibitor) is well known. Multiple studies demonstrate that patients who achieve a sustained virologic response 24 weeks after completing treatment maintain an undetectable viral load during long-term follow-up.^{1,2} Often, though, interferon therapy's side effects, which can include flulike symptoms, low blood counts and neuropsychiatric disorders, deter patients from following through.

To improve adherence to therapeutic regimens, the Hepatitis Care Center applies strategies learned from treating HIV infection, which also requires a high level of adherence and daily medications with some associated toxicity. The program also has integrated clinical behavioral health specialists to help address mental health issues, education, transportation and other factors.

"By incorporating these nonphysician services, we have been able to bring our treatment completion rates up to approximately 90 percent," says Lehigh Valley Health Network (LVHN) internal medicine doctor [Joseph Yozviak, DO](#), Hepatitis Care Center director.

Emerging therapies

The recent approval of two new medications for the treatment of hepatitis C is expected to accelerate the cure rate even further. Last December, the U.S. Food and Drug Administration approved two new oral direct-acting antivirals: simeprevir (which is much better tolerated than other protease inhibitors³) and sofosbuvir, a nucleotide polymerase inhibitor, which substantially reduces the length of therapy, from 24 or 48 weeks to 12.⁴

The standard of care for hepatitis C differs depending on the genotype of the virus. For patients infected with genotype 1 or 4, sofosbuvir is given in combination with pegylated interferon and ribavirin. But for patients with genotype 2 and 3 infection, sofosbuvir now has been approved for treatment in combination with ribavirin alone — the first drug combination approved for use without interferon therapy. By eliminating pegylated interferon, nearly all of the challenging side effects of hepatitis C treatment disappear.

“This is the holy grail that we’ve been waiting for in hepatitis C, to be able to offer an interferon-free regimen,” Yozviak says.

At the same time, the rates of cure for genotype 1 have increased to 90 percent.⁴ For genotype 4, they are near 100 percent.⁵ And for genotypes 2 and 3, the overall cure rate is more than 90 percent.⁶

Clinical trials

The Hepatitis Care Center is the only site in the region offering clinical trials of new investigational interferon-free therapeutic regimens for hepatitis C. While the FDA has approved interferon-sparing therapies for patients with genotypes 2 and 3 infection only, patients at the center with genotype 1 and 4 infection also can now access the latest interferon-free therapies through these trials.

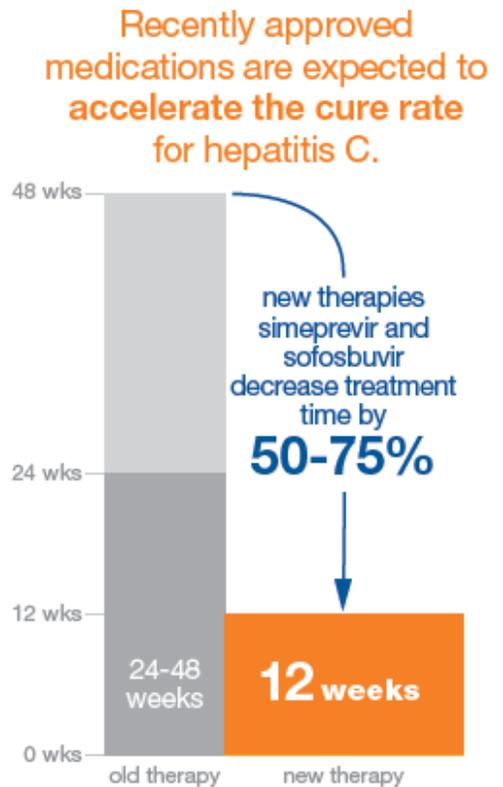
“Normally, patients would have to travel to Philadelphia or New York City to gain access to these trials, but they can access them right here in the Lehigh Valley,” Yozviak says.

Expanded testing guidelines

Due to the high prevalence of undiagnosed infection among baby boomers,⁷ hepatitis C testing is now recommended for all patients born between 1945 and 1965, regardless of risk history.⁸

A rapid HCV test is now available that gives results in 20 minutes with a fingerstick blood sample. The Hepatitis Care Center offers this test free of charge. Patients can walk in for testing Monday through Thursday or call 888-402-LVHN.

To learn more about the Hepatitis Care Center or to refer a patient, call 888-402-LVHN.



Comprehensive Treatment, Support for MS Patients



Lorraine Spikol, MD
Neurology



Gary Clauser, MD
Neurology



Dmitry Khaitov, MD

Neurology

[Watch a video to learn more about him.](#)

Multiple sclerosis (MS) affects 2.3 million people worldwide, according to the National Multiple Sclerosis Society, and no two MS patients are alike. Some patients have no symptoms. Others experience neurological problems such as vision loss, or weakness, numbness and tingling in the arms and legs.

At Lehigh Valley Health Network (LVHN), each MS patient is treated as an individual. “We want to diagnose MS faster to get patients on treatment sooner so we can minimize the accumulation of damage to their brain,” says neurologist [Lorraine Spikol, MD](#), who leads the LVHN neuroscience research team.

LVHN is the only site in the Lehigh Valley designated as a Center for Comprehensive MS Care by the National Multiple Sclerosis Society’s Partners in Care program. The health network provides comprehensive care for patients who experience all stages of MS, from patients who have symptoms consistent with MS but have had only one flare-up (clinically isolated syndrome) to patients who have progressively debilitating disease, which can lead to complete incapacitation.

Wide range of specialists

A comprehensive treatment approach at LVHN encompasses myriad specialties. These include physical, occupational and speech therapy; urogynecology; neuropsychiatry and neuropsychology; psychiatry; and pain management.

Physicians and nurse practitioners have advanced training in caring for MS patients. The team includes an advanced practice nurse who has completed certification in MS care, a clinical counselor to help meet patients’ mental health needs, and a social worker who can connect patients to local and national resources.

Moreover, LVHN’s MS team takes pride in its ongoing [collaboration with Good Shepherd Rehabilitation Hospital](#), which has a long-standing commitment to caring for more complex cases in inpatient settings. When it comes to outpatient care, LVHN physical therapists can provide treatment for patients who have more advanced MS, such as those who use walkers or wheelchairs.

LVHN’s contributions to new treatments

Almost every MS patient has symptoms that wax and wane, such as fatigue, tingling and balance difficulties. “When we tell patients we want to prevent their MS from getting worse, we’re specific,” says LVHN neurologist [Gary Clauser, MD](#), who has advanced certification in caring for MS patients. “At visits, we ask patients about how they’re doing at work and home, look at their physical exam and their MRI, and conduct tests that, for example, time how long it takes them to walk 30 feet. That’s an objective way to tell if they’re becoming more functionally disabled.”

Although there is no cure for MS, treatments can modify its course. Some experimental treatments have been clinically tested at LVHN, including teriflunomide (Aubagio), one of three new FDA-approved oral therapies “These new therapies are a big deal for patients who don’t tolerate injectable medications,” says LVHN neurologist [Dmitry Khaitov, MD](#), who is fellowship-trained in MS. “We’re hopeful compliance will be better because they’re easier to use.” If the disease progresses despite treatment, patients can be switched to another therapy.



To expedite diagnosis and treatment, and reduce patient wait times, new patients are fast-tracked. “If you call because you think your patient has MS, we’ll make sure your patient gets seen quickly, within a week or two,” Spikol says.

To refer a patient or make an appointment with LVHN’s MS program, call 888-402-LVHN.

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High Volumes, Expertise Highlight Orthopedic Surgery Program

Multiple locations offer quick access for total joint procedures

Chronic joint pain can be debilitating and restrict an otherwise active lifestyle, but it doesn't have to be that way. Physicians at Lehigh Valley Health Network's (LVHN) [Center for Orthopedic Medicine](#) are ready to help by offering the latest treatment options at multiple locations.



[Prodomos Ververeli, MD](#)
Orthopedics

Fellowship-trained surgeons

For [total joint replacements](#), LVHN's entire surgical team is fellowship trained and includes doctors from VSAS Orthopaedics and OAA Orthopaedic Specialists. Many total joint replacement patients at LVHN will return home after 48 hours in the hospital, during which a comprehensive team of health care professionals — including orthopedic nurses and physical and occupational therapists — is dedicated to their care.

Most patients recover in private rooms, and their family members can spend the night with them if needed. Recovery continues post-discharge at [one of many convenient LVHN rehabilitation sites](#) throughout the region.

"Because we have multiple physicians with multiple subspecialties, we cross-cover one another, making sure patients have access to the best in the field," says LVHN orthopedic surgeon [Prodomos Ververeli, MD](#), with VSAS Orthopaedics. Surgeons at LVHN also are experienced in the latest techniques for total joint replacement, soft tissue repair, arthroscopy and spinal fusion.

That expertise is one reason why Lehigh Valley Hospital (LVH) is the only provider in the region ever to be recognized among the top 50 U.S. hospitals for orthopedic care by [U.S. News & World Report](#). The hospital also holds a [Blue Distinction Center+ award for hip and knee replacement from Blue Cross-Blue Shield](#), and an [Institute of Quality designation for orthopedics from Aetna](#). LVHN performs more orthopedic procedures than anyone else in the region.¹

A multilocation center

LVHN's program is [spread across multiple locations](#) to deliver the most convenient care. Locations include:

- [LVHN–Tilghman](#) — Our campus in South Whitehall Township that's dedicated to orthopedic care
- LVH–Cedar Crest, LVH–17th Street and the Fairgrounds Surgical Center in Allentown
- LVH–Muhlenberg in Bethlehem

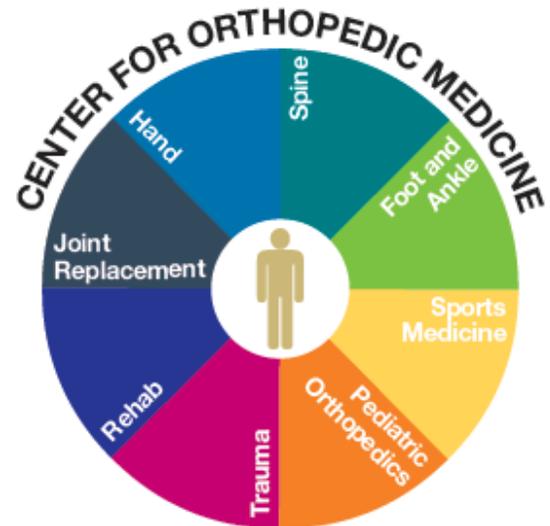
A full spectrum of orthopedics

LVHN's commitment to orthopedics starts at the practice level. "We've made a practice-wide commitment to be available when patients need us, and we strive to get patients seen fast," Ververeli says.

LVHN's care also includes orthopedic rehabilitation, sports medicine and [LVHN Fitness facilities](#) for strength training and to promote healing postsurgery. Also, two traumatologists at LVH–Cedar Crest are fellowship-trained in orthopedic trauma care and work full-time to handle patient trauma cases. In addition, all of the center's orthopedic physicians are capable of treating acute injuries.

To refer a patient to the Center for Orthopedic Medicine, call 888-402-LVHN.

1. "CY12 Orthopedic Inpatient Discharges by Sub-Product Line by Hospital." PHC4, NJ DOH, HCAB Product Line Definitions.



Single-Site Robotic Gallbladder Surgery

The current standard of care for gallbladder removal is laparoscopy, in which a camera and surgical instruments are inserted through several small incisions. However, a newer, less invasive method is now available at Lehigh Valley Health Network (LVHN). Single-Site™ robotic gallbladder surgery uses the same techniques as standard laparoscopic removal, except it is done via one incision of less than 1 inch at the navel. Using that site yields a virtually scarless procedure.



LVHN surgeons have performed about 50 gallbladder excisions with single-site robotic surgery since its introduction in April 2013. It's one part of LVHN's experience with robotic surgery. Since 2008, LVHN surgeons have used the [da Vinci® Si HD Surgical System](#) for more than 3,000 procedures for gynecologic, urologic, colon and rectal, thoracic and other general surgical indications.



Paul Cesanek, MD

General surgery

[Watch a video to learn more about him.](#)

A ‘more natural way’

The new single-site robotic platform further advances the capabilities of laparoscopy and robotic surgery. “With this new system, the instruments exactly follow the movements I make with my hands,” says LVHN general surgeon [Paul Cesanek, MD](#), with [General Surgical Associates](#). He has performed more than 40 single-site robotic gallbladder surgeries. “It is a much more natural way to do the procedure.”

Patients undergoing gallbladder removal with the single-site robotic system can expect only a single scar, what Cesanek says is “the best cosmetic outcome possible.” The clinical results are consistent with traditional laparoscopy, including fast recoveries and low risk for infection.

“We are looking to offer this new technique to people who are active, want to get back to normal daily functions as quickly as possible, and who care about the cosmetic results,” Cesanek says. Patients with a body mass index (BMI) greater than 40 or a history of extensive abdominal surgery are not considered optimal candidates.

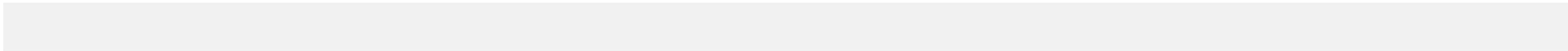
“Because we are a high-volume center for laparoscopy, patients can expect to do very well with a standard laparoscopic gallbladder surgery,” Cesanek says. “Yet, we are excited about single-site robotic surgery because it is a stepping stone to offering this less invasive approach for other indications, such as hiatal hernias and colon resections.” In addition to Cesanek, his LVHN colleagues [Scott Beman, MD](#); [Rovinder Sandu, MD](#); [Guillermo Garcia, MD](#), and [Martin Martino, MD](#), perform single-site surgeries.

New instrumentation coming soon

This summer, Cesanek and his colleagues will be incorporating the newest advances in single-site instrumentation. “These tools will give us better dexterity and articulation, and provide a range of motion similar to what we experience through an open incision,” he says. “Coupled with advances in smaller yet stronger instruments, this should enable many more types of single-site robotic surgeries that are not done with single-site techniques today.”

To refer a patient to one of our robotic surgeons for assessment or consultation, call 888-402-LVHN.

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Using a Comprehensive Strategy to Prevent Kidney Stone Recurrence



James Johannes, MD

Urology

[Watch a video to learn more about him.](#)

Conventional treatments for [kidney stones](#) typically focus on immediate management. Rarely do they encompass a concerted effort to identify and treat the cause of the stone. The result is that the problem often recurs months or years later — in as many as half of patients within five years, according to some studies.¹

For this reason, Lehigh Valley Health Network (LVHN) takes a broader approach.

“Treatment of kidney stones is usually just the first step,” says LVHN urologist [James Johannes, MD](#), of [LVPG Urology](#). “Our goal is to both address the immediate problem and develop an evidence-based prevention strategy. When patients are compliant with recommendations, we can prevent recurrence of stones in 80 percent of cases.”

Treatment and diagnosis

Johannes directs a subspecialty area within LVPG Urology that focuses exclusively on stone disease, using a center-of-excellence model to address every aspect of kidney stone treatment and prevention.

When patients are referred, he and his colleagues begin by addressing the immediate kidney stone problem. Urologists can employ common techniques such as shock wave lithotripsy. However, for many patients, laser ureteroscopy — employing a

laser delivered via ureteroscope through the bladder to break up stones — can be advantageous.² Use of the ureteroscope allows the physician to directly visualize the stone while breaking it up and to remove all pieces of the stone as part of the procedure, eliminating the need for patients to pass the stone themselves.

If surgery is indicated, LVHN’s specialists have expertise in all minimally invasive, open and even robotic techniques, and can address highly complex cases.

After surgery, clinicians determine what type of stones the patient has and perform a blood and urine test to diagnose the cause. “At that point we have all the pieces of the puzzle to understand what is happening physiologically,” Johannes says.

For example, some patients may have inborn problems with their kidneys, renal tubular acidosis or a metabolic disorder. Other stones may be caused by diet or hydration. Patients who have had bariatric surgery may produce kidney stones because of changes to the way their intestines process calcium and oxalate postsurgery, so they are at particularly high risk for recurrence.

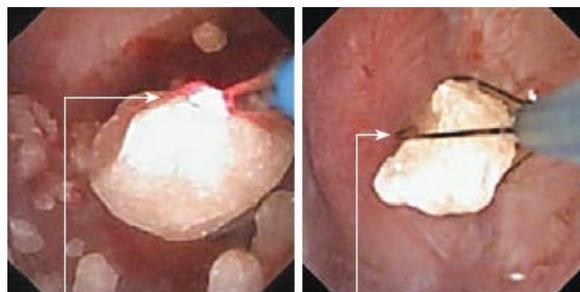
A multidisciplinary approach

As part of the practice’s center-of-excellence approach, Johannes draws on a multidisciplinary team of experts to develop evidence based recommendations for each patient to prevent recurrence.

These can include medications, major dietary changes or simply asking patients to drink more water. Urologists collaborate with nephrologists, endocrinologists, rheumatologists and other specialists depending on the case, as well as with in-house dietitians.

This broad-based approach, often found at major academic institutions, is available to patients locally at LVHN. And given the prevalence of recurrence, it is an approach with the potential to benefit patients.

To learn more or to refer a patient to urology, call 610-402-CARE.



Performing laser lithotripsy to fragment a large stone into smaller pieces

atraumatically removing stone pieces using a basket

These pictures highlight the latest digital ureteroscopes that now are available at LVHN. The high-definition picture enhances visualization, which improves outcomes and patient safety.

BabyCam Gives Parents 24/7 NICU Connection

Parents of infants who need specialty care in the [neonatal intensive care unit \(NICU\)](#) can't always be there 24/7.

"The hardest part is going home without your baby at the end of the day," says LVHN's [Wendy Kowalski, MD](#), interim chief, neonatology. To help parents stay connected with their infant and feel reassured while they're away, LVHN has installed [BabyCam](#) on every bassinet in the NICU.

"Parents get a password and can log in from their tablet or laptop computer from home or wherever they are," Kowalski says. "It's a one-way visual that allows parents to see that their baby is pink and happy." Parents also can share their password with family and friends so everyone can virtually visit the baby in the NICU.



About Lehigh Valley Children's Hospital

[Lehigh Valley Children's Hospital](#) provides family-centered care for children of all ages. It includes inpatient and ambulatory care, a Children's ER, subspecialties in more than 25 pediatric specialties, and numerous child-specific services such as rehabilitation and burn care. It is the only children's hospital in the Lehigh Valley.

Working Together to Manage Complicated Pregnancies and Deliveries



John Smulian, MD, MPH
Obstetrics/gynecology



Meredith Rochon, MD
Obstetrics/gynecology



Wendy Kowalski, MD
Neonatology

Higher maternal ages. Diabetes. Fetal chromosomal or structural abnormalities. Hypertension. Lupus. Kidney, heart and lung disease. These are some of the most common health issues associated with mothers or unborn babies that can make a pregnancy [complicated and high-risk](#).

They're also the kinds of cases Lehigh Valley Health Network's (LVHN) maternal fetal medicine (MFM) specialists manage every day, typically in conjunction with a patient's obstetrician. To create optimal outcomes, MFM practitioners also partner with clinicians inside Lehigh Valley Children's Hospital's [neonatal intensive care unit \(NICU\)](#).

"We're a medical home for complicated pregnancies," says LVHN obstetrician/ gynecologist [John Smulian, MD, MPH](#), who also serves as chief of maternal fetal medicine. "We assess both maternal and fetal risks, set up a management plan for the patient's obstetrician to follow, monitor pregnancy progress and assist when care gets complicated."

Often, patients are referred to MFM practitioners if a suspicious finding (such as a structural abnormality) is noted on a routine ultrasound exam. "Ultrasound is our stethoscope in obstetrics," Smulian says.

"It's a window into the fetus that allows us to identify potential problems before delivery and change the management of the pregnancy if necessary."

MFM specialists perform all ultrasound fetal anatomy evaluations (sometimes called Level II ultrasound) for LVHN affiliated obstetricians/gynecologists in the region. These specialists' expanded expertise in evaluating ultrasounds helps ensure the highest examination quality. Nonaffiliated physicians also routinely refer concerning Level II findings to LVHN's MFM team, which was responsible for more than 35,000 ultrasounds in 2013.

Based on an ultrasound determination, the MFM team consolidates the patient's care, adding specialists — such as genetic counselors or pediatric subspecialists — as needed. The team also counsels patients about the medical management of their pregnancy until the time of delivery so they know what's happening and understand their options.

“By providing this specialty level of care, we enhance the chances for a better outcome,” Smulian says. In addition to MFM care, most patients continue to see their regular obstetrician throughout their pregnancy.

The MFM team’s skills help some extremely complex cases. Recently, for example, one patient’s Level II ultrasound revealed her 20-week-old fetus had a bladder outlet obstruction, a condition that can cause renal failure and prevent urine from leaving the bladder.

“Fetal urine makes up most of the amniotic fluid in the first trimester,” says LVHN obstetrician/gynecologist and maternal fetal medicine practitioner [Meredith Rochon, MD](#). “If there’s no amniotic fluid, the fetus can’t grow and develop normally.” The patient was counseled about the prognosis. After genetic testing on the fetus, the patient had several cystocentesis procedures to sample the fetal urine, which suggested that the fetus’s renal function was preserved.

“We then moved to the next phase of treatment,” Rochon says, which included placing a special catheter shunt through the mother’s belly and into the fetus’ bladder so it could release fetal urine into the amniotic cavity, allowing the kidneys and lungs to develop normally. The catheter did its job, despite requiring a revision at 31 weeks.



MFM-NICU teamwork

To prepare for delivery, the MFM team worked with clinicians in the Level III NICU at Children’s Hospital at Lehigh Valley Hospital. “MFM colleagues will routinely consult with us prenatally,” says LVHN’s [Wendy Kowalski, MD](#), interim chief, neonatology. “We’ll talk with the mother while she’s still pregnant to let her know from our perspective what will happen after the baby is born.”

The NICU is equipped to handle all cases except for pediatric cardiac surgery and heart-lung bypass. It employs seven full-time neonatologists, six neonatal nurse practitioners and neonatal nurses who have been on staff for more than 10 years. Just like LVHN MFM physicians who are always in the hospital, “There’s a NICU physician and a nurse practitioner in the hospital 24/7,” Kowalski says.

In this case, when the patient delivered via Cesarean section at 34 weeks, LVHN neonatologists were there at the delivery. The infant was rushed to the NICU. After a diagnosis of an obstructive process in the urethra was confirmed, he immediately underwent a series of surgical procedures to remedy the problem.

“There was frequent coordination between MFM and the NICU,” Rochon says. The infant was seen by specialists in nephrology, cardiology, neonatology and urology. Still, because the mother was so well-informed, she felt reassured despite the uncertainty and seriousness associated with her newborn’s condition.

Despite having an initial diagnosis that’s usually fatal, the baby was discharged after several months and is receiving outpatient care from an LVHN satellite office. Although he was diagnosed with a degree of renal dysfunction, “Considering what the outcome would have been without prenatal therapy, he’s doing quite well,” Rochon says.

To refer a patient to MFM or NICU, call 610-402-CARE.

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