Busy McLean Outpatient Site Adds Expertise, Services and Physical Space

Therapy services, diagnostic capabilities and our physician specialty team are expanding at MedStar NRH Rehabilitation Network, McLean, to meet growing demand. In the last year alone outpatient visits to the Northern Virginia location have numbered nearly 16,000.

“We’ve increased our therapy space to accommodate growth in rehab services, such as physical, occupational and speech therapy,” says John Brickley, vice president for ambulatory operations and network development.

“We’ve expanded hours of operation for patients’ convenience and grown our capabilities with more medical specialists including physiatrists, orthopaedists, neurologists, neurosurgeons and sports medicine physicians,” Brickley adds.

Comprehensive spine care services have also been expanded to streamline the diagnosis and treatment of a variety of acute and chronic conditions related to the spine. “Care now includes on-site diagnostic and treatment services, including a new procedure suite for the administration of guided interventional treatments for a variety of problems, including spinal issues,” says Curtis Whitehair, MD, associate medical director for regional physiatry. “Advanced imaging at the center features the C-Arm device, which provides high resolution x-ray in real time with fewer exposures and allows physicians to quickly assess conditions and monitor progress during treatments.”

Comprehensive Rehab Expertise

Matthew Maxwell, MD, is among the outpatient center’s growing team of physiatrists. Board certified in physical medicine and rehabilitation and with a fellowship in sports medicine, Dr. Maxwell is

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providing a wide-range of physiatry services for everything from chronic pain from spine and joint problems—to sports injuries.

For every patient, Dr. Maxwell’s ultimate goal is the same: Pinpoint the problem and develop a treatment plan tailored to the individual. “For patients with acute or chronic back pain—or an athletic injury—treatment begins with a getting the ‘big picture’ with a thorough assessment and functional evaluation,” he says.

“In some instances, I can help locate the source of pain prior to surgery—and we provide post-surgical evaluations and rehab for patients, as well,” Dr. Maxwell says.

“But today, most patients can be treated with one of a growing number of non-surgical treatment options available for musculoskeletal and spine problems. We always opt for the least invasive therapy to repair injury, reduce pain and improve patients’ ability to function day-to-day,” Dr. Maxwell adds.

Treatment often combines interventions including oral medications and physical therapy. “In some cases of muscle and tendon injury or pain, trigger point injections of local anesthetics can help relax muscles and provide immediate relief so patients can then complete a regimen of therapy and exercise,” Dr. Maxwell explains.

For these patients and others with chronic pain, injections of anti-inflammatory steroid medications in the joints and around tendons can help provide longer term relief. Dr. Maxwell is also treating patients with injections of platelet rich plasma (PRP)—spun from their own blood. “We are having very favorable results with PRP for a number of pain problems, including issues with tendons, ligaments, muscles and joints. The injections of concentrated platelets and growth factors help to speed up the healing process and can regenerate growth of new tissue,” he says.

With the new ultrasound capabilities at the McLean center, Dr. Maxwell can provide speedy diagnosis and perform ultrasound-guided injections including nerve blocks and anti-inflammatory drugs for joint, soft tissue and spinal conditions. “We can visualize the problem and develop a therapeutic plan during one visit. This speeds treatment, which can make a dramatic difference in recovery and quality of life.”

For the adolescent and adult sports’ enthusiasts he treats, Dr. Maxwell’s notes that “while diagnosis and treatment are paramount, I always put an emphasis on preventing a recurrence of injury.”

Dr. Maxwell works closely with the MedStar NRH team of therapists at the center—following patients’ treatment closely and providing follow-up care. “Our offices are located on the same floor as the gym—so we are close at hand to consult on a regular basis.

“I also routinely confer with the other medical specialists at McLean—orthopaedists and neurosurgeons. When surgery is recommended, referral and follow-up is streamlined and convenient. It’s a very progressive approach to care.”

New Orthopaedist Joins McLean Center

MedStar Orthopaedic Institute’s Fred Mo, MD, is part of McLean’s growing team of specialists. Dr. Mo is an orthopaedic surgeon with expertise in cervical, thoracic and lumbar spinal disorders from degenerative discs to congenital spine malformations, such as scoliosis.

“Back pain accounts for millions of dollars in lost work productivity—and greatly reduced quality of life for so many Americans,” Dr. Mo says. “And spinal discs are most often the culprit. Discs weren’t made to last,” he adds.

“But with every passing decade they erode a bit more. If everyone had an MRI, we would discover some degeneration of discs. As we age and discs disappear, the lack of support for the spine can cause debilitating curvature.”

Not all disc degeneration requires treatment, he adds. And still fewer patients need surgery. “We always consider the simplest solution first. For some patients, weight loss is the answer. Physical therapy and pain management are also first line treatment options. We work closely with MedStar NRH rehab

Orthopaedist Curtis Henn, MD, specializes in complex disorders of the hand and upper extremities.
Upper Extremity Expertise at McLean

Curtis Henn, MD, is adding upper extremity expertise to McLean. Dr. Henn, a MedStar Georgetown orthopaedic hand surgeon and member of the MedStar Orthopaedic Institute, completed an orthopaedic hand and upper extremity fellowship—and specializes in the treatment of disorders affecting the tendons, bones, ligaments, nerves and vessels of the hand, wrist and elbow. He cares for patients with everything from thumb arthritis and tennis elbow to carpal tunnel syndrome.

“Today orthopaedic surgeons have very specific skills for good reason,” Dr. Henn says. “The anatomy of the hand and wrist are small and challenging, and the complexities of injuries and the latest surgical techniques require very specialized care,” he adds.

“I treat a wide range of issues from chronic to acute,” Dr. Henn explains. “And in most instances, treatment will be non-surgical—sometimes simple immobilization will resolve the issue,” Dr. Henn notes. “For other problems, therapy is the answer. I work closely with Dr. Matthew Maxwell and the certified hand therapists at the McLean center—we often share patients. And because the problems I treat also often effect nerves, I consult with MedStar Georgetown neurologists at the site, as well.”

A number of disorders including trigger finger, tendinitis, and arthritis, can be treated with injections, Dr. Henn notes. “In more than half of the cases of trigger finger, for example, a single steroid injection is enough to resolve the problem.”

When surgical intervention is needed, Dr. Henn utilizes the most advanced arthroscopic, minimally invasive and microsurgical techniques. “I utilize loupe magnification to visualize the often tiny anatomy. Occasionally we use suture that is thinner than a hair. In the repair of a lacerated tendon, for example, magnification allows us to repair the tendon using highly complex techniques,” he explains.

“It can be a top priority for patients undergoing surgery, he adds. “But in some cases, fusion of the spine with screws and rods creates stability and pain relief. I’ve had patients whose pain was so intense, sleep was impossible. Surgery gave them their lives back. "

“Maintaining mobility is a top priority for patients undergoing surgery, he adds. “But in some cases, fusion of the spine with screws and rods creates stability and pain relief. I’ve had patients whose pain was so intense, sleep was impossible. Surgery gave them their lives back. "

“No matter the type of surgery we perform, patients can receive their initial consultation, post-surgical follow-up, and therapy at the McLean center,” Dr. Mo adds. “That’s a convenience they really appreciate.”
MedStar NRH Network Expands to 52 OUTPATIENT CENTERS

Five new MedStar NRH outpatient centers have recently opened in locations throughout the Washington, D.C., and Baltimore region. “We are continuing to expand to serve new communities—and grow existing services,” explains John Brickley, vice president for ambulatory services and network development. “Visits to our outpatient centers continue to increase and we’re responding to the region’s demand for convenient, high quality, customer-service driven rehabilitation care.”

Bel Air, Md.

In the north, a second Bel Air, Md., center is now serving the growing Harford County area. “Our original location—MedStar NRH Rehabilitation Network, Bel Air Athletic Club—continues to provide a variety of services, but will ultimately be dedicated to orthopaedic and sports medicine rehabilitation,” Brickley says.

“The second site—MedStar NRH Rehabilitation Network, Bel Air—offers comprehensive Speech-Language Pathology, and Physical and Occupational Therapy services,” he explains.

“It’s located in the newly completed 100,000 sq. ft. MedStar Bel Air Medical Campus, where our rehab specialists are working closely with MedStar Health orthopaedic surgeons, neurosurgeons, sports medicine physicians, oncologists, primary care physicians and other specialists. We also have an urgent care center on site,” he adds. “Co-locating so many MedStar services under one roof provides the community easy access to a variety of health care providers who work collaboratively to best meet patient needs.”

“The center offers a broad range of musculoskeletal and neurologic rehabilitation, as well as sports medicine,” says Jill Anderson, assistant vice president of outpatient rehab, Baltimore region. “We have a Running Injury Clinic, as well as baseball injury screening, prevention and performance enhancement.”

In addition, the center features cancer rehab services, pediatric rehabilitation, foot/ankle and hand therapy, an arthritis program and comprehensive spine pain rehab. “In just a few short months since its opening, the new site has been very busy. Both Bel Air sites will continue to provide important services to area children and adults,” Anderson adds.

Hunt Valley, Md.

In northern Baltimore County, MedStar NRH is now providing sports medicine, physical therapy and orthopaedic services in the new U.S. Lacrosse administrative headquarters in Hunt Valley, Md. “This center has a large performance enhancement component,” Brickley notes. “We are serving the community and U.S. Lacrosse athletes. It’s an exciting addition to our sports medicine program and was spearheaded by Richard Hinton, MD, orthopaedic surgeon and co-medical director of MedStar Sports Medicine.”

Southern Maryland

The largest site to date in Southern Maryland opened in Brandywine, Md., in late July. “The site is being developed as a hub of comprehensive services,” Brickley adds. “We’re offering a broad range of therapy services, as well as the expertise of medical specialists including physiatrists, orthopaedic surgeons, neurologists and primary care physicians.”

“We are expanding our Sports Medicine services—and will have the latest technology, including the AlterG® Anti-Gravity Treadmill,” says Kristin Sheehan, PT, OCS, regional director Southern Maryland. “Our team includes an athletic trainer in addition to physical therapists and occupational therapists, including certified hand therapists. We are also doing a good deal of community outreach and providing performance evaluations for area high school athletes—a service we hope to grow.”

Also in Maryland, MedStar NRH rehabilitation therapists are providing services at MedStar Health’s urgent care center MedStar Prompt Care in Hyattsville, Md. The center, which is located close to the University of Maryland campus, provides urgent and primary care and rehabilitation services.

To learn more, visit MedStarNRH.org/locations.
Top of the Line Sports Performance Center Opens at Lafayette Centre

MedStar NRH is taking center stage at the new, state-of-the-art MedStar Health at Lafayette Centre, which opened in September.

Primary care services; a wide range of specialty medical care, including rehabilitation; diagnostic imaging; and surgical facilities are housed in 112,000 sq. ft., in two buildings in the heart of the nation’s capital.

Comprehensive Sports Performance Lab

MedStar Health Orthopaedics and Sports Center occupies two floors of Building One and features the East Coast’s most sophisticated Sports Performance Lab. The lab is geared to the training and rehabilitation of athletes from across the country, as well as residents of the D.C. region.

“The center has been developed as MedStar Sports Medicine’s Greater Washington region flagship site exclusively dedicated to orthopaedics, sports medicine, physical therapy, performance enhancement and sports medicine-orthopaedic evaluations,” says John Brickley, vice president for ambulatory services and network development. “We’ve created a state-of-the-art center for the prevention and treatment of sports injury—and for the improvement of athletic performance for elite athletes and amateurs.”

MedStar NRH physiatrists and sports medicine physical therapists serve as the rehabilitation arm of MedStar Health Sports Medicine and work hand-in-hand with the wide spectrum of sports medicine physician specialists across MedStar. MedStar Sports Medicine is the exclusive health care provider for several professional sports teams, as well as club teams and collegiate sports programs.

“The lab is equipped with the most advanced technology available to analyze and enhance sports performance,” says Lance Kelly, director of professional, collegiate and elite sports therapy.

Cutting-edge tools include 3D kinematic and ultra-high speed motion analysis and sports simulation testing and training on the facility’s basketball court, baseball pitching mound, and artificial turf and track.

The lab also features ViPerform™, a wireless sensor technology that tracks and measures how athletes move in real-time. “We can analyze a variety of movements including jumping, running and throwing as the athletes engage in the acidity wearing motion and muscle activity sensors that record data at 200 frames per second,” explains Kelly.

The ViPerform™ software translates the data into meaningful results to help develop training plans that enhance performance—and prevent injury.

A unique Runner’s Clinic at the Lafayette Centre offers dual camera video gait analysis that allows therapists to review the runner’s head-to-toe biomechanics—critical information about posture, strength and flexibility that can leave runners open to re-injury. The clinic incorporates cross training and the use of the AlterG® Anti-Gravity Treadmill to decrease the force of impact, which is then increased over time as an injury heals.

Full Complement of Rehab Services

MedStar NRH at Lafayette also provides the complete complement of rehab services for musculoskeletal conditions, spine conditions, concussions, pain syndromes, cancer and lymphedema. In addition to physiatrists Jason De Luigi, DO, and B. Elizabeth Delasobera, MD, the center features a cadre of physical and occupational therapists, including certified hand therapists.

“The beauty of the Lafayette Centre is that we can do all we need to help patients in one location,” Kelly notes. “I can walk down the hall to consult with a physician and make an immediate therapy decision. We have diagnostic imaging and patients can have procedures here too. This makes care easier for patients to access and that means better outcomes.”
Research to Test Use of Stem Cell Therapy in Stroke Patients

MedStar NRH is one of 60 sites nationwide participating in the largest clinical trial of its kind to test the use of stem cells to restore motor function in stroke patients. The large double-blind, randomized study is based on an initial small investigation conducted at Stanford University that demonstrated results described as “stunning.”

Promising Initial Response

In the Stanford study led by Gary Steinberg, MD, chair of neurosurgery, 18 patients received adult stem cells harvested from bone marrow and injected through burr holes in their skulls. The stem cells were placed in three areas near the stroke-damaged brain tissue.

Each patient had significant impairment of motor function in their legs or arms. By the 12-month follow-up evaluation, nearly half of the participants experienced dramatic improvements—some walking again after being confined to wheelchairs.

“While it was a small sample, the results are very promising,” notes Richard Zorowitz, MD, principal investigator for the MedStar NRH arm of the new trial. “There were no serious side effects from the procedure or the treatment,” he adds. Dr. Steinberg has called the results clinically important—if not statistically significant. The new nationwide investigation should provide adequate data to clarify the value of the intervention.

Boosting Brain Plasticity

“At MedStar NRH, we’ve begun recruitment for patients, and while we are aiming for just four or five patients for the study, we would be happy to have more enrolled. Nationwide the study is aiming for a total of 156 people during the trial’s first two years.”

Dr. Zorowitz explains that patients in the study will be divided into three groups: One group will receive a high dose of stem cells, a second will receive a lower dose, and the final group will undergo a sham (simulated) surgical procedure, but receive no stem cells.

“Patients need to meet some strict inclusion criteria and suffer from some motor limitations, but they can be anywhere between six months to five years post stroke,” he adds. “They each will undergo careful evaluation and receive the stem cells during an in-and-out brain procedure conducted at one of the study’s designated centers. Then we will follow them during five visits after surgery taking blood and measuring motor function.”

It’s speculated that the stem cells create a biochemical process that triggers the brain’s ability to repair itself. “We believe that new neuro pathways are developed,” Dr. Zorowitz says. “The brain mimics the plasticity seen in children and develops ‘work-arounds’ to compensate for injury and to facilitate recovery,” he adds.

For more information about the research, contact Study Coordinator Kathy Brady, PT, at 202-877-1022.
Ultrasound: More Effective Control Tool for Upper Extremity Prostheses?

A new study—and research collaboration between MedStar NRH and George Mason University (Mason)—is testing the use of a novel ultrasonic sensing tool in hopes of developing more intuitive and functional arm prostheses.

An estimated 100,000 Americans are living with amputation of the hand or arm. “Many are never fitted or trained in the use of a prosthesis. And about half of amputees who receive a prosthesis eventually abandon their use,” explains Rahsaan Holley, OT, MedStar NRH research occupational therapist.

Myoelectric Deficits

“These current myoelectric prostheses lack the kind of functionality that make them easy to use, and they are heavy, as well,” says Siddhartha Sikdar, PhD, associate professor of bioengineering at Mason. “Myoelectric sensors are connected to the skin surface only and sense the electrical impulses from underlying muscle activity. The relatively weak electrical impulses make it very difficult for these sensors to determine changes deep in residual muscles, or discriminate between the activities of different muscles,” he explains.

The key to improving the function of an upper extremity prosthetic device is creating a more sensitive control mechanism that can more robustly differentiate between the activities of deep-lying muscles, he notes. Dr. Sikdar has developed a unique ultrasound mechanism that may provide the answer.

Ultrasonic Control

The miniaturized ultrasound imaging tool embedded into the prosthesis is used to visualize the main forearm muscles and their functional compartments. As muscles contract, cross sectional images are created in real time.

“When users perform tasks, a series of images is acquired, and the system’s computer analyzes the data. Ultimately, the computer will recognize the images and decode the closest match from its library of known activity patterns, allowing the user to perform the movement more intuitively,” Dr. Sikdar explains.

The pilot study now underway at MedStar NRH and Mason is recruiting 10 individuals with an arm amputation at the trans-radial level. Baseline data will be collected as participants perform tasks using their current prosthesis. Then they will be fitted with a prosthetic socket with the ultrasound control system—and trained in its use completing a variety of movements, such as grasping a cup and lifting it to their mouths in a virtual reality environment. After training they will be tested and the data obtained will be used by researchers to refine the ultrasound control mechanism.

“We believe that this control system will allow users to complete more discriminating movement,” says Holley. “And that would make prostheses easier to use and less likely to be abandoned.”

To learn more, contact Rahsaan.J.Holley@MedStar.net.
In the last few years, MedStar NRH has been moving forward in earnest with expansion of comprehensive medical rehabilitation services, geographic reach, fellowship programs, and research in our pursuit of academic excellence.

In this issue of New Dimensions, we introduce the newest centers in our outpatient network, which extends as far away as Delaware and south into Southern Maryland. Throughout MedStar NRH Rehabilitation Network, our clinics have been extremely busy with a half million visits last year.

We’ve highlighted two centers in this newsletter—our expanded McLean, Va., location and MedStar NRH Rehabilitation Network at Lafayette Centre in D.C. The state-of-the-art Lafayette Centre houses MedStar Health Orthopaedics and Sports Center, which features a highly sophisticated Sports Performance Lab for training and rehabilitation of professional and amateur athletes.

MedStar NRH also recently assumed leadership of the 69-bed inpatient acute rehabilitation unit at MedStar Good Samaritan Hospital in Baltimore. This busy unit provides comprehensive care that includes well-established stroke and spinal cord injury rehab programs—and we will soon be initiating new services including interventional pain, concussion care and sports medicine at the hospital.

In addition, fundraising for our ambitious Adding Life to Years® Capital Campaign is closing in on its goal. The campaign, a five-year effort to raise $25 million, will create the National Center for Brain Injury and Stroke Recovery & Research. The center will focus on highly specialized clinical care for patients with stroke and brain injuries in a 60,000 sq. ft. state-of-the-art expansion to MedStar National Rehabilitation Hospital in Washington, D.C.

The design will allow for research to be integrated into clinical practice with researchers working side-by-side with clinicians. We’re proud of our very robust neuroscience research program, which includes a number of very promising clinical trials with the potential to change rehabilitation medicine. You can read about two new studies on page 6 of this newsletter.

Our “growth spurt” also means we are expanding our medical team. If these stories have peaked your interest, I invite you to learn more about opportunities at medstarnrh.org/docjobs or by contacting me at Michael.R.Yochelson@MedStar.net.