

INOVA

MAGAZINE

JOIN THE FUTURE OF HEALTH

GAME ON FALL 2014 ▶

Robin West, MD, and Inova Sports Medicine Program get athletes back in play

 INOVA®

Game On
Robin West, MD, is calling the shots for Inova Sports Medicine Program.



One Person / One Pill
Inova is championing pharmacogenomics, with John Deeken, MD, leading the efforts.



HEADLINES

POWERFUL MEDICINE

Radiation Oncology Department opens at new Cancer Center

Typically, when hospital services are located below the first floor, “dark” and “dingy” are the adjectives that come to mind. Not so for the Radiation Oncology Department, which is located on the lower level of the new Inova Comprehensive Cancer Research Institute – Fair Oaks.

“This looks nothing like the basement,” notes Ashish Chawla, MD, Medical Director of the department. “High ceilings and a natural skylight create an open and calm atmosphere.”

In keeping with the look of the Radiation Oncology Department, the Cancer Center is not your usual cancer center. When it is completed next year, the center will combine outstanding cancer medical expertise with the most advanced technology. An array of specialists, including medical and surgical oncologists, radiation oncologists, oncology nurses, patient care navigators, dietitians, social workers and genetic counselors will be located under one roof. Life with Cancer®, a free program devoted to supporting patients and their families through their cancer journey, will also be available, along with a healing garden and meditation room. The Breast Care Center, a modern and comfortable suite, opened in August.

The Radiation Oncology Department — the first department to open at the center — offers the latest in radiation therapy with the Varian



Precision Technology
The Varian TrueBeam linear accelerator represents advanced radiation oncology technology.

TrueBeam linear accelerator, technology that allows doctors to pinpoint cancer cells throughout the body with accuracy and quickness.

“This is state-of-the-art radiation oncology in a comprehensive setting with an emphasis on each individual patient’s excellent care,” Dr. Chawla says. “Anyone in the area will now have access to high-quality and compassionate outpatient cancer treatment at this facility.”

“This is the first step of a realization of what this building and Cancer Center are going to be,” adds Stella Hetelekidis, MD, radiation oncologist. “While we’re currently providing convenient, state-of-the-art radiation therapy for people in the community, when the rest of the building is ready, patients will be able to see their surgeon and medical oncologist, and get therapy all in one location. This convenience, combined with excellent care, is going to be a great combination for patients.”



CARE CLOSE TO HOME

For information on cancer care services at Inova Fair Oaks Hospital, call **703.391.4250** or visit inova.org/FairOaksCC.

Cool Digs
The Radiation Oncology Department is located on the lower level of the new Cancer Center.



EDITOR'S NOTE

Inova is a pioneer in the field of medicine, exploring the science of genomics and leading the way in the new era of predictive medicine. Through a network of wellness services, Inova Medical Group physicians, healthcare facilities and hospitals located throughout Northern Virginia, Inova is the largest healthcare provider in the Washington, DC, area. *U.S. News & World Report* has once again named Inova Fairfax Hospital the No. 1 hospital in the DC area, and has ranked it No. 33 in the nation for gynecology and No. 42 in the nation for neonatology. With all five of its hospitals ranked among the region’s top 15, Inova is leading the future of health. With the area’s only Level 1 Trauma Center and Level 3 Neonatal Intensive Care Unit, Inova is home to the nationally and internationally recognized Inova Heart and Vascular Institute (IHVI), Inova Translational Medicine Institute (ITMI) on genomics, Inova Neuroscience Institute, Inova Cancer Institute and Inova Children’s Hospital. Inova’s mission is to improve the health of the diverse community it serves through excellence in patient care, education and research.

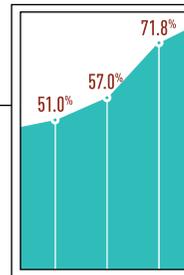
5 Minutes With...
William Hamilton, MD, orthopedic surgeon



Inspiring Change
Alexandria resident Jeff Veatch gives back to Inova.



Epic Transformation
The EpicCare electronic medical record has helped to personalize healthcare.



ACCESS / ASSESS

Inova Psychiatric Assessment Center offers walk-in service, telemedicine

As part of its breadth of psychiatric services, Inova offers Inova Psychiatric Assessment Center (IPAC), which provides a walk-in option for people who require evaluations.

"IPAC offers a complement to our emergency rooms, which are busy and have long waits," explains Thomas Wise, MD, Medical Director of Behavioral Services for Inova. "This provides for a psychiatric assessment in a less frenetic and more timely manner."

The center, which opened in July 2013, treats patients who need psychiatric care and full evaluations for proper treatment. Staff may refer people to Inova's range of behavioral health programs, including Comprehensive Addiction Treatment Services (CATS) and Inova Kellar Center, a resource for

childhood and adolescent behavioral health services. Walk-in hours are currently noon to 8 p.m.

Also located in IPAC is the call center, where people can call 24/7 and make appointments, and a telepsychiatric service, which uses video conferencing to connect patients with providers. The latter offers a way to address the needs of psychiatric patients at Inova's emergency rooms at Inova Alexandria Hospital and Inova Loudoun Hospital, where psychiatric social workers are not located. Previously, staff had to drive to Inova hospitals when needs arose; now, they can communicate with patients at the emergency rooms from IPAC. Inova has the most advanced telepsychiatric center in the region, notes Dr. Wise.

Given its success, Inova hopes to expand the use of telepsychiatry to the primary care setting, he adds. "Telepsychiatry has been documented to be an effective method of providing psychiatric services in rural areas," he says. "With the current traffic patterns, this region may be another type of setting where telepsychiatry is useful."



OUR DOORS ARE OPEN

To learn more about Inova Behavioral Health Services, call **703.289.7560** or visit inova.org/behavioral-health.

CONTINUING EDUCATION

Inova opens innovative simulation education center to train surgical teams

Inova has taken a step to improve surgical safety with the June opening of the Advanced Surgical Technology and Education Center (ASTEC). Located on the Inova Fairfax Medical Campus (IFMC), the 6,900-square-foot center offers two fully equipped operating rooms, pre-op and post-op areas, skills training area and a classroom.

"ASTEC will change the dynamic for the care of the patient in the perioperative setting through teams training," explains John Moynihan, MD, FACS, Chair of the Department of Surgery at IFMC. "We are abolishing the traditional hierarchical silos of skills-based learning and moving to a more collaborative and cohesive platform where teams of healthcare providers train together,

leading to better communication and improved patient outcomes."

The center is equipped with both traditional and laparoscopic surgery instruments, interactive mannequins and robotic simulators. Surgeons and surgical residents alike will be able to receive skills training in robotics, laparoscopy and other procedures. In addition, all members of a surgical team, including nurses and anesthesiologists, will be able to practice together to refine surgical and post-surgical procedures.

Paula Graling, DNP, RN, CNOR, FAAN, clinical nurse specialist in the Department of Surgery, and Education Director of ASTEC, compares ASTEC to airplane simulation training. "When

you go on a plane and swipe your boarding pass, you are putting confidence in the pilot," she says. "You want to come to the OR and know you are in the best possible hands."

By early next year, Inova will be applying for ASTEC to be an Accredited Education Institute, through the American College of Surgeons. There are 73 AEIs throughout the world, according to Graling.



A LEARNING EXPERIENCE

To find out more about ASTEC, call the Department of Surgery at **703.776.2040** or visit inova.org/astec.



GONE MOBILE
Inova Magazine is available as a free app for your iPhone, iPad or iPod Touch. Go to iTunes and search "Inova Magazine," or click on the link at inova.org/connect.

GAME ON

MVP

Robin West, MD, is heading up Inova's new Sports Medicine Program.



New Inova Sports Medicine Program to serve athletes of all ages, abilities

PHOTO BY
MIKE MORGAN

For Robin West, MD, peace is found in the locker room.

As former assistant team physician for the Pittsburgh Steelers and former head physician for teams at Carnegie Mellon and University of Pittsburgh, the orthopedic surgeon relished the process of shepherding players from injury to recovery. “I’m there for one reason: to get the athletes examined, treated and healthy in a timely manner,” Dr. West recounted in a recent journal article she authored. “Sports medicine gives me the opportunity to treat the ‘whole’ patient and to care for active people of all ages.”

The amateur endurance racer and cyclist now brings this same overriding philosophy to Inova as she takes the helm of its newly established Sports Medicine Program. As part of a five- to 10-year plan that includes constructing a regional sports medicine facility, the program will focus on the complete care of athletes of all ages, ranging from injury prevention to acute and chronic injury treatment, performance improvement and comprehensive rehabilitation.

With her college- and NFL-level sports experience, Dr. West — who in kindergarten decided she would one day be an orthopedic surgeon — was recruited by Inova to shape the mission and goals of the new program, beginning her post as Medical Director in late July.

“I’ve watched the development of the facility at the University of Pittsburgh over 12 years, so I’ve seen what works and doesn’t work,” says Dr. West, who was one of only two female orthopedic surgeons in the NFL. “Our mission is to provide high-level, integrative care to athletes of all ages and abilities and help them maintain an active lifestyle. This is a great area for it — dynamic, sports-minded families and individuals. Busy people need convenient access to premier healthcare.”

Where the Action Is

Robin West, MD, who was an assistant team physician for the Pittsburgh Steelers, is charged with shaping the mission and goals of Inova Sports Medicine Program.



Photo: courtesy of the Pittsburgh Steelers

FORGING PARTNERSHIPS

Before the rise of the Sports Medicine Program, Inova's efforts in the field centered on its group orthopedic practices peppered around northern Virginia and the Washington, DC, metro area. Board-certified and fellowship-trained physicians specializing in orthopedics, joint replacement and sports medicine deal with a wide array of common acute and chronic athletic injuries — ranging from anterior cruciate ligament (ACL) tears of the knee to shoulder dislocations and rotator cuff tears to Achilles tendon ruptures — with a variety of inpatient and outpatient treatments and physical therapy offerings.

So what's different now? "We realize all of the resources Inova has to deal with athletes and sports-related injuries, and we're tying them all together into one approach instead of a fragmented system," says Matthew Levine, MD, an orthopedic surgeon with Inova Medical Group for the last five years.

"Instead of patients having to piece together all the services they're looking for, this allows us programmatically to offer one-stop shopping," adds Dr. Levine, who previously served as assistant team physician at Duke University and on the medical staff for the World

Figure Skating Championships in 2003. "Dr. West brings us to that next level based on her experience as a national leader in sports medicine."

Key to the transition of becoming a regional sports medicine hub are partnerships with area high schools and youth leagues as well as possible alliances with college and professional teams. Dr. Levine's role in the Sports Medicine Program thus far has been forging relationships with representatives from these groups.

Dr. West notes that a lot of local high schools have long-standing affiliations with great private practice physicians. She wants to maintain and enhance these relationships. Under the new program, physicians will have better access to the first-class, integrative services of Inova's Sports Medicine Program.

MULTIPLE DISCIPLINES 'UNDER ONE ROOF'

Current plans allot three to five years to develop the Sports Medicine Program while assessing potential sites for a large facility based either in Fairfax or Loudoun county that will — in addition to featuring Inova's current surgical and non-surgical treatments for athletic injuries — add staff members in complementary areas such as nutrition, exercise physiology and sports psychology, and integrate current physical therapy services.



HEAD SHOT

Find out more about Inova Medical Group Orthopedics and Sports Medicine at inova.org/inova-medical-group/adult/orthopedics-sports-medicine.



Inova's long-standing academic affiliations with Georgetown University and Virginia Commonwealth University may provide regular lecture opportunities to medical school students on sports medicine topics such as ACL tear prevention and supplements for endurance athletes. An Inova-sponsored fellowship in orthopedic surgery and primary care sports medicine caps off the program's academic goals, Dr. West says.

"It will be nice to have all that under one roof," she says, noting that the program may also encompass satellite locations for physical therapy. She also envisions a walk-in injury clinic that will facilitate faster care for athletes who might otherwise wait days or weeks to be examined. And recognizing that a young athlete's injury doesn't just affect the player but their parents and siblings

as well, the mother of two notes that the program will also aim to support the entire family unit. Many of her patients comment that Dr. West makes them feel like a professional athlete.

"This is going to be a destination sports medicine program," Dr. West says. "Patients are going to get top-notch care that's comprehensive. We're not just going to treat a stress fracture, for example; we're going to find the reason you have it and determine how to prevent it in the future. We're going to look at the whole problem and the whole person. No matter what age, sport or ability, every patient will be treated like a professional athlete." ■

COACHING APP

Inova's Coach Safely App offers Emergency Department wait times, a concussion guide detailing symptoms to look for, weather updates and more. Find it on your mobile Android or Apple device. Learn more at inova.org/connect.

CONCUSSION CARE

With the prevalence of concussions so closely tied to athletic competition — nearly a half-million sports-related head injuries are treated at U.S. hospitals each year — Inova's new Sports Medicine Program will be tackling some of the biggest remaining questions surrounding these blows to the head and how to maximize players' recovery.

Sports Medicine Medical Director Robin West, MD, plans to collaborate with other Inova initiatives such as the recently created Concussion Program and Inova Translational Medicine Institute (ITMI), which explores the connection

between genomics and health. Research from both programs will enhance concussion treatment offered to athletes, she says.

"Concussion care is a huge part of sports medicine, because athletes often get a concussion at the same time as an ACL tear or another injury," Dr. West says. "Most kids get better quickly and don't have lingering issues, but between 10 percent and 15 percent have persistent symptoms. We can help them achieve a full recovery."

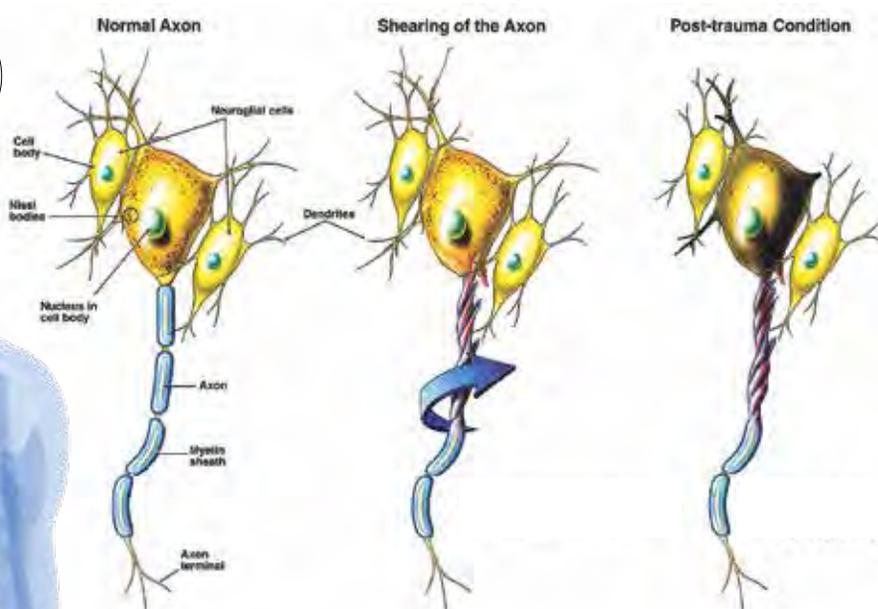
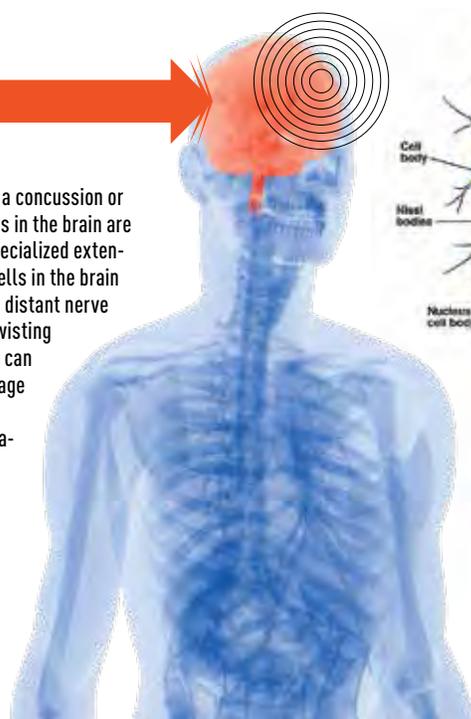
Matthew Levine, MD, an orthopedic surgeon at Inova with special interests that

include sports medicine, says that young athletes in particular still need greater awareness of the damage a concussion can cause to their developing brains.

"For the most part — though not completely — the days of 'you just got your bell rung' are gone," Dr. Levine says. "Everyone understands it's more than that. The biggest questions still revolve around what's the best way to measure recovery and the best way to measure a deficit following a concussion, because everyone's a little different."

Why It Harms

When a person suffers a concussion or other brain injury, axons in the brain are damaged. Axons are specialized extensions of neurons, the cells in the brain that communicate with distant nerve cells. Severe sudden twisting or torquing of the brain can stretch, twist and damage these delicate axonal fibers, leading to permanent brain injury.



Winning Formula

John Deeken, MD, leads Inova's pharmacogenomics program, which combines genomics research and pharmacology.





ONE PERSON/ ONE PILL

Targeted, individualized drug therapies a cornerstone of personalized medicine at Inova

PHOTO BY
DRAKE SOREY

The right drug at the right dose for the right person. Seems like

a simple concept, no? But the one-dose-fits-all philosophy guiding mainstream medicine for hundreds of years is steadfastly being replaced by an understanding of how an individual's genetic makeup influences his or her response to drugs, channeling efforts to maximize a medication's effectiveness while minimizing side effects.

Known as pharmacogenomics (a combination of pharmacology and genomics), Inova is championing the rise of this specialized field with a new program set to roll out genetics-based tests this fall for three widely used drugs, swiftly followed by a potential raft of offerings in cancer, behavioral health and other high-impact health conditions.

The origin of pharmacogenomics dates as far back as 510 B.C., when the Greek philosopher Pythagoras noted that some people — but not all — died after eating fava beans, an outcome

seemingly determined by hereditary predisposition. But only over the last decade or so, with the ever-dropping cost of individual gene sequencing, have scientists increasingly zeroed in on the technology's ability to facilitate personalized care. Inova is one of just a handful of medical institutions in the nation poised to optimize treatment for patients in this manner.

“We’re hoping to set the pace, not follow others,” says John Deeken, MD, who was recruited by leaders at Inova Translational Medicine Institute (ITMI) two years ago to lead the institute’s pharmacogenomics efforts and also serves as Associate Director of Clinical Research and Medical Oncology at Inova Comprehensive Cancer and Research Institute (ICCRI).

“Some places are developing tumor mutation panels to determine cancer treatment, and a few are testing DNA to influence drug choice for other conditions,” Dr. Deeken adds. “But I don’t know of one that’s aggressively doing both, as we are.”

ONE PERSON/ ONE PILL

GETTING PATIENTS, DOCTORS ON BOARD

Pharmacogenomics is inherently complex, but from a patient's perspective it's anything but. For the first three DNA-based tests Inova is offering this fall, patients need only undergo a simple blood draw to gauge their potential response to any of three widely used drugs. They include:

→ Plavix (clopidogrel), a blood thinner prescribed to reduce the risk of heart attack and stroke in those with cardiovascular disease. Patients with a variant in the CYP2C19 liver enzyme aren't as able to convert the drug to its active form, rendering it less able to prevent blood clots.

→ Coumadin (warfarin), another, stronger anticoagulant drug that requires careful dosing in each patient to prevent excessive bleeding. Variants of the CYP2C9 or VKORC1 genes can dangerously affect how well a patient's body processes the drug — the most commonly prescribed anticoagulant in the United States — leaving him or her with higher risks of clotting or excessive bleeding.

→ Codeine, a narcotic pain reliever and cough medicine often prescribed for children recovering from the surgical removal of their tonsils and/or adenoids. Converted to morphine in the liver by an enzyme called CYP2D6, gene variants can cause the drug to be processed very quickly, causing potentially fatal breathing problems.

All three drugs currently sport a “black box warning” on their labels added by the U.S. Food and Drug Administration to alert healthcare professionals that gene variants in patients can compromise the medications' effectiveness. The genetic tests Inova is offering were developed elsewhere and approved by the FDA, but Inova is set apart by its ability to administer and decipher the tests on-site as well as translate the results into patient care in



its community-based facilities.

“In the first phase of rollout we'll be getting the best workflow in place, not only so our patients receive the best care, but also that our physicians know how to interpret the tests,” explains Franziska Moeckel, Director for Personalized Medicine Integration at Inova. “We want to do our best job with these and then roll out additional tests.”

LOFTY GOALS, MAJOR IMPACT

Next up is a bevy of tumor-specific genetic tests aimed not only at determining what therapies will most effectively destroy certain types of cancer cells, but preventing the “carpet-bombing” approach of traditional chemotherapies that kill healthy cells along with bad ones and cause many unwanted side effects, Dr. Deeken says. Up to 7,000 new cases of cancer are treated at Inova hospitals each year, and offering individual genomic analysis will differentiate the ICCRI from other comprehensive cancer programs in the region.

“In no area of medicine can the notion of personalized medicine be more relevant than cancer,” Dr. Deeken says. “Picking the right drug and dose is literally a matter of life and death. Hopefully we can dramatically improve how many patients are cured while lowering the toxicity from treatment.”

Ultimately, ITMI's pharmacogenomics leaders hope to implement testing for all Inova patients, with the vision of proactively — and inexpensively — harnessing one's genetic makeup to influence drug choice and preventive treatment for untold numbers of conditions as scientific knowledge in this area grows.

“Every person who comes through the door could have a pharmacogenetics screening test if they wanted, and the data could be there forever,” says Ram Iyer, PhD, Director of Clinical Molecular Genetics and Biobanks at ITMI. “A panel of genes, if and when we can develop it, would cost

between \$50 and \$100 per patient. That's the goal.” ■



SMART PHARMACEUTICALS

Learn more about genomics and Inova Translational Medicine Institute at inova.org/itmi.

WHERE DOES ALL THE PHARMACOGENOMICS DATA GO? ASK AARON BLACK.

Seldom considered by outsiders observing the rise of pharmacogenomics, testing is exactly what it takes to compile, store, track and share data about each patient that will help clinicians determine how his or her genes influence the right choice of drugs to treat various health conditions.

But these IT logistics are top of mind for Aaron Black, Director of Informatics for Inova Translational Medicine Institute (ITMI), which was established in 2010 to explore the connection between genomics and future health. Black is spearheading the integration of genomic data into Epic — the software Inova uses for its electronic medical record (EMR) system — in an undertaking that's drawing attention from Epic company leaders themselves because of its intricacy.

Along with Inova's IT team, Black is paving the way for a new era of electronic patient information by developing a customized laboratory information system encompassing the entire pharmacogenomics testing process.

“From an IT perspective, what we're doing to push this data into the EMR is very new and different,” Black says. “We're one of a few in the country who can do this who isn't one of the larger-name brand institutions.”

In these early days of pharmacogenomics, the task “raises some interesting technical challenges,” says John Deeken, MD, a Fellow of ITMI and the medical leader of its pharmacogenomics effort. “It's nice to have Inova at the forefront of this as well.”

JUST ONE? QUESTION...



WHAT HAS MARKED THE BIGGEST CHANGE IN JOINT REPLACEMENT SURGERY IN THE LAST 20 YEARS?

The thing that has changed the least are the actual implants. While we are constantly working on making improvements to implant design, the implants are quite similar to what they were 10-20 years ago. The biggest improvements have been in the perioperative care of the joint replacement patient. Several years ago, the length of stay may have been one week or longer followed by weeks of inpatient rehab. Today, patients stay an average of one or two nights in the hospital, and more recently we have been performing outpatient total joint replacement.

WHAT HAS CONTRIBUTED TO THE SHORTER HOSPITAL STAY AND ACCELERATED POST-OP RECOVERY?

This has been maybe the most active area of research and advancement in the last 10 years. We have attempted to eliminate things that we do to patients during the hospital stay that cause problems and extend the recovery. For instance, we now rarely use general anesthesia, morphine drips and bladder catheters and have radically reduced the need for blood transfusions. As a result, patients are able to get out of the hospital sooner, have fewer side effects such as nausea, and achieve activity milestones far earlier than in years past. There are far fewer restrictions, and patients are walking sooner and returning to work sooner.

NAME ONE OF THE BIGGEST MISCONCEPTIONS ABOUT JOINT REPLACEMENT SURGERY?

One myth is joint replacement comes with an age criteria. While we always consider age as well as other factors in the screening process, I've done joint replacements in patients in their teens, as well as patients well into their 90s. The more important factor is the overall health of the patient, as well as his or her readiness for surgery. ■

WHAT IS THE NEXT BIG THING IN JOINT REPLACEMENT SURGERY?

I believe we'll continue to work on safely accelerating the recovery time, which includes a move toward outpatient surgery. Clearly a portion of patients will require the hospital setting, but in the next five to 10 years, I believe we will see an increasing number of joint replacements done as an outpatient procedure.

WILLIAM HAMILTON, MD

Chair of Orthopedic Surgery, Inova Mount Vernon Hospital

William Hamilton, MD, is a specialist in the field of hip and knee reconstruction. His areas of focus relate to primary and revision total hip and knee replacement, with interests in research and fellow education. On a national level, he is a member of both the Health Policy Committee and the Patient Education Committee of the American Association of Hip and Knee Surgeons. Here, he offers his thoughts on the evolution of the field of hip and knee replacements.

JOINT EXPERTS

Find out more about Inova Joint Replacement Services at inova.org/joint.

PHOTOS: DRAKE SOREY

INSPIRING CHANGE

Longtime resident supports Inova emergency care services

PHOTO BY
DRAKE SOREY

Jeffrey Veatch, a successful businessman, father and Alexandria resident with ties to the Mount

Vernon area going back to the third grade, was troubled when his neighbors and fellow residents said they preferred leaving their own community and traveling for more than 30 minutes to receive emergency care.

Veatch, a savvy entrepreneur who, along with two other business partners, built Apex Systems from scratch to a nearly \$1 billion entity, was determined to change this perception. What started as a self-proclaimed “selfish” interest to ensure the best emergency care for his children, family and friends soon evolved into one of the most “selfless” acts of service to the Mount Vernon community.

Veatch met with the leadership at Inova Mount Vernon Hospital (IMVH) and Inova Health Foundation to ask what they were doing in the community to improve the reputation of the hospital’s emergency care services.

He was surprised, but did not take offense, when his question was turned around and pointed at him: “What can you do to change the community’s misperception?”

“The question hit home to me,” says Veatch. “It takes a community to make a great hospital and, as a close-knit community, it is our responsibility to change perceptions.”

Not afraid of a challenge, Veatch pledged \$2 million to renovate and expand the hospital’s Emergency Department to address the growing healthcare needs of the Mount Vernon community, especially for children and seniors.

“Having come from a strong military family, I’ve always been grateful to those who have served us, our country and our community,” he says. “Without their bravery and sacrifices, we would not be able to enjoy our everyday freedoms that so many of us often take for granted. I believe there used to be a stronger feeling of shared duty when it came to our communities and country that nowadays gets lost in our daily lives. Personally, I feel indebted to this

community for my successes and I am fortunate to be able to help. Hopefully this gift will be the start of a new personal challenge to myself, and our community, for giving back.”

To invite and involve the community in the enhancement of IMVH, Veatch established his donation as a matching gift. As the community gives to support the Emergency Department improvements, Veatch’s gift will match those funds up to \$2 million.

“Everyone can give. No matter how big or how small the donation, I want everyone to have the ability to participate and to know they are making a difference in improving access to emergency care in our own community,” says Veatch.

The community’s donations and Veatch’s matching funds will help to increase the actual size and number of treatment rooms from 20 to 35. In addition, some of the treatment rooms will be built specifically for children. The waiting room also will be expanded and a children’s play area will be added.

A larger Emergency Department is necessary to accommodate Mount Vernon’s growing population and the rapidly increasing number of patient visits to IMVH. Inova estimates that more than 41,000 people will seek emergency care in the region this year.

Veatch is impressed with Inova’s commitment to Mount Vernon. He cites the \$86 million investment to add a new patient tower, more private rooms, two new operating rooms and enhancements to the hospital’s nationally renowned joint replacement and rehabilitation medicine services as motivation for his commitment to improving the Emergency Department.

“When my kids get injured or become sick, or for that matter when anyone in Mount Vernon requires immediate care, we do not have to drive an extra half-hour to find it. Great emergency care is available right here, close to home,” says Veatch. ■



CARE TO GIVE?

To support Inova Health Foundation, please call **703.289.2072**.

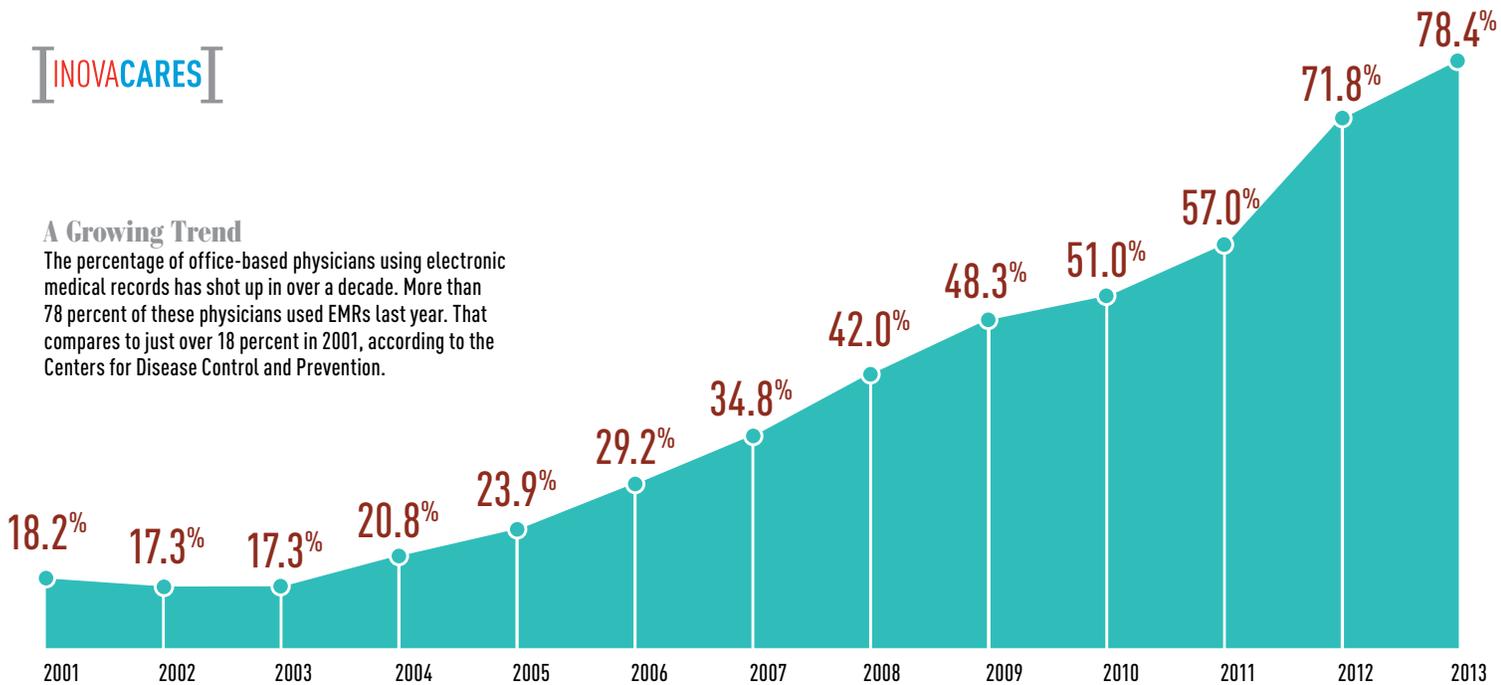
Home Grown

Jeff Veatch, surrounded by his family — partner, Amiya Ammons, daughter Lindsay, 12, daughter Sydney, 8, and son, Tyler, 10 — has pledged \$2 million to Inova Mount Vernon Hospital's Emergency Department.



A Growing Trend

The percentage of office-based physicians using electronic medical records has shot up in over a decade. More than 78 percent of these physicians used EMRs last year. That compares to just over 18 percent in 2001, according to the Centers for Disease Control and Prevention.



EPIC TRANSFORMATION

Electronic medical records force positive changes in healthcare

Electronic medical records (EMRs) are changing the face of healthcare — a statement that Mark S. Stauder, Inova’s President and Chief Operating Officer, would not call an exaggeration. EMRs, an important feature of the Affordable Care Act,

are meant to move the healthcare system toward standardization of billing and record keeping, as well as standardization of care, all with the aim of improving patient health.

And that’s exactly what’s happening at Inova, where an EMR, called EpicCare, provided by Epic Systems, is in place across the entire system. Is it a big deal? It’s a huge deal, says Stauder. “With EpicCare, Inova’s one-million-plus patients can stay comprehensively connected to their healthcare information, from any location. It’s a giant step forward in maximizing continuity of care.”

What this means for patients: As your health information and test results are added to your record over time by doctors and other healthcare providers, a story about you is being written, and remains ready to be “read” at any time by you, your doctors and your family. Inova patients can access their records via MyChart. “Let’s say you have five to seven years of information in your record,” says Stauder. “You can track your blood pressure as it has trended over time. Is it stable? Or has it gone up? And if you’re taking medications, are they working?” In a similar fashion, you can track cholesterol numbers, or manage a chronic disease such as diabetes.

Think about it: Even if you regularly get check-ups and undergo diagnostic tests, do you keep those paper records at home? Can you find them at a moment’s notice — or even remember if this year’s numbers are better or worse than last year’s? “With EpicCare,” says Stauder, “you can put your own healthcare information in perspective and understand how well you’re doing in managing your health.” Plus, you can access that information from anywhere, even take it with you on a zip drive if you’re traveling.

HEALTHIER SYSTEM

The electronic medical record improves the entire healthcare system, says Marshall Ruffin, MD, Executive Vice President and Chief Technology Officer at Inova. Using the data from EpicCare’s electronic medical records, he says, “we have been able to create predictive models.” What that means: Doctors, nurses and other healthcare providers can review the records of their patients with chronic conditions and use that data to predict which patients are most likely to return to the hospital.

“There are all kinds of reasons a patient who’s been released from the hospital ends up returning,” says Dr. Ruffin. “Patients with multiple chronic issues may have complicated prescription medication schedules that are difficult for them to manage.” When healthcare providers know — thanks to EMR data — which patients are most vulnerable, they can do more careful or frequent



It’s Personal

The MyChart feature in EpicCare allows patients to track their health over time. This includes monitoring their blood pressure and cholesterol numbers.

follow-up. Over time, that translates into savings in time and healthcare dollars.

In addition, says Dr. Ruffin, Inova is in the process of using EpicCare's EMR — with patients' permission — to add genetic information to their databases. "We have more whole genome sequences [at Inova] than anyone else in the country," he says. One way Inova's beginning to harness that information is with premature babies. "When we have permission, we take genetic sequences of premature as well as full-term infants born at Inova, and also of their parents and grandparents," says Dr. Ruffin. Working to analyze that data will help the hospital pinpoint which genes are associated with premature birth, information that can be shared with families to help them avoid premature birth.

Electronic records are all about improving processes — figuring out where variations in care exist, so that standardization can help clinicians improve outcomes. Before EMRs, says Stauder, "There was no common place for everyone to contribute to and to create a comprehensive, accurate picture of patients' health."

BIG INVESTMENT

And personalized medicine is worth the high price tag, Stauder notes. It took more than two years to ramp up the staff and facilities on EpicCare. Over 10 years, Inova's total investment in hardware, software, training and maintenance is expected to total \$400 million.

"I am grateful for our medical leadership and co-workers who put forth the time and effort to design and execute the effort in Epic while doing their day jobs," Stauder says.

Inova is fortunate to have the resources to implement EpicCare, he adds. "Obviously, the government's requirement that healthcare organizations move entirely to electronic medical records has created a huge financial burden on health systems across the country," he says. "Many are struggling with the significant capital and operating expenditures required to implement these systems. We are pleased that we were financially prepared to make the investment and believe we are well-positioned to move into the future of healthcare delivery." ■

EMR VERSUS EHR

There are actually two terms used to describe electronic records, electronic medical records (EMRs) and electronic health records (EHRs). The Office of the National Coordinator for Health Information Technology offers distinctions between them: EMRs are a digital version of the paper charts in the clinician's office. An EMR contains the medical and treatment history of the patients in one practice. By contrast, EHRs focus on the total health of the patient and are designed to reach beyond the health organization that originally collects and compiles the information. The government awards organizations for what it terms "meaningful use" of EHRs.



HOUSE CALL

TOP-FLIGHT HEALTHCARE

U.S. News & World Report has, for the third year in a row, ranked Inova Fairfax Medical Campus the No. 1 hospital in the Washington, DC, metropolitan area. Inova Fairfax Medical Campus's gynecology program is also No. 33 in the country, and the hospital's neonatology department is No. 42 nationally, according to the 2014–2015 Best Hospitals list.

"Three years in a row as No. 1 is an outstanding accomplishment, and we are proud of our hospital's dedicated physicians and staff who provide the best of care to our patients every day," says Patrick Christiansen, PhD, Chief Executive Officer, Inova Fairfax Medical Campus.

All the Inova hospitals ranked in the top 15 in Washington, DC, this year, according to *U.S. News*. Inova Alexandria Hospital was ranked No. 6 and Inova Fair Oaks Hospital rose to No. 9 in the rankings this year, with high-performing recognition in four specialties.

Now in its 25th year, the *U.S. News* annual rankings recognize hospitals that excel in treating the most challenging patients, with the goal of helping to guide patients who need a high level of care because they face particularly difficult surgery, a challenging condition or extra risk due to age or multiple health problems. Objective measures such as patient survival and safety data, adequacy of nurse staffing levels and other data largely determine the rankings in most specialties.

REGION'S BEST

Learn more at inova.org/usnews.

A QUALITY-CERTIFIED HOME

If your primary care doctor is part of Inova Medical Group, you're getting a network of personalized care professionals that revolve around you and your family's healthcare needs. That's the foundation of the Patient Centered Medical Home (PCMH), an innovative care approach that assures you the best possible care coordination.

Inova Medical Group primary care clinics throughout the region earned PCMH designation at the highest level by the National Committee of Quality Assurance (NCQA).

Whether your care involves treatment from a provider outside of or within Inova's vast specialist network, your primary care physician is informed and coordinates the care you receive. At the core of our medical home is a close partnership formed with patients and their physicians who oversee every aspect of medical care.

HOME BASE

From board-certified doctors, clinical experts and specialists to extended morning and evening hours, Inova Medical Group welcomes you home at inovamedicalgroup.org.

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**Congratulations, Inova Fairfax Hospital,
on being #1 in the area. Again. And again.**



As great as it is that Inova Fairfax Hospital has been ranked #1 in the area three years in a row, it's just the start. All five Inova hospitals were ranked among the top 15 in the region. And it's no wonder, with our doctors and researchers conducting groundbreaking genomic research to improve treatment for all of our patients. It's one of many reasons Inova Fairfax Hospital is nationally ranked in neonatology and gynecology. So congratulations to us all. And here's to a healthy Northern Virginia.



Inova
Alexandria
Hospital



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Hospital



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