

Orthopaedic Institute

Performance. Movement. Proven Specialists.

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Geisinger Orthopaedic Institute



Wilkes-Barre



Danville

On the Cover
Daniel Horwitz, MD,
 Chief, Orthopaedic Trauma at Geisinger Medical Center

A Letter from the Chairman



January 3, 2012 was an important day for me – it’s when I officially joined the Geisinger family and began my leadership role in the Geisinger Orthopaedic Institute. Exactly one year later, Geisinger Health System reached another important milestone – we were now five hospitals, under the umbrella of a ubiquitous care delivery system.

We have a mission to deliver excellence. Whether it’s providing care to patients in Africa or serving as physicians to United States sports teams, we feel honored to deliver Geisinger excellence at such high levels...and to provide that same level of care at the local level, especially to our schools and universities through our athletic collaboration.

It is a personal and professional goal of mine to heal every bone – without deformity and without complication. Our Level 1 and Level 2 trauma centers allow us to treat the most complex and life-threatening injuries in the area, and patients receive the same level of care in outpatient and inpatient units, system wide.

Excellence is the end result when you combine stellar staff, fine facilities and evidence-based practices. The Geisinger Orthopaedic Institute boasts all of these, and I am so very privileged to be a part of this fine family. My vision is for the Geisinger Orthopaedic Institute to continue to be the area’s orthopaedic destination of choice through the next decade and beyond.

I hope you enjoy reading about our accomplishments and about the programs and people that make the Geisinger Orthopaedic Institute one of the finest around.

Warmest regards,

Michael Suk, MD, JD, MPH
 Chairman, Department of Orthopaedic Surgery
 Geisinger Health System

Mission

The Mission of Geisinger Orthopaedic Institute is to provide the highest quality patient care, improve mobility, and enhance the quality of life for all, while advancing the science of orthopaedic surgery and its related disciplines through research and education. Excellence pervades our patient care, teaching, learning, opportunities, and diversity. We stand ready to achieve prominence by engaging a mind-set of all things possible.

The Past, the present and the future



G. Dean Harter, MD

Geisinger Health System serves more than 2.6 million residents in 44 counties as a not-for-profit, fully integrated health service organization that is dedicated to excellence in care, education, research, and service. Our physician-led system includes a multidisciplinary physician group practice with system wide aligned goals, successful clinical programs, a sophisticated information technology platform, a robust research program, and an insurance provider, Geisinger Health Plan.

A health system that had two sites for many years became a system with five sites over the course of one year. "Each site is intended to have the same Geisinger Orthopaedic Institute standards regardless of which location patients go to for their orthopaedic care," says Michael Suk, MD, JD, MPH, chairman, department of orthopaedic surgery at Geisinger Health System.

Geisinger-Shamokin Area Community Hospital

Geisinger-Shamokin Area Community Hospital (G-SACH) joined Geisinger Health System on January 1, 2012. "Most patients who live in the Shamokin and Coal Township region want to receive their care there as well," says G. Dean Harter, MD, director of orthopaedics at G-SACH. "Our goal was to keep their care convenient, but improve the level of care so it is up to the standards of a major medical center such as Geisinger."

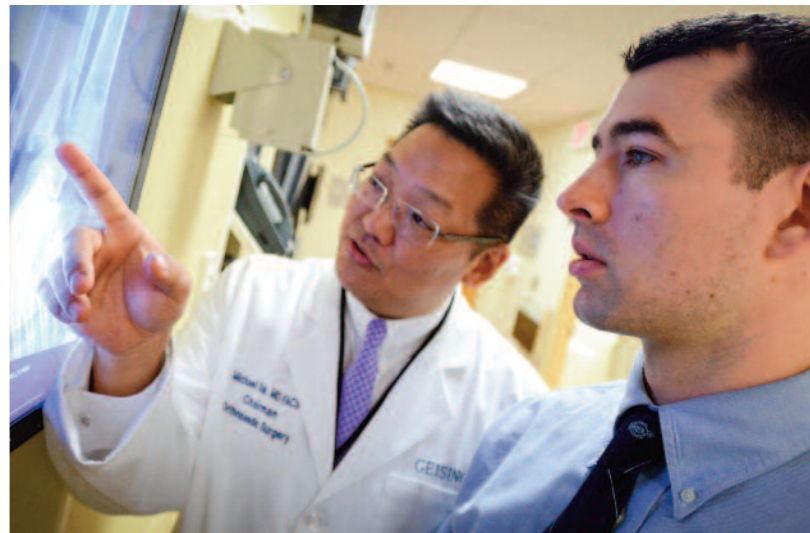
A total joint class has even been added at G-SACH for joint replacement patients. "The class is taught by a multidisciplinary team that reviews topics such as surgical risks, exercises to do pre- and post-surgery and signs and symptoms of problems they could encounter," says Stacey Winner, RN and orthopaedic total joint care coordinator.

"The Geisinger Orthopaedic Institute has expanded the scope and availability of comprehensive orthopaedic services in the G-SACH service area," says Thomas Harlow, Chief Administrative Officer at G-SACH. "Extended and evening clinic hours have provided patients greater flexibility in obtaining the orthopaedic specialty care they need, when they need it."

G-SACH, also offers other orthopaedic care including general orthopaedics, hand services and amputation care.

Geisinger-Bloomsburg Orthopaedics

On July 1, 2012, Bloomsburg Hospital and its affiliates merged and integrated into Geisinger Health System. When this occurred, Zeferino Martinez, MD, orthopaedic surgeon, joined the Geisinger Orthopaedic Institute and brought with him more than 20 years of orthopaedic surgical experience.



Michael Suk, MD. and Nathaniel Wingert, MD, orthopaedic surgery resident.

As a fellowship-trained spine surgeon, Dr. Martinez offers a specialized service to the Bloomsburg community, as well as general orthopaedic procedures, including total joint replacement, arthroscopy, neck surgery and lower back surgery.

"The merger with Geisinger allows Bloomsburg Hospital to be modernized and improved," says Dr. Martinez. "And the partnership enables my Bloomsburg patients to still have quality hospital and outpatient services close to their home, yet be under the Geisinger umbrella of excellence."

Geisinger Orthopaedics at Geisinger Wyoming Valley Medical Center

In July 2012, the Geisinger Orthopaedic Institute in Wilkes-Barre moved to an expanded 25,000-square-foot facility. "We were in a 7,500-square-foot space that simply could no longer



William Krywicki, MD

accommodate our current volumes," says William Krywicki, MD, director of orthopaedics at Geisinger Wyoming Valley Medical Center. "We were going to be a group of seven physicians, or more, by the end of 2013 and needed a space that would allow us to provide patients with the full spectrum of orthopaedic care."

The new facility has 33 exam rooms and allows for an additional 7,800 patient visits and 400 surgical procedures annually. Physical therapy and occupational therapy rejoined the new clinic with a 2,000-square-foot physical therapy suite that includes two treatment rooms and a hydrotherapy room. Also on the premises is a 2,500-square-foot fitness center for pre- and post-rehab patients.



Joel Klana, MD

The new facility makes it easier for subspecialty orthopaedic doctors, including pediatric orthopaedics, spine and oncology, to see patients close to home in northeast Pennsylvania, adding another level of convenience for patients.

Geisinger Medical Center Hospital for Advanced Medicine Inpatient Unit

Much of 2012 was spent planning and building a new inpatient unit in the Hospital for Advanced Medicine in Danville. The new space boasts 30 private inpatient rooms.

Each room in the new unit includes pull-out beds for family members and full glass doors so nurses have direct patient monitoring capabilities from outside the patient room. The state-of-the-art rooms are all-inclusive— any supplies a caregiver may need are already in the room— increasing efficiency.

Communication is improved with an information center for family members, a conference room where the surgeon can meet with family and friends about the patient, and a larger meeting space for physicians so they can more effectively discuss patients as a team prior to rounding.



Inpatient unit in the Hospital for Advanced Medicine

“In addition, the inpatient rehabilitation gym is on the same floor with the physical therapists,” says Patrice DeBach, RN, orthopaedic inpatient operations manager. “The new space has so many great features that it is going to increase patient and visitor satisfaction, as well as staff satisfaction.”

Geisinger Medical Center Outpatient Surgery-Woodbine Lane

The Sports Medicine program at Geisinger Woodbine Outpatient Clinic started with the idea that the program would be dedicated to diagnosing, treating and rehabilitating patients with sports-related injuries.

“Now many orthopaedic physicians utilize Woodbine to care for their hand, foot, ankle – even amputee and orthotics – patients because of ease of access,” says Daniel Feldmann, MD, chief of sports medicine at Geisinger Medical Center.

Concussion Care

The Safety in Youth Sports Act, passed in 2012, requires concussion education for all coaches – whether paid or volunteer. Geisinger recently developed a course – approved by the Department of Health, the Brain Injury Association of Pennsylvania and the Pennsylvania Athletic Trainers’ Society – and is offering it to area coaches, nurses and athletic trainers. Attendees receive a certificate of completion which they must present to school administrators in order to coach in any capacity.

The outpatient clinic at Woodbine also houses state-of-the-art MRI and CT, as well as in-house musculoskeletal radiologists to read MRIs and arthrograms.

The sports medicine group, comprised of board-certified orthopaedic surgeons, fellowship-trained primary care sports medicine providers, physical and occupational therapists, physician assistants, athletic trainers and other orthopaedic subspecialists, continue to perfect care delivery for injury diagnosis and management. The sports medicine group also offers Speed and Agility Camps for student athletes and is looking at ways to increase education opportunities.

Division of Podiatry

In 2012, the Division of Podiatry became part of the Geisinger Orthopaedic Institute, adding three podiatrists to the current orthopaedic team. Podiatry includes surgical and nonsurgical services providing the spectrum of foot and ankle surgery and routine care.

“Podiatry will continue to grow,” says Barry Bernstein, DPM, director of podiatry at Geisinger. “We still care for outpatient problems like bunions, Achilles tendon issues and general foot care, but we also work closely with other specialties to treat inpatient limb-threatening concerns.”

At Geisinger, podiatrists work cooperatively with orthopaedic surgery, vascular surgery, infectious disease and the hospitalists to ensure that patients receive the care they need.

Geisinger Surgeon Renowned for Treating Multi Ligament Knee Injuries

Geisinger orthopaedic surgeon, Gregory Fanelli, MD, has specialized in multiple-ligament knee injuries for 23 years. He recently published his fourth textbook; in fact, his are the only textbooks on the subject.

Dr. Fanelli is a prolific writer and presenter on the topic, in large part because he has dedicated his career to the injury. Over the past 20 years, Dr. Fanelli has developed and refined the surgical technique for repairing multiple-ligament tears. In addition, he has developed instrumentation to aide in the procedure.

“Multiple ligament knee surgery is high risk surgery and unless you perform a lot of these procedures it’s difficult to get excellent results,” said Dr. Fanelli. Dr. Fanelli and long-time Geisinger physical therapist, Craig Edson, have worked together to pre-operatively and post-operatively evaluate multi-ligament instability with up to 22 years of follow-up.

Dr. Fanelli’s experience comes, in large part, from the fact that he’s been perfecting the procedure for over two decades. It also comes as the result in building a name for himself in the field. He receives referrals from all over the United States, even internationally. Referring orthopaedic surgeons have learned about Dr. Fanelli’s work through his published papers, his meeting presentations and the teaching courses he’s conducted.

“When I get a referral from a colleague who has seen my data, I call them after I’ve seen the patient to let them know how I plan to care for



Gregory Fanelli, MD, visits with a patient pre-operatively.

the injury. My goal is to quickly get the patient back to the referring physician for rehabilitation and future care.”

Presently, Dr. Fanelli is able to perform a majority of his multiple ligament repairs as an outpatient procedure, which is quite unique. With successful rehabilitation his patients are able to return to a high level of activity.

Facilitating a Football Dream

Geisinger athletic trainer Gina Marotta, MS, ATC, CSCS has cared for the student athletes at Bloomsburg Area High School in Bloomsburg, Pennsylvania for nine years, so she knows most of them and their families. One family in particular, the Rankin family, had four athletes come through the sports program in the time that Marotta has been there, and she was now training their youngest – Blake.

“Blake was the Bloomsburg High School quarterback, and a very good one,” says Marotta. “In his junior year he had already secured a scholarship to play football at Rutgers University.”

But a game-changing event occurred in the first drive of the first playoff game of his senior year. A tough hit left his ankle broken and dislocated. Blake knew immediately he had suffered a serious injury; he wondered if he would ever play football again.

Marotta was at that game as the team athletic trainer and provided immediate assistance to Blake. She made sure he got rapid transport to Geisinger Medical Center in Danville.

Meanwhile, Blake’s mom and family watched the events unfold before their eyes. “Blake is our youngest, and to see such an injury was just devastating,” says Kim Rankin, Blake’s mom. “I saw his dream of playing football at the collegiate and professional level stripped from him in one moment.”

But in the end, this dream was never in jeopardy thanks to Gerard Cush, MD, fellowship-trained orthopaedic foot and ankle surgeon at Geisinger Medical Center, performed an intricate surgical procedure known as a plate and screw fixation with ligament repair.

For Blake’s full story visit geisinger.org/ortho.

Blake Rankin, patient of Gerard Cush, MD.



Providing Unique Service to Schools

Geisinger Sports Medicine is the official sports medicine provider to 24 school districts, seven universities and the Wilkes-Barre/Scranton Penguins American Hockey League team. Those collaborations provide a much needed service and peace of mind for athletes, their families, and coaches.

Geisinger’s 42 athletic trainers work in clinic each week to keep their clinical skills sharp, and then join student athletes on the field during practices and games. The athletic trainers who work with the universities are full-time staff of the university athletic training staff.

“A leading edge program like ours – which emphasizes the continuing education of practitioners – provides assurance that athletes will

receive the care they need, when they need it,” says Daniel Feldmann, MD, chief of sports medicine at Geisinger Medical Center.

Athletic trainers not only triage athletic injuries, they are trained in concussion management, issues specifically related to women in sports, as well as sports psycho-social intervention. And as part of Geisinger Health System, they can pick up the phone and call a surgeon or therapist in a moment’s notice.

“The thing that really sets this model apart is communication,” says Dr. Feldmann. “From an academic perspective, all of these team members are on the same wavelength; the trainer knows the surgeon’s and the therapist’s perspective, enhancing care delivery to student athletes.”

Geisinger: Serving Our National Pastimes



Glen Feltham, MD at the World Cup Championship.

Not only do Geisinger doctors serve local and regional communities, but they are represented at the national and international level. Glen Feltham, MD, and Matt McElroy, DO, sports medicine and orthopaedic specialists, received the prestigious appointments for the Women’s National Soccer Team and the United States Ski Team, respectively.

As team physicians they are in charge of all medical care for players, staff and personnel (about 30 individuals) when traveling to games and events. They are also responsible for coordinating care, including emergency care and facilitating a return to the United States for treatment.

Dr. Feltham played three to four different sports in high school and soccer in college. The interest in sports led him to an interest in orthopaedic surgery and sports medicine. He applied to the

United States National Soccer Team as a team physician to stay in touch with a sport he loves. “It’s an honor to be able to serve the teams,” says Dr. Feltham. “It gives me an opportunity to serve the country through a national team, which I feel good about.” Dr. Feltham has been a team physician for eight years and has been head physician for the U20 Women’s National Soccer Team on two occasions.



Matthew McElroy, DO at the Alpine Championships in Colorado.

Dr. McElroy has served as a team physician for the United States Ski Team for five years. The position is voluntary, but to be considered, one must be competent in the sport being covered and have considerable medical experience and training. “It’s a really a rewarding experience and Geisinger has been very supportive of my participation,” says Dr. McElroy.

“We are quite proud to have them representing the Geisinger Orthopaedic Institute,” says Dr. Suk.



Denyn Beachel, patient of Stacy Frye, MD.

Active Four-Year-Old Carries on with Crutches

The Beachel family of dairy farmers drinks a lot of milk, but even a calcium-rich diet cannot always protect the bones of a very active four-year-old.

Young Denyn Beachel of Danville had been playing with his new puppy when he accidentally kicked a storage trunk and then fell onto a rocking chair. With no more than a tiny bump, his parents figured it was probably just a slight injury. But that night Denyn would cry with even the slightest movement of his leg. The next morning his parents rushed him to the Emergency Room at

Geisinger Medical Center in Danville where an X-ray revealed he had a fracture across his entire tibia. Denyn was referred to Stacy Frye, MD, a non-operative pediatric orthopaedist.

“Denyn had a routine fall and a small bump that turned into a really impressive fracture across the middle of his tibia,” says Dr. Frye. “I put him in a long leg cast that ran from the top of his thigh to his big toe, but it didn’t seem to slow him down.”

For Denyn’s full story visit geisinger.org/ortho.

Specialized Care for Our Smallest Patients

The team of three fellowship-trained pediatric orthopaedists, two physician assistants and one nurse navigator is able to provide the full spectrum of care for pediatric patients in northeast Pennsylvania— not just in Danville, but also in clinics throughout the region.

“For me, the most thrilling part of our team is that we interact very frequently and very comfortably with one another,” says William Mirenda, MD, chief of pediatric orthopaedics. “Our skills and interests are complementary, so we are able to serve quite a large patient population.”

In addition to fractures and ligament tears, the team treats a host of congenital anomalies, such as clubfoot, hip dysplasia and scoliosis. And, patients who come in with orthopaedic trauma are treated through a team approach with the orthopaedic traumatologists.

“Sometimes the hardest part of treating children is determining whether there really is a problem,” says Dr. Mirenda. “It takes experience and solid



William Mirenda, MD and Caden Temple, patient.

training to be able to make a judgment about whether a pediatric orthopaedic issue will resolve itself with growth and development.”

Growing pains are certainly par for the course with pediatric patients, but the pediatric orthopaedic team at Geisinger is well positioned to care for any of them.

Play is a Powerful Tool in Treatment



Sarah Hoffman

The addition of a certified child life specialist dedicated to pediatric orthopaedic patients is a level of care not available at other hospitals in the region.

A certified child life specialist promotes effective coping through play therapy and offers activities that help normalize the

treatment environment and create diversions. “We know children don’t always understand why they are undergoing tests and procedures,” says Sarah Hoffman, certified child life specialist for orthopaedics.

“One of the things we do is medical play, familiarizing the child with the equipment they might see in their treatment; for example, we have a doll the patient can use to put a cast on its arm or leg,” says Hoffman.

As a developmental specialist, she will assess the patient early on to determine what level of support the child might need. She then gleans information about what the child is interested in and uses that information to help the patient in clinic appointments or procedures.

Hoffman provides continuity of care because she is available to patients from diagnosis to recovery. She is especially relevant for children with underlying cognitive or developmental disabilities; these patients might have a harder time understanding and dealing with treatment or with different environments.

Experience Critical in Pediatric ACL Repair

Last March, ten-year-old Aaron Knauss was rounding second base during a recess game of kickball when the class was called in. He suddenly stopped and turned head into the school, but his knee “popped” and really started to hurt. Aaron began to complain more about his knee, so the next day Aaron was referred to pediatric orthopaedic surgeon Meagan Fernandez, DO, at Geisinger Medical Center.

“We scheduled Aaron for an MRI and took him to see Dr. Fernandez, who confirmed he had a torn ACL,” says Josh Knauss, Aaron’s father. “We scheduled surgery and discussed the types of procedures that were possible for someone as young as Aaron.”

Dr. Fernandez used a physeal sparing ACL reconstruction technique, which would spare the growth plate and allow Aaron’s bones to continue to grow and develop. Because the procedure is so different, a surgeon’s experience can make a big difference in the patient’s outcome.

For Aaron’s full story visit geisinger.org/ortho.

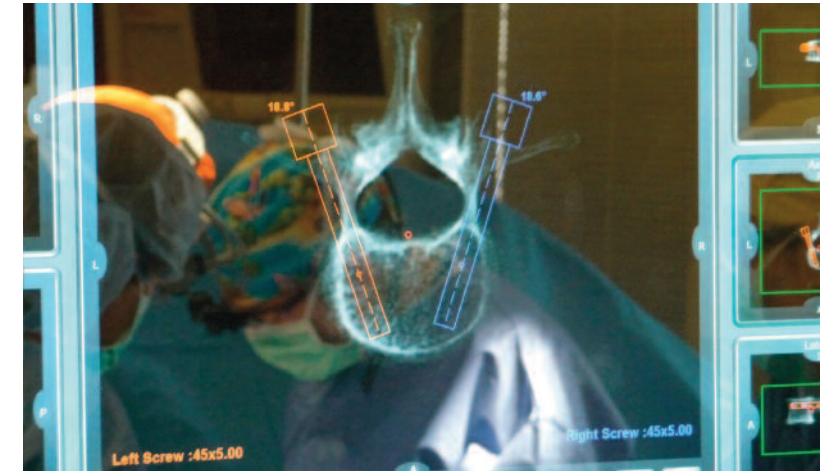
Aaron Knauss, patient
of Meagan Fernandez, DO.

Geisinger is Exclusive Pennsylvania Provider of Robotic Scoliosis Treatment System

Physicians at Geisinger recently began employing a robot system to surgically treat patients with scoliosis. The Renaissance™ system is the only surgical guidance system for spine procedures available today, and currently, Geisinger is the only healthcare provider in Pennsylvania utilizing its technology.

“The Renaissance™ system has proven to provide scoliosis patients with better outcomes which result in shorter hospital stays, quicker recoveries and reduced intraoperative radiation exposure,” says Michael Suk, MD, JD, MPH, FACS, chairman, department of orthopaedic surgery at Geisinger Health System. “The exceptional precision and safety of the Renaissance™ system is a drastic improvement over freehand surgery especially during complicated spine procedures.”

The Renaissance™ system, which will be used primarily to treat scoliosis, utilizes a soda can-sized surgical robot guided along a rigid attachment by a 3D preoperative blueprint of the patient’s spine to treat the desired area of the spine within 1 mm accuracy. Computer technology synchronizes with the surgical



Renaissance™ computer image of spine.

blueprint, to improve the safety and accuracy of the operation.

“The surgeon still performs 100% of the surgery, but the robot adds an extra layer of safety,” says Meagan Fernandez, DO, pediatric orthopaedic surgeon, Geisinger Medical Center. “The technology behind this system has been rigorously tested and the results have been remarkable in terms of safety, accuracy and the eventual end result.”

On a Mission of Caring

When W. Fred Hess, MD, orthopaedic surgeon at Geisinger Medical Center, was first asked to participate in a medical mission trip to Ecuador in 1993, he did not think he was interested in taking care of patients in a third world setting. But, he agreed and went to Ecuador to treat a little girl with Marfan syndrome.

Fast forward several years and Dr. Hess is still active in medical missions, one specifically with the Foundation of Orthopaedics and Complex Spine (FOCOS).

“Our mission is to take care of complex spine deformities for the underserved in Africa,” says Dr. Hess. “These are things you will see in the United States, but they would never get to the degree of deformity that we see in Africa because of earlier intervention.”

The organization brings in groups of highly skilled orthopaedic surgeons for two weeks several times a year. They work hand-in-hand to take care of patients, and provide training to local doctors so they can help take care of basic needs.

Until last year they operated at the main teaching hospital for Ghana. The rooms were clean, but often equipment was not available and procedures had to be cancelled. In April 2012, FOCOS opened a 50-bed single specialty hospital to provide comprehensive orthopaedic services in this underserved area.

“My goal is to provide quality care to as many people as I can,” says Dr. Hess. “There is nothing better than knowing you made a difference in someone’s life.”



Robert Waite, patient of Michael Suk, MD.

Patient Gets a Fresh Start Thanks to a New Procedure

Forty-six-year-old Robert Waite has lived and worked on a farm for nearly 30 years in Northumberland, Pennsylvania. He and his family know no other lifestyle than the hard work and dedication of running their farm, caring for its crops and raising its animals. But on what was a typical Tuesday afternoon, February 21, 2012, the unexpected happened; Robert's entire lifestyle was thrown into doubt when he was attacked by a 1,500-pound bull on his family's property.

Despite multiple attempts to escape, Robert was left in the pen with catastrophic injuries to his chest. He was found by his wife and another farm worker and flown to Geisinger Medical Center via LifeFlight®. Robert was suffering from a condition known as bilateral flail chest – when multiple ribs fracture in multiple locations, leaving a freestanding portion of the

ribs that moves inversely with the rest of the ribs during breathing.

“Robert came to the hospital facing significant amount of time on a ventilator because his chest had caved in; his chest wall literally went back and hit his spine,” says Michael Suk, MD, JD, MPH, FACS, chairman, department of orthopaedic surgery at Geisinger Health System. “This level of injury had the potential of being a lifetime problem in terms of Robert's ability to take deep breaths.”

Dr. Suk believed Robert was a prime candidate for a new procedure known as rib fixation, which involves fixing the ribs back together using plates and screws. Robert was the first patient at Geisinger Medical Center to undergo this new procedure.

For Robert's full story visit geisinger.org/ortho.

A Shoulder that's No Burden

For Pennsdale, Pennsylvania's Elayne Greenburg, not having to be aware of her artificial shoulder is more than she ever could have hoped for. Elayne, 70, fell in her home and essentially crushed her shoulder joint. After several opinions gave her little confidence, she met with Geisinger orthopaedic surgeon G. Dean Harter, MD who recommended a reverse total shoulder replacement, a procedure performed at few other hospitals in this area.

“I actually thought my life was over when he showed me the pictures,” Elayne says. “But then he explained that there was a prosthesis that would make my arm more stable than before and that I should be able to function pretty normally within a year.”

A reverse total shoulder replacement involves inverting the shoulder joint with the insertion of a metal ball in the place of the natural shoulder socket and implanting an artificial socket at the top of the humerus, or upper arm, bone.

For Elayne's full story visit geisinger.org/ortho.



Elayne Greenburg, patient of G. Dean Harter, MD.

Geriatric Fracture Care Program – Better Care, Better Value



Anthony Balsamo, MD

In 2012, The Fiscal Times reported that 5% of the population used half of the healthcare dollars, and most of that population is 65 years of age or older.

“These compelling statistics demonstrate the need of an improved geriatric care model emphasizing value,” says Anthony Balsamo, MD, orthopaedic surgeon and director of

the Geriatric Fracture Care Program at Geisinger Wyoming Valley Medical Center (GWW) in Wilkes-Barre. “For Geisinger, it’s even more important because we have a higher percentage of baby boomers in the population we serve.”

In August 2010, Dr. Balsamo began implementing the

Geriatric Fracture Care Program at GWW. “We took action because we want our patients to live the rest of their lives, not just exist for the rest of their lives.”

The goal of the program was to supply better value and results, while reducing costs and readmission rates, and to control separate-but-related medical issues prior to surgery to incorporate early discharge planning.

The results were very impressive. The length of stay of geriatric patients has improved by 14%; readmission rates were reduced by 28%; and the percentage of patients discharged to an acute inpatient rehab facility increased by 19.3% (with the expectation to return to their home environment).

“The aging population will continue to consume a larger proportion of healthcare resources for treating osteoporotic fractures in the coming years,” says Dr. Balsamo. “The ability of healthcare institutions and the entire interdisciplinary team to deliver cost-effective, patient-centered quality healthcare will be critical to the future economic viability of healthcare systems.”

Evidence-Based Medicine at Geisinger

With the future of healthcare increasingly becoming evidence-based medicine, Geisinger Health System has been highly regarded because of its ProvenCare® programs.

“The bottom line for ProvenCare® is to become more efficient with healthcare delivery by reducing variation in care, complications and cost, but maintaining or improving quality,” says David Kolessar, MD, orthopaedic surgeon at Geisinger Wyoming Valley Medical Center (GWW).

The Geisinger Orthopaedic Institute has just initiated its own ProvenCare® Hip Fracture program, an outgrowth of the success of the Geriatric Fracture Care Program at GWW.

“ProvenCare® for a high volume problem like hip fractures is really perfect,” says Daniel Horwitz, MD, chief of orthopaedic trauma at Geisinger Medical Center in Danville. “With ProvenCare® Hip Fracture there is a high degree of predictability, so it lends itself well to creating a reproducible

systematic approach to treatment that is as efficient as possible.”

In the short time since the program has been rolled out, it is proving successful in terms of expediting patients to the operating room. The process is smoother and all team members are on board with knowing what they need to do and how to do it. In fact, the commitment of all team members is one of the cornerstones of ProvenCare®. Everyone - from the nurse to the surgeon - is held accountable in the patient’s outcome.

The electronic medical record (EMR) is also a cost-saving measure because it helps prevent duplicate or unnecessary tests. The EMR is indispensable because all practitioners can access the patient’s record at any Geisinger hospital or more than 40 clinic sites.

“With the so-far successful implementation of ProvenCare® Hip Fracture, we are looking at other orthopaedic issues that could lend themselves to this model,” says Dr. Horwitz.



Despite Geriatric Fracture, 98-Year-Old is on the Move

Etta Shuman, 98, was excited about spending the summer with her husband at their lake home in Fritzinger Town, Pennsylvania. But on June 17, 2012, Etta fell and fractured her femur, putting an end to those plans.

“Etta had a geriatric fracture of her femur,” says Anthony Balsamo, MD, orthopaedic surgeon and director of the Geriatric Fracture Care Program at Geisinger Wyoming Valley Medical Center. “Since she had previously undergone a total hip replacement and total knee replacement on that same leg, we needed to put a plate on the bone to ensure it would heal properly.”

Etta has previously had two hip replacements and two knee replacements at Geisinger Medical Center in Danville, as well as three operations on her spine. Geriatric fractures are among the most complex, which often complicates recovery.

For Etta’s full story visit geisinger.org/ortho.

Etta Shuman, patient of Anthony Balsamo, MD.

Performing Joint Replacement Procedures and Improving Outcomes



David Kolessar, MD

Surgeons in the Geisinger Orthopaedic Institute regularly perform the full spectrum of joint replacement procedures, including hip, knee, shoulder and elbow.

“Our regional location and large patient population allows us to maintain a high volume

practice per surgeon and institution,” says David Kolessar, MD, orthopaedic surgeon at Geisinger Wyoming Valley Medical Center. “Studies routinely show that experience counts; patients have better outcomes and fewer complications when their total joint replacement is performed by a skilled surgeon at a high volume center.”

“Our goal is to provide conservative treatment measures first,” says Dr. Kolessar. “Conservative treatments may include activity modification, arthritis medications, exercise programs, physical therapy and weight reduction. If the patient’s symptoms continue to interfere with their function and quality of life, surgical treatment options may be considered.”

Geisinger uses contemporary techniques in their joint procedures, as well as advanced materials. Perhaps the biggest difference at Geisinger with a joint replacement procedure is the accelerated rehabilitation process, shortening the length of stay and improving the patient’s ability to return to their home rather than an inpatient rehabilitation facility.

Geisinger performs revision total joint replacement on a regular basis. These operative procedures vary in complexity and can require more resources. “We believe we are well positioned to provide high quality, value-based care to improve the quality of life and function of our patients in the future,” says Dr. Kolessar.

Geisinger Wyoming Valley Awarded Joint Commission Gold Seal of Approval

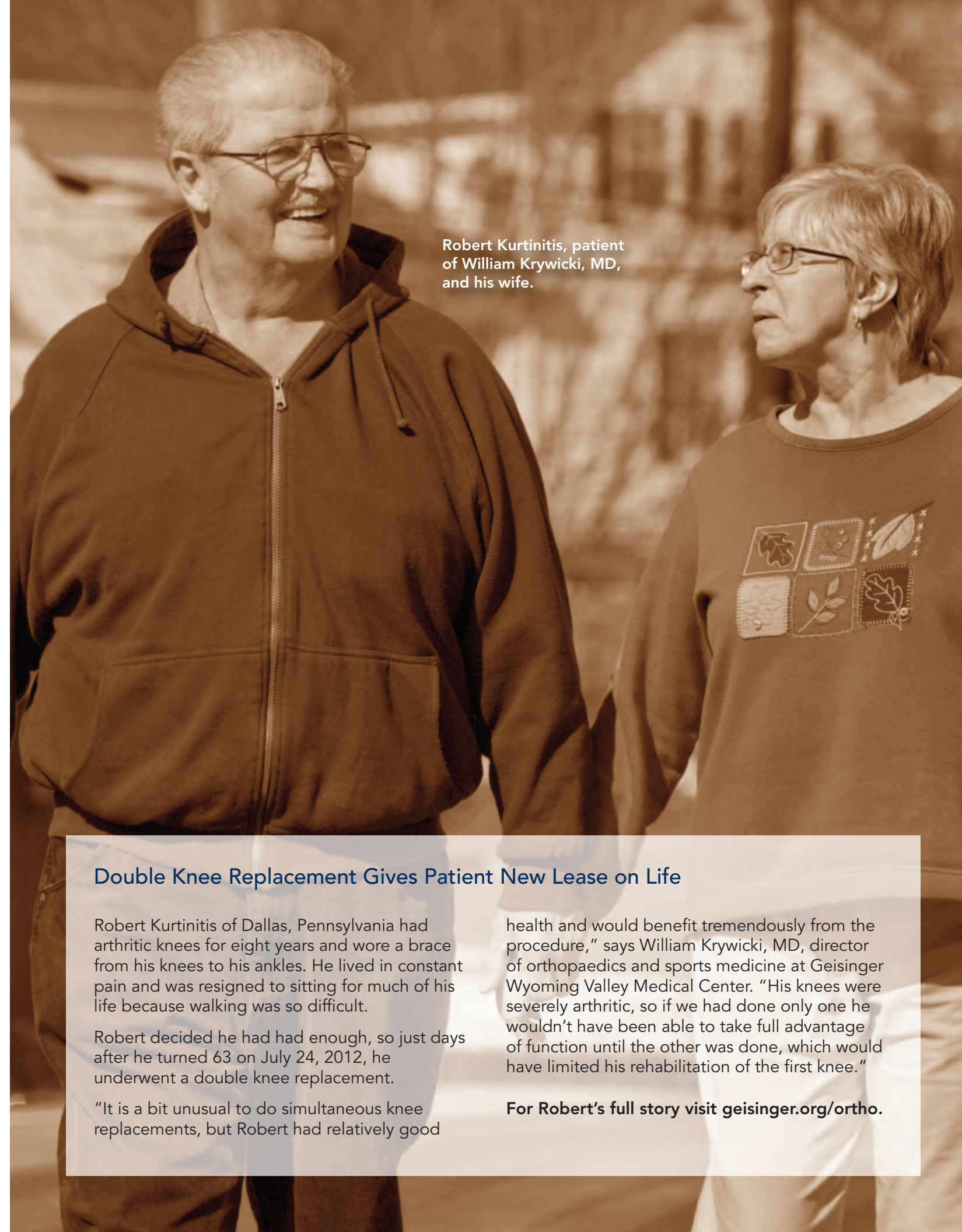
Geisinger Wyoming Valley Medical Center (GWV) earned The Joint Commission’s Gold Seal of Approval™ Disease-Specific Care for Hip Fracture, Total Hip Replacement and Total Knee Replacement by demonstrating compliance with The Joint Commission’s national standards for healthcare quality and safety in disease-specific care.

At the time of certification, GWV was one of two hospitals in Pennsylvania with Hip Fracture Certification, one of 20 with Hip Replacement Certification and one of 47 with Knee Replacement Certification.

“Achieving this certification demonstrates that we are dedicated to continuously providing safe,

high-quality treatment and rehabilitation services to our hip fracture and total joint replacement patients,” says Dr. Suk. “Our participation in the certification process is not only an affirmation of the expert care available at GWV, but also helps us identify opportunities for future improvement.”

Certification requirements for these programs address three areas: compliance with consensus-based national standards; effective and consistent use of appropriate, evidence-based clinical practice guidelines; and collection and analysis of four performance measures specific to each program certification. As a certified organization, GWV has been awarded certification for a two-year period. Regular reviews will be carried out in order to maintain and renew certifications.



Robert Kurtinitis, patient of William Krywicki, MD, and his wife.

Double Knee Replacement Gives Patient New Lease on Life

Robert Kurtinitis of Dallas, Pennsylvania had arthritic knees for eight years and wore a brace from his knees to his ankles. He lived in constant pain and was resigned to sitting for much of his life because walking was so difficult.

Robert decided he had had enough, so just days after he turned 63 on July 24, 2012, he underwent a double knee replacement.

“It is a bit unusual to do simultaneous knee replacements, but Robert had relatively good

health and would benefit tremendously from the procedure,” says William Krywicki, MD, director of orthopaedics and sports medicine at Geisinger Wyoming Valley Medical Center. “His knees were severely arthritic, so if we had done only one he wouldn’t have been able to take full advantage of function until the other was done, which would have limited his rehabilitation of the first knee.”

For Robert’s full story visit geisinger.org/ortho.

Residency Program Among the Best, and Growing

The orthopaedic residency program at Geisinger has a goal of producing not only the most knowledgeable and clinically competent orthopaedic surgeons, but also the best prepared to enter the workforce. We achieve this goal, in part, through comprehensive and ongoing self-evaluation, even beyond that required by accreditation agencies.



Orthopaedic surgery residents participate in the daily directed academic review.

“The program has been around since the 1960’s,” says Gerard Cush, MD, orthopaedic foot and ankle surgeon and residency director for orthopaedics at Geisinger Health System. “We have over 100 graduates who went into general practice or a fellowship and now practice as orthopaedic physicians throughout the United States.”

The strong education program recently moved from two residents per year to three, as a direct result of the learning opportunities that are

present at Geisinger. The program continues to attract prime candidates from the nation’s finest medical schools, because they know that the Geisinger program offers one-on-one education opportunities between the resident and attending physician, and the ability to provide continuity of care by following patients from diagnosis through recovery.

“Our preceptorship model is different from most programs because residents are paired with a physician for direct interaction and supervision. In our opinion, it presents a strong, longitudinal learning opportunity for residents who work with one attending for a three month rotation; over four years they have a total of 16 rotations,” says Dr. Cush.

“It’s a wonderful way to teach residents and better evaluate them along the way,” says Jessica Temple, residency program coordinator. “It facilitates gradual responsibility, so residents have autonomy earlier in their training.”

This model has propelled Geisinger to one of the top programs in the country based on academic achievement as measured by the National Orthopaedic In-Training Exam. Geisinger residents are consistently above the 95th percentile.

Geisinger Exam Results

- 2012-100%
- 2011-96%
- 2010-98%
- 2009-98%
- 2008-98%
- 2007-98%
- 2006-99%
- 2005-99%
- 2004-95%
- 2003-99%

Primary Care Sports Medicine Fellowship

Geisinger Health System offers a Primary Care Sports Medicine Fellowship to provide primary care physicians with expertise in medical care of the active patient.

“The fellows have an opportunity to work with the sports medicine clinicians and even serve as team physicians for school districts, local colleges and professional teams,” says David Ross, MD, sports medicine physician and fellowship program director.

Fellows are taught by Geisinger’s outstanding orthopaedic and sports medicine specialists, and leave the program with experience in an array of sports medicine activities.

Geisinger Orthopaedic Institute Research Report

The scientist/clinician partnership at the Geisinger Orthopaedic Institute facilitates research in discovering the best applications of, improvements to, and innovations for the latest orthopaedic technologies in development. The basic research and clinical trials aim to develop the best implants, finest biomaterials and cutting-edge pharmaceuticals for musculoskeletal patient care.

“We are a dynamic orthopedic translational research center,” says Michael Suk, MD, JD, MPH, FACS, chairman, department of orthopaedic surgery at Geisinger Health System. “Our affiliation with various groups prove that Geisinger is a major contributor to orthopaedic research.”

The most impressive research initiatives of 2012 include:

AOCSC Platinum Certification

In April 2012, the Geisinger Orthopaedic Institute was the second site in the United States to receive the certificate indicating that it is now an Arbeitsgemeinschaft für Osteosynthesefragen (AO) Clinical Study Center (AOCSC) site, and was awarded the Platinum status, the highest level of certification offered.

“This certification will reflect our quality standards and abilities to participate in and manage clinical studies (not only with the AO but with industry as well),” says Dr. Suk. “AO Centers will be the destination of choice for implant testing, comparative research projects and innovations in biologic materials. It promises to open an important pipeline to sponsored research.”

METRC Satellite Clinic Selection

The Geisinger Orthopaedic Institute was approved as a Major Extremity Trauma Research Consortium (METRC) Satellite Clinical Site in July 2012, and hopes to soon be participating in two METRC clinical studies: the Antibacterial Plate Sleeves (APS) Study and the OUTLET study.

METRC was established in September of 2009 with funding from the Department of Defense (DOD). It consists of a network of clinical centers and one

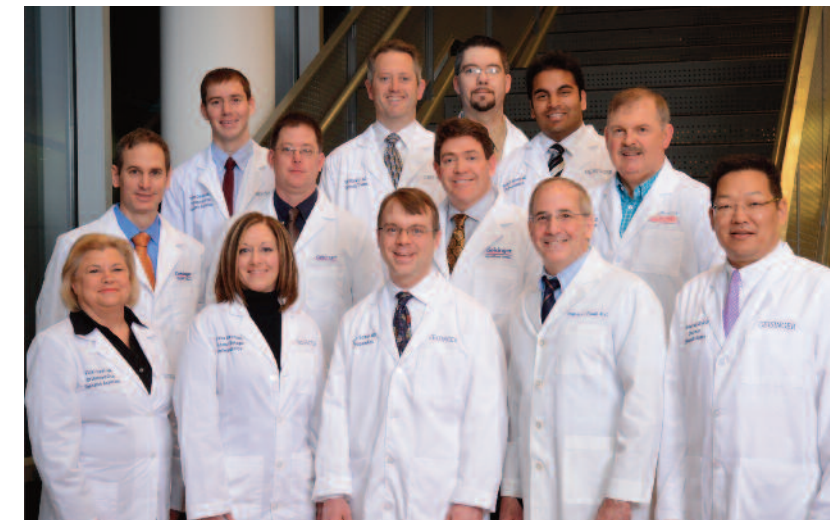
data-coordinating center that works together with the DOD to conduct multicenter clinical research studies relevant to the treatment and outcomes of orthopaedic trauma sustained in the military. The overall goal of the consortium is to produce the evidence needed to establish treatment guidelines for the optimal care and outcomes of service members and civilians who sustain high-energy trauma to the extremities.

Function and Outcomes Research for Comparative Effectiveness in Total Joint Replacement (FORCE-TJR) Project

“Each year, more than 700,000 adults in the United States elect Total Knee Replacement (TKR) or Total Hip Replacement (THR) surgery to restore physical function and eliminate the persistent pain of advanced knee or hip arthritis,” says Dr. Suk. “By 2030 primary and revision TKR and THR use is projected to grow significantly, especially among patients under 65 years of age.”

Presently there is wide variation in TKR and THR implant selection, surgical approach, post-surgery functional improvement and implant revision rates.

The majority of existing research is retrospective and limited to the Medicare population.



The Geisinger Orthopaedic Institute research team.

Game-Changing Research

The FORCE-TJR project focuses on working adults under 65 years of age. Its goals are to:

- 1) guide decisions on optimal implant timing, surgical approach, implant selection and peri-operative management,
- 2) decrease complications and to improve implant longevity and function following surgery, and
- 3) inform policy to reach currently underserved minority populations.

Geisinger has enrolled 690 patients by the end of 2012 for this project.

Geisinger Poised to Conduct Musculoskeletal Outcomes Research

Through the 2010 Affordable Care Act, legislation established the Patient-Centered Outcomes Research Institute. It is anticipated that much of future research will be orthopaedic in nature, so it is important to be able to provide critical input on the clinical effectiveness and appropriateness of medical treatments and services. Dr. Suk is the lead author of one of the only textbooks of musculoskeletal outcomes, instruments and measures, positioning Geisinger to quickly establish a Center for Musculoskeletal Outcomes Research.

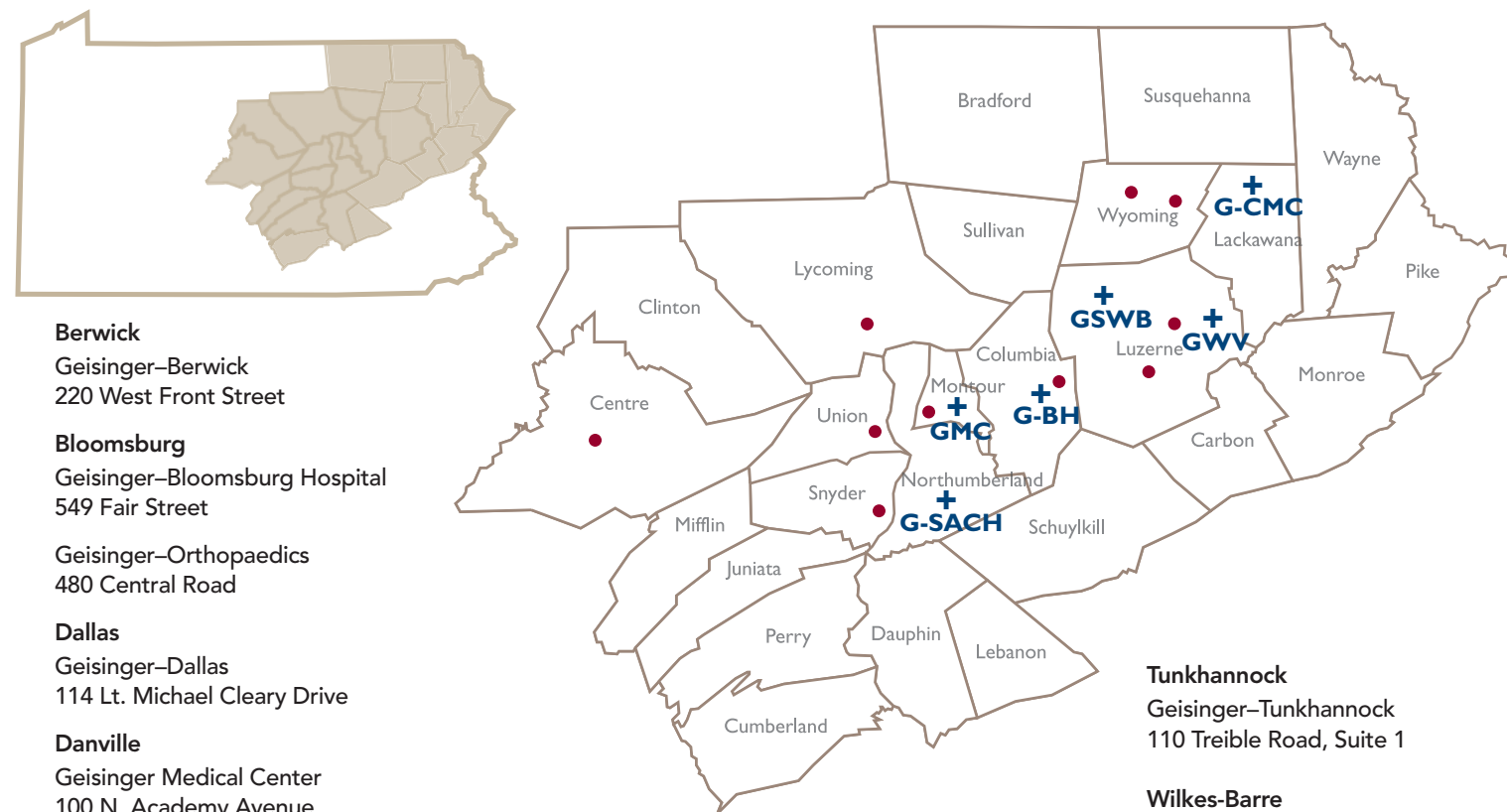
"We can harness the electronic medical record for epidemiologic data to help identify trends in musculoskeletal disease, track clinical outcomes and develop registries," says Dr. Suk. "These are just a

few obvious things that can be a critical component of our efforts to continually seek ways to improve and maximize Geisinger's competitive edge."

The following research efforts were funded in 2012:

- Thomas Bowen, MD, orthopaedic oncology surgeon, has joined with Drs. Kennedy and Ebenstein, professors of Biomedical Engineering at Bucknell University, on a study entitled "Determination of Localized Bone Quality: Correlation of Bone-Screw Pullout and Bone Micro-Indentation to the Bone Mineral Density." He is also the principal investigator on the Eli Lilly GHDQ study, a phase 3 multicenter, multinational study.
- Matthew McElroy, DO, primary care sports medicine physician is undertaking a study entitled, "Ultrasonography Versus MRI in the Diagnosis of Tibial Stress Fractures."
- Daniel Horwitz, MD, chief orthopaedic trauma at Geisinger Medical Center, received funding for his study, "Vitamin D Deficiency and Low Energy Fractures in Adolescents." He also serves as a principal investigator of "Lidocaine Analgesia for Removal of Wound Vacuum Assisted Closure Dressings."
- The OMEGA Medical Grants Association offered a grant to support a Geisinger trauma skills lab for resident education.

The experts of the Geisinger Orthopaedic Institute care for patients throughout northeastern and central Pennsylvania.



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549 Fair Street

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