and our surgical volume parallels this. We continue with outreach in Fairmont, Parkersburg, Charleston, and have now added Waynesburg. Uniontown, PA is on the institutional radar for outreach of some kind in the future.

Our total joint section again achieved the highest certification from the Joint Commission - earning the Joint Commission’s Gold Seal of Approval® and receiving both the Advanced Certification and the Standard Certification for Total Hip and Total Knee Replacement. This total joint section is recognized as a Center of Excellence by Blue Cross Blue Shield as well. We also recently achieved designation as a 2020 Highmark BCBS Blue Distinction® Center for Spine Surgery. Additionally, our track record continues with another year as a US News & World Report “Star Performer” for the American Orthopaedic Association’s “Own The Bone” program.

Please read on about some of our program highlights and research success. On a sad note, we mourn the passing of Dr. Jai Ryu this past January from complications related to his traumatic quadriplegia he sustained two years ago in an accident. We still miss him and our thoughts are with his wife, Youngee and his two sons, Jubin and Justin.

For alums or other visitors, please let us know if you are coming into town. I would love to touch base and give you a tour of the department!

2018 was another strong year for the Department of Orthopaedics at West Virginia University! We have continued to recruit faculty in both the clinical and basic science areas.

Our pre-operative optimization program for total joint patients is driven by our two newer internal medicine physicians, Dr. Jami Pincavitch and Dr. Kate Kasicky. This program has taken off and we are expanding this to our spine patients, more details later in this report. We have also hired a fourth podiatrist who will anchor our new satellite outpatient facility that is just opening now in Waynesburg, PA. Dr. John Taras from Philadelphia, a very nationally known and experienced hand surgeon joined us this past April, a major benefit for the hand service and the residency program. We are working to add more physicians for our Division of Physical Medicine and Rehabilitation and have had some success there. Dr. Jonathan Boyd joined us from WVU Department of Chemistry in July 2018. Dr. Boyd’s expertise is in cell signaling and apoptosis, which provides collaborative opportunity with our current research investigators.

Clinically we are busier than ever. Outpatient volumes continue to expand in double digits and our surgical volume parallels this. We continue with outreach in Fairmont, Parkersburg, Charleston, and have now added Waynesburg. Uniontown, PA is on the institutional radar for outreach of some kind in the future.

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For alums or other visitors, please let us know if you are coming into town. I would love to touch base and give you a tour of the department!
As you may have noticed in our faculty line up, we have a familiar face from the past! Dr. David Blaha has rejoined our department as a Clinical Professor. As you may or may not know, Dr. Blaha was Chair of the Department of Orthopaedics here at WVU from 1991-2002. Dr. Blaha has retired from clinical work, but will be re-joining us as part of our research program. He will be collaborating with our adult reconstruction section and working on long-term follow-up projects with joint replacement patients. Dr. Blaha developed a total knee many years ago that best mimicked the complex biomechanics of the knee. This prosthetic design has been successful and even increased in popularity as newer generation implants have been produced.

We are happy to have him back and we know he will be a great asset to our research efforts!
From the start of our trip to Hopital Sacre Coure in Milot, Haiti, located just a short distance from the island’s second largest city, Cap Haitien, we were met with the devastating beauty of the islands along with the devastation that accompanies people living in abject poverty. For years, the people of this Caribbean island have faced economic, social, and environmental upheaval. For many, they live with little hope. WVU alumnus Dr. Jack Steel has long-witnessed the challenges faced by Haiti’s residents first-hand. Dr. Steel has been active with CRUDEM, a non-profit foundation providing weeklong medical trips to the area, for years.

In October of 2018, WVU Orthopaedics partnered with Dr. Steel to send a small team to provide services to those in need. Team members included myself, Daniel Grant, M.D., a pediatric orthopaedist; Rob Crowder, D.P.T., a physical therapist; and Roland Rizzi, M.D., an anesthesiologist.

One of the biggest deficiencies in this region of the country is the availability of blood for transfusions. We treated an adult with a three-week old femur fracture definitively with an external fixator due a lack of blood availability and the patient’s degree of anemia.

One of the most challenging cases for our team was a seven-year-old male, with chronic osteomyelitis of the femur. The child was ill, anemic, and had a swollen, painful leg with a bone being destroyed by an infection. Coordinating blood for surgery and antibiotics postoperatively was a massive undertaking. We were able to take the child to surgery to remove the purulence and much of the sequestrum which was essentially the entire diaphyseal femur. The child did well. Though, the difficulty of providing adequate treatment to this child and the potential lifelong implications of this infection are staggering when you compare him to a child with the same initial problem in the United States.

The trip was an extremely rewarding experience. It was an opportunity to provide desperately needed care to a friendly and wonderful group of people. It helped reinforce my appreciation for living in a developed country and working in a facility like WVU.

The WVU Orthopaedic Department plans to continue this partnership with Haiti and Dr. Jack Steel. We hope to be able to include residents in some of our future trips so that they can share in this experience.

Daniel Grant, M.D.
WVU Pediatric Orthopaedics
Orthopaedics Clinics
We have two conveniently located clinics in Morgantown and Fairmont. The Morgantown location is in the Physician Office Center, attached to J.W. Ruby Memorial Hospital. The Fairmont location is housed in our WVU Medicine Outpatient Center, directly across from the I-79 Downtown Fairmont exit.

University Town Centre
University Town Centre is the home for several of our Orthopaedic centers, including the Center for Joint Replacement, the WVU Sports Medicine Center, and the Orthopaedics Hand Clinic. WVU Medicine University Town Centre is conveniently located in the University Town Centre development just off I-79 in Granville. This spacious center offers patients access to their favorite primary care providers.

Center For Joint Replacement
At WVU Medicine
The Center for Joint Replacement at WVU Medicine offers patients a comprehensive planned course of treatment. We believe our patients play a key role in ensuring a successful recovery. Our goal is to involve our patients in their treatment through each step of the program.

WVU Medicine
Sports Medicine Center
WVU’s Sports Medicine Center cares for athletes of all levels. We work to get all patients back to their highest level of activity possible. Our physicians manage sports-related injuries and medical conditions that include muscle and joint pain, sprains, and concussions. The WVU Sports Medicine Center has access to specialists from multiple disciplines, including Orthopaedics and experts from the WVU Spine Center. Individuals with sports injuries have same-day access to our services, which are available around the clock, seven days a week.

WVU Spine Center
The WVU Spine Center brings specialists together with a multidisciplinary team approach to provide our patients with comprehensive spinal care. We use a full range of treatment options to ensure that patients with spine problems get the treatment they need quickly, efficiently, and easily. The Spine Center combines the expertise of WVU neurologists, orthopaedic specialists, neurosurgeons, pain management physicians, and rehabilitation services to target every patient’s particular problem and provide optimal treatment.

John Lubicky, M.D., chief of pediatric orthopaedics at WVU Medicine Children’s, has performed the state’s first robotic pediatric spinal surgery. The procedure was performed to treat neurofibromatosis, a genetic disorder that causes tumors to form on nerve tissue, and correct severe scoliosis, a sideways curvature of the spine.

Dr. Lubicky used the Mazor X robotic surgical guidance system to perform the procedure. This robot is programmed with pre-operative imaging, which allows it to accurately identify and access critical parts of the anatomy and safely insert implants into the vertebrae.

John Lubicky, M.D.
Chief, Pediatric Orthopaedics

“The use of the robot allows us to navigate challenging or abnormal anatomy that would make the traditional freehand approach extremely difficult and maybe even risky,” Lubicky said. “We were able to load a pre-operative CT scan into the robot to help us safely navigate the patient’s anatomy to insert the screws and allow completion of a very difficult operation.”

The use of surgical robots is increasing at WVU Medicine, allowing surgeons to perform surgeries that would be more dangerous, invasive, or complicated using traditional methods.

“WVU Medicine Children’s has the capability of managing very severe spinal deformities in the safest way possible,” Lubicky said. “In this case, it would have been impossible to safely place the pedicle screws that anchor the rods to stabilize the patient’s spine.”

The patient is recovering well and is mobile.
Each December, a few patients at WVU Medicine receive a life-changing gift: a free hip or knee replacement.

Cynthia Lawrence, 60, of Lost Creek, has always been active and enjoys taking walks with her husband, being outside, and working in her yard. When her hip started to hurt in May 2017, the pain slowed her down and kept her from doing the things she enjoyed. She had persistent nausea and noticed that her hands had started to swell.

“I went to my doctor at United Hospital Center, and he did a scan, but it didn’t show anything that was wrong,” Lawrence said. “I didn’t have insurance, so I was just trying to do this stuff on my own. I was paying for my medical bills as I made the appointments.”

Lawrence’s doctor gave her cortisone shots in her knee to try to alleviate her pain, but they were ineffective. A friend who works in physical therapy gave her a discounted rate so she could exercise in the pool, but even that hurt. The staff encouraged her to ask her doctor for scans, but she was reluctant because she did not have insurance.

“I borrowed a walker from a friend so I could get around, but I still had pain down the front of my leg and in my hip,” Lawrence said. “I went to a chiropractor, who gave me some exercises to do, but they hurt more than walking in the pool.”

Despite her efforts, her hip pain only intensified. She knew that something was wrong and asked her doctor for an MRI, which showed that she had severe hip joint degeneration. She met with Brock Lindsey, M.D., an orthopaedic surgeon at WVU Medicine, who saw that Lawrence was in great need of a hip replacement.

A nurse encouraged Lawrence to apply for a hip replacement through Operation Walk, an organization whose mission is to encourage and enable joint replacement surgeons to restore mobility and improve quality of life for uninsured patients who suffer from disabling arthritis of the hip or knee in the United States.

“I still didn’t have insurance at that point, but I thought it was worth checking into,” Lawrence said. “Next thing I knew, I got a call that I had been approved for a hip replacement through Operation Walk.”

In December 2017, Lawrence started the process of preparing for surgery. Her hip pain was still causing her nausea, and she had lost nearly 40 pounds. She followed an exercise regimen to strengthen the muscles around her hip so she would be able to recover successfully.

“After my surgery, they came in and said that it was time to get up and walk,” Lawrence said. “When I took that first step, my pain was gone. It was wonderful. It was absolutely wonderful.”

Cynthia Lawrence, patient

Now, Lawrence said she can keep up with her grandchildren more without worrying about pain or having to use a walker.

“I gave that back to my friend,” she said. “I’m so glad I don’t have to use that anymore. I am pain free.”

Lawrence said her medical team provided support and answers to all of her questions through MyWVUChart or over the phone through the entire process.

“Now one even flinched when I had questions or concerns. They were all there for me and ready to get this done,” Lawrence said. “I love Dr. Lindsey. He’s just a sweet guy. I have a friend who told me about even more of the incredible things he does to help people. You don’t hear that often, how much they go above and beyond to help their patients.”

For more information on the criteria for joint replacement through Operation Walk USA, contact Cynthia Drummond, R.N., B.S.N., WVU Medicine orthopaedic nurse clinician, at 304-598-6720 or drummondcy@wvumedicine.org. To register as a prospective patient, visit http://operationwalkusa.org/patients/. 
Continuing with the upward trajectory of the WVU Department of Orthopaedics as a whole, the Division of Hand and Upper Extremity continues to expand, growing from two surgeons in 2015 to a total four surgeons in 2019.

In addition to our usual high volume of trauma and infections, the Division also augmented the use of an outpatient procedure room at the University Town Center. Several specially trained techs assist in the procedures, which range from straightforward cases such as carpal tunnel and trigger finger releases to more complex procedures.

WALANT Technique
Dr. Shafic Sraj is perfecting the WALANT technique for his surgeries. The effective use of the procedure room has been helpful to unload our busy hospital operating room. It also gives qualified patients a more efficient way to get these procedures done.

The number of procedures performed in the procedure room has risen steadily in the past few years, from 64 total procedures in 2016, to 100 procedures in 2018. At the six-month mark in 2019, with just half of the year over, surgeons have performed 75 cases to date.

Arrivals and Departures
The Division welcomed the addition of an experienced and accomplished colleague, Dr. John Taras.

Unfortunately, we had to bid farewell to our long-time colleague Dr. Jaiyoung Ryu, who succumbed to complications from a devastating injury earlier this year.

In October of 2018, the Orthopaedic Medical Optimization Program was initiated at the WWU Center for Joint Replacement. The goal of the program is to ensure evidence-based best care practices, decrease variations in optimization, and provide recommendations and co-management specifically directed towards medical management of total joint arthroplasty patients.

Thus far, more than 500 patients have obtained pre-operative care through the Clinic.

Surgeons make referrals to the Orthopaedic Medical Optimization Clinic once adult reconstructive surgery is anticipated. The goal is to provide same-day appointments for patients’ convenience, especially given that many WVU patients travel from a significant distance.

For patients with ongoing medical problems, the care team helps patients achieve necessary health care targets prior to scheduling elective surgery to help decrease surgical complications in addition to preventing last minute surgical case cancellations.

Previously, patients were responsible for obtaining pre-operative testing and consultant care through their primary providers. For some patients this meant potentially having to find a primary care provider to perform pre-operative evaluation, resulting in extra travel and difficulty in obtaining all necessary documentation, delays in surgical scheduling, missed opportunities for improved pre-operative control of medical comorbidities, and same-day surgical case cancellations. With OMOP, the physicians within the program navigate the patient’s through this process, ensuring all pertinent medical concerns are addressed.

One objective of the program is to ensure communication is maintained between the internist and orthopedic surgeon regarding medical risks and planned interventions. With ongoing medical care throughout the surgical process, perioperative risks are reduced and there is improved integration of the patient’s care. By all accounts, the OMOP Clinic has been a great success.

The current care team consists of two Internists in conjunction with Adult Reconstructive Surgeons. The team is expected to grow in both size and services in the upcoming year.

Jami Pincavitch MD
Assistant Professor, Orthopaedics, Internal Medicine

Kathryn Kasicky MD
Assistant Professor, Orthopaedics, Internal Medicine
Continued excellence in education and facilities

Orthopaedics welcomed four new interns who began with a month-long orthopaedic skills training that emphasized fundamentals in splinting, casting, x-ray interpretation, orthopaedic emergencies and basic surgical skills.

WVU residents are immersed in multifaceted educational opportunities at top-notch facilities including the cadaver dissection and arthroscopy labs. A newly renovated Resident Room offers a 70-inch television for Chief’s conference and other presentations.

Resident research efforts continue to be an important aspect of the program, with residents presenting their work at multiple national and regional conferences. Additionally, they continue to mentor other medical professionals through casting and splinting workshops, medical student lectures and anatomy labs.

A culture of community

Continuing with the University’s push for work-life balance, the residents participated in many extra-curricular activities. The resident softball team “Extremity Pain” had another mediocre season this year with Joshua Russell at the mound, and are looking forward to bringing in a fresh pitcher next year to improve their chances at a title. Residents enjoyed multiple faculty sponsored gatherings including a “Bourbon and Sauce” party at Dr. Dietz’s house, 4th of July party at Dr. Emery’s, and football tailgate parties hosted by Dr. Santrock. The annual golf tournament was a success once again, and we are happy to report there were no injuries this year. The residency program at WVU continues to be family-friendly, and two residents welcomed new babies this year.

Fellowship news

The Chief Resident Class all attained competitive fellowships this year — Kevin Shepet (Vanderbilt University – Sports), Joshua Russell (Baylor University – Sports), and Jon Karnes (University of Wisconsin – Spine). WVU is proud of the Chief Class and wishes them the best of luck as they begin fellowship and start their practice in orthopaedic surgery.

Arrivals and departures

As we say goodbye to the outgoing chiefs, we welcome a new intern class. The Class of 2024-2025 includes Eric Niemann (WVU), Ben Giertych (University of Wisconsin), Michael Booth (State University of New York), Keenan Atwood (US Air Force Flight Surgeon).

In 2019, the Department also welcomed a new program director, Dr. Barry McDonough, and a new assistant program director, Dr. Michele Bramer. The 2018-2019 academic year has been a very successful one for the WVU Department of Orthopaedics. As WVU continues to train competent and conscientious orthopaedic surgeons, we look forward to what the 2019-2020 academic year has in store.
RESIDENCY PROGRAM

GRADUATES AND CURRENT RESIDENTS

Jonathan Karnes MD  
SOM: Ohio State University  
Fellowship: University of Wisconsin, Spine

Joshua Russell MD  
SOM: University of Texas, San Antonio  
Fellowship: Baylor/SAOG Sports Medicine

Kevin Shepet MD  
SOM: University of Wisconsin  
Fellowship: Vanderbilt University, Orthopaedic Sports Medicine & Shoulder Surgery

Danny Liechti MD  
SOM: University of Illinois, Peoria

Lunden Ryan MD  
SOM: West Virginia University

Will Brooks MD  
SOM: East Tennessee State University

Julie Glener MD  
SOM: University of Central Florida

Jason Kinney MD  
SOM: Augusta University

Justin Ray MD  
SOM: East Carolina University

Phillip Bostian MD  
SOM: East Carolina University  
Fellowship: Indiana University, Adult Reconstruction

Mark Plumby MD  
SOM: West Virginia University  
Fellowship: Beacon Orthopedics and Sports Medicine, Cincinnati, OH

Daniel Shubert MD  
SOM: Tufts University  
Fellowship: San Diego Arthroscopy and Sports Medicine

Richard Wardell MD  
SOM: University of Central Florida  
Fellowship: University of New Mexico, Sports Medicine

Justin Vaida MD  
SOM: University of Massachusetts

Patrick Luchini MD  
SOM: West Virginia University

Eric Neumann MD  
SOM: West Virginia University

Joshua Reside MD  
SOM: University of Florida

Alex Conti MD  
SOM: West Virginia University

Brian Grisez MD  
SOM: West Virginia University

Taylor Shackleford MD  
SOM: University of Kentucky

Keenan Atwood MD  
SOM: Medical College of Wisconsin

Michael Booth MD  
SOM: SUNY Upstate Medical University

Michael Niemann MD  
SOM: West Virginia University

Benjamin Giertych MD  
SOM: University of Wisconsin

2019

2018

2017

2022

2021

2020

2019

2018

2017

2022

2021

2020
RESIDENCY PROGRAM

RESIDENT RESEARCH YEAR PROVIDES DIVERSE, HANDS-ON OPPORTUNITIES

At West Virginia University, the Accreditation Council for Graduate Medical Education offers an accredited Orthopaedic Surgery research position each year. This position is a six-year track, compared to the traditional five-year categorical track. It is completed between the residents’ first and second years.

During this time, residents have no hospital-based duties or call responsibilities, which provides them with the autonomy to establish and conduct their own research projects. They also have the opportunity to participate in ongoing studies alongside several faculty research members. The residents are expected to prepare grant submissions, oversee and manage studies, present poster and podium presentations, and submit peer-reviewed manuscripts.

Brock Lindsey, M.D. (Chief, Adult Reconstruction and Musculoskeletal Oncology), is the Director of the WVU Department of Orthopaedics Research Laboratory and advises lab residents during their research year. He, along with Matthew Dietz, M.D. (adult reconstruction), Ming Pei, M.D., Ph.D., Bingyuan Li, Ph.D., and Jonathan Boyd, Ph.D., conduct the majority of the Department’s basic science research with main focuses on:

- nanotechnology,
- immunotherapy,
- tissue regeneration,
- oncology, and
- infection (biofilm).

The Department also has a very active clinical research focus with ongoing projects in every orthopaedic subspecialty.

The WVU Orthopaedic Research Laboratory is located on the fifth floor of the WVU Health Sciences Center adjacent to the main hospital campus. The 4,000-square-foot lab space contains state-of-the-art amenities capable of conducting basic science research with emphasis on tissue engineering, nanotechnology, cadaver and animal-based studies, and microsurgery.

The Research Resident also participates in daily resident education conferences, performs monthly cadaver dissection for anatomy conference, and occasionally provides lectures to students in the School of Medicine. The opportunities and experiences generated from this year are meant to serve as a foundation for a career as a research clinician.

Alex Conti, M.D.

- Podium presentation: Conti A. “Unipolar Osteochondral Autograft Transplantation of the Ankle for Post-Traumatic Tibial Necrosis: A Case Report.”
  - Presented at: Orthopaedic Association’s 6th Annual Extremity Summit. 2018

Phillip Bostian, M.D.

- Podium presentation: Bostian PA, Murphy TR, Klein AE, Frye BM, Dietz MJ, Lindsey BA. “Nasal Deconjugation with Alcohol Based Sanitizer is Effective at Preventing Surgical Site Infection Following Total Joint Arthroplasty.”
  - Presented at: Southern Orthopaedic Association, Palm Beach, FL, 2018
- Podium presentation: Bostian PA, Karlock BM, Cakmak TE, Bramer M, Wilson A, Dietz MJ. “Thromboelastography (TEG) is Predictive of Mortality, Blood Transfusion, and Blood Loss in Patients with Traumatic Pulmonary Fractures.”
  - Presented at: American Academy Orthopaedic Surgeons Annual Meeting, New Orleans, LA, 2018
  - Presented at: American Academy Orthopaedic Surgeons Annual Meeting, New Orleans, LA, 2018
- Poster presentation: Bostian PA, Murphy TR, Klein AE, Frye BM, Dietz MJ, Lindsey BA. “Nasal Deconjugation with Alcohol Based Sanitizer is Effective at Preventing Surgical Site Infection Following Total Joint Arthroplasty.”
  - Presented at: American Academy Orthopaedic Surgeons Annual Meeting, New Orleans, LA, 2018

Justin Ray, M.D.

- Podium presentation: Ray JJ, Koay J, Dayton PD, Hatch DJ, Smith WB, and Santrock RD. “Multicenter Early Radiographic Outcomes of Triplanar Modified Lapidus Arthrodesis with Immediate Weight-Bearing.”
  - Presented at: American Orthopaedic Foot and Ankle Society Annual Meeting. Boston, MA. 2018
- Podium presentation: Ray JJ, Koay J, Dayton PD, Hatch DJ, Smith WB, and Santrock RD. “Multicenter Early Radiographic Outcomes of Triplanar Modified Lapidus Arthrodesis with Immediate Weight-Bearing.”
  - Presented at: The 7th Annual Extremity Summit. White Sulphur Springs, WV. 2018

Kevin Shepet, M.D.

- Podium presentation: Shubert D, Shubert S. “Patient reported outcomes after shoulder surgery in a community orthopaedic practice: a 5-year Quality Improvement project using the QuickDASH questionnaire.”
  - Presented at: OrthoCarolina Oscar Miller Day, Charlotte, NC. 2018
  - Presented at: 73rd annual meeting of the American Society for Surgery of the Hand, Boston, MA. 2018

Daniel Shubert, M.D.

- Podium presentation: Shubert D, Shubert S. “Patient reported outcomes after shoulder surgery in a community orthopaedic practice: a 5-year Quality Improvement project using the QuickDASH questionnaire.”
  - Presented at: Annual Meeting. Roanoke, WV. 2018
  - Presented at: 73rd annual meeting of the American Society for Surgery of the Hand, Boston, MA. 2018

Richard Wardell, M.D.

  - Presented at: 7th Annual Extremity Summit. White Sulphur Springs, WV. 2018

**INTERESTED IN LEARNING MORE?**

Please contact:

Justin Vaida, M.D.
- Orthopaedic Research Laboratory Director
- Current Research Resident

OR

Brock Lindsey, M.D.
- Orthopaedic Research Laboratory Director

**RESIDENCY PROGRAM 2017-2018 PRESENTATIONS AND AWARDS**
Today, when there are endless streams of text messages, emails, electronic medical records and the term “burn-out” is pervasive through all walks of professional and personal life, it is easy to lose sight of where you have been and where are you going.  

THE PAST
Most have a desire to become part of something bigger than themselves to help grow and develop something of which they can be proud. To have this type of success requires a foundation.

For our lab here in the Department of Orthopaedics, this foundation to grow, develop and expand began when the lab was located in the middle of the vivarium, on the ground floor of the WVU Health Sciences Center. It was in this space that Eric L. Radin, M.D., WVU Department of Orthopaedic Surgery Chair NIH-funded arthritis research, and Corrie Mancinelli, D.P.T., P.T., Ph.D., G.C.S., professor and assistant dean and director of WVU’s Physical Therapy Clinical Services, connected.

Mancinelli was a graduate student in the lab at the time, working alongside Dr. Radin and Tom Gruen, an adjunct associate professor (1993-2002), eponymously known for describing radiographic loosening of the femoral stem. The trio worked on one of the original Vicon Motion Analysis Systems.

Dr. Mancinelli feels fortunate to have worked with department chair (1991-2002) J. David Blaha, M.D. Dr. Blaha acted as her primary mentor on her dissertation committee. Their work focused on kinematics of the knee and implant design providing the opportunity for many meetings, presentations and travel.

Dr. Blaha recently returned to the WVU Department of Orthopaedics as a visiting professor and to give a lecture entitled, “Have We Misinterpreted the Knee.” In this lecture, he highlighted some of the work done by himself and Dr. Mancinelli and the impact that work has had on current total knee designs.

THE PRESENT
The research lab really began to grow in 2003 when Sanford Emery, M.D., M.B.A., was named chair. Dr. Emery joined WVU from Case Western University where he practiced alongside some of the world’s leaders in spine and translational research. Dr. Emery knew the importance of developing and supporting a research program within the department.

“To be a true academic Orthopaedic department, we needed a robust research program in both the clinical and translational arenas,” Dr. Emery said. Dr. Emery hired three Ph.D. primary investigators: Dina Jones, Bingyun Li, and Ming Pei. This initial investment has paid dividends over the years as Dr. Pei’s work has led to nearly 100 publications focusing on using stem cells to regrow cartilage and intervertebral disc tissue.

In addition to bringing change to how some surgeons view knee replacements, their success also brought growth for the lab and, along with the addition of Jaiyoung Ryu, M.D. (1992-2018). The lab later secured space on the third floor of the Health Sciences Center South.
There are many obstacles to including research as part of a career. The research resident program provides guidance on not only how to navigate the system but also breeds early success and avoids some of the frustrations and early fatigue that many specialists experience with research. Brock Lindsey, M.D., Assistant Professor, Director of the Musculoskeletal Laboratory, Chief, Adult Reconstruction and Musculoskeletal Oncology

The lab is performing tissue engineering, using 3D printers for creating biomaterials and novel implants, and proposing and attaining funding for millions of dollars of research.

THE FUTURE

To see the growth and transformation of a clinical department to a research workhorse takes the vision and commitment of leadership and boots on the ground to make that vision a success. Suzanne (Smith) Danley, Research and Grants Analyst, says, “It’s been an interesting transformation from a handful of clinicians, performing research in their down time, to the department [and lab] we are today.”

She recounts that in 1987, she mainly performed secretarial work on an electric IBM typewriter and walked sheep on a treadmill. Fast forward to 2018, where the lab is performing tissue engineering, using 3D printers for creating biomaterials and novel implants, and proposing and attaining funding for millions of dollars of research.

The future of the lab within the department includes growth. Jonathan Boyd, Ph.D., associate professor, director of Graduate Studies and associate director of the Musculoskeletal Laboratory, was recruited to the lab in the summer of 2018. His background in biochemistry and research focus on the human response to stress (chemical, biologic, physical) was seen as an opportunity to provide synergistic research opportunities and growth within the program.

With Dr. Boyd’s guidance and the investment of all of the primary investigators, the lab continues to recruit masters and doctoral-level students including an MD/PhD program, which has found new life within the Health Sciences Center. She recounts that in 1987, her main duties were of secretarial work on an electric IBM typewriter and walked sheep on a treadmill. Fast forward to 2018, where the lab is performing tissue engineering, using 3D printers for creating biomaterials and novel implants, and proposing and attaining funding for millions of dollars of research.

The support and people within the lab continue to be outstanding with Amanda Stewart, Ph.D., Gerry Hobbs, Ph.D., Suzanne (Smith) Danley, Sherri Davis, Josh Parenti, Elizabeth Stewart, and Jenn Eicher providing the support needed to accomplish what sometimes seems like a herculean effort of completing a research project. The chasm that exists between basic science research and the patients it could impact is often referred to as the “Valley of Death.” It is in this “valley” that, historically, the lack of communication between biomedical researchers and clinicians led to great understanding of mechanisms and molecular biology without an impact on patient care. In the WVU Musculoskeletal Laboratory, scientists and clinician-investigators work together with the goal of bridging that gap and bringing new, cutting edge technologies and advancements in health care from the bench to the bedside where they can have a true impact on the lives of our patients.
Jonathan Boyd PhD
Dr. Boyd was recently awarded a substantial Department of Defense grant in February 2019 regarding spatial characterizations of osteoarticular infection, as well as a grant in February 2019 regarding spatial characterizations of osteoarticular infection.

Benjamin M. Frye MD
Dr. Frye was recently awarded a grant in February 2019 regarding spatial characterizations of osteoarticular infection.

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John C. France MD
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Dr. France was recently awarded a grant in February 2019 regarding spatial characterizations of osteoarticular infection.

The American Institute for Medical and Biological Engineering (AIMBE) has announced the induction of Bingyun Li, Ph.D., Professor and Director of Nanomedicine Laboratory, Department of Orthopedics, School of Medicine, West Virginia University, Morgantown to its College of Fellows.

Election to the AIMBE College of Fellows is among the highest professional distinctions accorded to a medical and biological engineer. The College of Fellows is comprised of the top two percent of medical and biological engineers. College membership honors those who have made outstanding contributions to “engineering and medicine research, practice, or education” and to “the pioneering of new and developing fields of technology, making major advancements in traditional fields of medical and biological engineering, or developing/implementing innovative approaches to bioengineering education.”

Dr. Li was nominated, reviewed, and elected by peers and members of the College of Fellows for “outstanding contributions in developing materials for orthopedic and biomedical applications, services to the biomaterial/orthopedic communities, and advocacy for research.”

A formal induction ceremony was held during the AIMBE Annual Meeting at the National Academy of Sciences in Washington, DC on March 25, 2019. Dr. Li was inducted along with 156 colleagues who make up the AIMBE College of Fellows Class of 2019.

While most AIMBE Fellows hail from the United States, the College of Fellows has inducted Fellows representing 30 countries. AIMBE Fellows are employed in academia, industry, clinical practice and government.

AIMBE Fellows are among the most distinguished medical and biological engineers including 2 Nobel Prize laureates, 17 Fellows having received the Presidential Medal of Science and/or Technology and Innovation, and 158 also inducted to the National Academy of Engineering, 72 inducted to the National Academy of Medicine and 31 inducted to the National Academy of Sciences.

About AIMBE
AIMBE is the authoritative voice and advocate for the value of medical and biological engineering to society. AIMBE’s mission is to recognize excellence, advance the public understanding, and accelerate medical and biological innovation. No other organization can bring together academic, industry, government, and scientific societies to form a highly influential community advancing medical and biological engineering. AIMBE’s mission drives advocacy initiatives into action on Capitol Hill and beyond.
Our growth and success of our clinical and research programs need investment for us to complete on the national stage. Please consider a gift to the Department of Orthopaedics for our WVU Foundation accounts. We utilize these funds for resident and faculty educational and research activities.

If you would like to designate a specific area for your gift, here are some suggestions:
1. Resident Research and Education
2. Faculty Research
3. Chair’s Discretion

Credit card donations can be made directly online at give.wvu.edu/Orthopaedics.

If you choose to donate by check, please use the attached envelope for your convenience.

Any gift makes an impact. Thank you very much for your consideration.

Yours truly,

Sanford E. Emery MD, MBA
Professor and Chairman, Department of Orthopaedics, West Virginia University Director of Surgical Services, WVU Medicine
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