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The Oregon Journal
of Orthopaedics

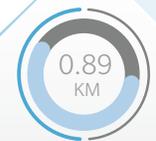
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Letter from the Editors

It is our pleasure to present the twelfth edition of the Oregon Journal of Orthopaedics. We take great pleasure in once again showcasing the noteworthy happenings and achievements of the Oregon Health & Science University and Samaritan Health Services residency programs. The 2022-2023 academic year has been one full of busy clinical services, departmental growth, and numerous conferences and research presentations as well as ongoing surgical training and medical education.

In this edition of the OJO, we extend a warm welcome to new faculty members to our spine service, tumor service, physical medicine and rehabilitation service, and trauma service while bidding farewell to others. We highlight the exceptional clinical programs at OHSU that continue to deliver top-notch care to arthroplasty and sarcoma patients while navigating the challenges posed by an evolving healthcare landscape impacted by COVID-19. Remarkably, this spring marks the first time in residency for the senior editors that masks are not required to enter the doors of the hospital. We are proud to share updates on recent graduates and celebrate the current chief residents and their research projects.

Our gratitude to the editorial team, including Dr. Kark, as well as Dr. Gundle and Dr. Friess for their tireless leadership of the residency and the department. Congratulations to the graduating class of 2023!

Faculty Editor: Jonathan Kark, MD

Senior Editors: Kate Hutchison, MD; Philip Lam, MD, MCR

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Samaritan Health Services Editor: Jessica Le, DO

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Letter from the OHSU Interim Chair OHSU Department of Orthopaedics & Rehabilitation



“What brings you in today?” “Where does it hurt?” “What makes it better?”

I’m consistently reminded that good medicine, and great orthopedic care, starts with questions and curiosity. That curiosity expands from asking a series of questions of each patient to learn more about their family and social situation. As much as we all love looking at beautiful x-rays and MRIs, within these images of anatomy and surgical implants there are often further questions into why they look that way. I am again reminded that a trait of success in orthopedics, and finding joy in the work, is to remain curious. Even when the patient’s problem seems routine, or when post-pandemic frustrations exhaust me, I can usually still find some unanswered question and something to pique my curiosity if I keep looking.

It is from this lens of curiosity that I am thrilled to report the OHSU Department of Orthopaedics & Rehabilitation is in great shape. We have enough patients with complex problems that we hired four new physicians in the past year: oncology, trauma, spine, and physiatry. All have started seeing patients, asking questions, and continue to blow my mind with the creative curiosity they bring to the department. Our long-standing faculty members contribute to the load of patient care as we learn new ways of navigating healthcare in 2023. The hospital is more complicated and requires not only savvy to negotiate, but again requires curiosity to ask why processes have been set and if they could be better. I truly appreciate how physicians, mid-level providers, residents, medical assistants, therapists, administrators, and janitors show up daily not only to do their job, but also to ask if it could be done better in the future. That curiosity brings daily joy and will push us to new things.

Perhaps the group that pushes faculty the most are our OHSU medical students and residents. “Why do you treat it that way?” can be the most complicated question to answer. The students have unending curiosity and rarely accept platitudes like “that’s how I was taught” as a simple answer. OHSU is sending six more medical students into a career in orthopaedic surgery after a successful match day in 2023. We are sending five amazing chief residents on to orthopaedic fellowships across the country. Both groups are prepared and ready to take their questions far and wide. I cannot thank the faculty enough for showing up each day with the patience to answer as many questions as possible, even though they taught the same lesson to a different learner in months prior. But I also know the faculty cannot always answer the questions, and maybe that is what keeps them coming back for more!

I would be missing out not to thank my predecessors who taught me, and maybe each of the readers, to ask great questions as well. Thank you to Dr. Rodney Beals who I recall always had the glint of curiosity in his eye. His generosity to the Department with the Beals Orthopaedic Resource Center has grown from one employee to an entire section of 12 Orthopaedic employees who devote every workday to asking and answering research questions. 2023 has been our most successful research year ever at the AAOS annual meeting and other subspecialty societies! Thank you to Dr. John Hayhurst for a Professorship which allows one faculty member to spend more time innovating and asking research questions. Thank you to Dr. Larry Noall and other alumni for the generosity to support the Orthopaedic Residency program years ago. I’m certain each reader has one additional unnamed mentor who asked a provoking question years ago that may have sent you on an unexpected career path. If you enjoy reading this OJO Issue, wonder how your classmates are doing, or ask how you might pay something back, please find some pleasure in your curiosity. Join the alumni society. Please also remember that small gifts back to OHSU Orthopaedics have a history of growing to something much larger.

So stay curious. Keep asking questions. It is part of what makes OHSU a special place.

Darin Friess, MD, MPH
Interim Chair, OHSU
Dept. of Orthopaedics & Rehabilitation

Letter from the OHSU Program Director



芸は身を助ける

Caring for patients is the foundation of our work in the residency program, and the Department. “Art helps the body” or “A skill helps one get by” are both reasonable translations of the Japanese proverb above. The skill and art of treating patients with wide-ranging musculoskeletal maladies centers us; this past year that mission has again bolstered us through challenges and triumphs.

There is much to highlight as this academic year draws to a close. First and foremost, we are about to graduate five wonderful orthopaedic surgeons. Each is competent, compassionate, and ready for independent practice. As they head off to fellowships in upper extremity, adult reconstruction, sports medicine, and traumatology, we are proud of our graduates and look forward to their contributions to our field. This class trained in the Beforetimes as they began residency, and suddenly found themselves adapting/persevering/leading through all the twists and turns of the pandemic-to-date. Each has also left their mark on the program, which will be felt for years to come.

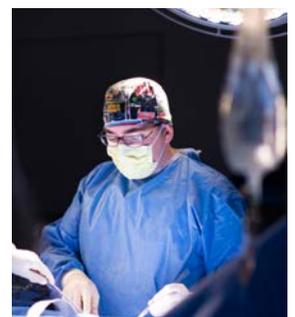
To the Class of 2023: Drs. Black, Bond, Cole, Kendall and Pihl: Thank you – you will be missed.

In these pages are glimpses at a broad and deep educational program within our department. Our residents, faculty, and medical students are taking scholarship to new heights, as evidenced by dozens of presentations at subspecialty meetings and a particularly strong showing at the AAOS Annual Meeting. Please check out our research highlights here and online to see summaries and videos of all this wonderful work. In addition to important clinical research and database-driven studies, residents and faculty are increasingly involved in prospective translational and clinical trials. Building knowledge and capacity for participation in paradigm changing/defining studies benefits our residents as well as our patients. There are all too many conditions for which we still lack great treatments; through research we shine a light forward, and this art/skill can also bolster our spirit.

We cannot advance orthopaedic surgery within a vacuum. While the operating room is a special and antiseptic place, it is nonetheless impacted by the broader environment. These past few years have certainly revealed fragility, and myriad specific challenges provided opportunities. Rather than turning away from problems big and small, our residents have sought to get involved. As two of many such examples, we have Dr. Michelle Lawson on the American Board of Orthopaedic Surgery Resident Advisory Committee, and Dr. Kate Hutchison selected to join the ACGME Residency Orthopaedic Review Committee. As a residency, we are in the second year of awarding Diversity-Equity-Inclusion Summer Subinternship Scholarships to help with the costs of applying to orthopaedic surgery residency, and the whole department participated in bystander training last fall. As Dr. Beals noted, the ideal orthopaedic surgeon is like a beaver – in addition to hard-work, sharp intellect, and creative building through the work of its hands, a beaver has a positive impact on its environment. It helps promote a healthy ecosystem, which benefits the beaver as well as those around it. I am proud of our residents and residency in creating and advancing an orthopaedic environment that is looking forward and aiming higher.

The art and skill of orthopaedic surgery grounds us, and this helps us as we help others. As it has been this past academic year, may that continue in the year ahead.

Kenneth R. Gundle, MD, FAOA
Associate Professor, Orthopaedic Surgery Residency Program Director
Oregon Health & Science University, Portland VA Medical Center



Good Samaritan Regional Medical Center Orthopedic Surgery Residency Program Letter from the Program Director



Let's talk about diversity. It's a huge topic in orthopaedics right now. Everyone knows that we are considered the least diverse specialty. The question we all have is why? Lots of people have their theories. We hear the stories about female medical students who were discouraged by non-orthopods. We talk a lot about women in orthopaedics. We hear about the concerns women have regarding starting a family during residency. Here is an interesting tidbit for you. Women who apply for orthopaedics match into orthopaedics at the same rate as men who apply for orthopaedics. Racially underrepresented minorities, however, do not match into orthopaedics at the same rate as white candidates. It seems to me that we have two different problems.

One problem is that women are not applying for orthopaedic surgery residencies. Somehow there's a conception that orthopods are big and muscular. Look around at your attendings and your co-residents, and you'll see that is not really true. Women simply need exposure to orthopaedics. My own story is that ortho was never on my radar. In the dark ages, ortho was a required rotation at the University of Iowa. Without that requirement, I would probably be a vascular surgeon right now. Power equipment and bones didn't sound appealing until I saw them in action. We need to make sure women know that what we do is really cool. You don't need big muscles; you need a longer lever arm and a lighter mallet. We need to make sure women know that you can have a baby during residency. ACGME has added paid parental leave to the common requirements. ABOS has added flexibility to the board exams to allow for pregnant and/or nursing mothers. Our hospital just added fertility coverage to the health care plan. Orthopaedics and babies are not mutually exclusive.

Another problem is the lower match rate for racial minorities. Changing the board exam to pass/fail and getting rid of grades in medical school is meant to help change this. We are trying to use a more holistic approach to selecting residents. I'm not sure that eliminating the inherent biases built into standardized tests and grades are the entire answer. Every year when we discuss interviewees, there's a lot of talk about fit. We gravitate toward the people who are like us. We think about who we would like to hang out with for the next five years. We are a small program in Corvallis and spend a lot of time with each resident. Now we talk about recruiting minorities during the selection process. I'm not going to pretend that I have all the answers, but our 2022-23 and upcoming 2023-24 classes are the most diverse we've ever recruited.

Now comes the question of why we care about diversity. Multiple studies show that minorities receive inadequate care in orthopaedics. Even hip fractures have delayed surgery in minority patients compared to white patients. Hip fractures seem pretty straightforward, yet with identical co-morbidities, minorities have a delay in their care, and delayed surgery leads to higher mortality rates. I just read that minorities who are treated by minority physicians (not hip fractures specifically) do not have higher mortality rates. Why aren't we all outraged by this? I've had a patient who directly said she did not want me to care for her because I'm white. My PAs and nurses at the time were all angry. I felt bad for her and wondered what had happened in her life to make her mistrust me. As I thought about it, I wondered if there was a chance I was treating her differently than I would a white patient. I like to think the answer was no, but we all need to ask ourselves those hard questions.

Here's my ask of anyone who might be reading this: encourage women and minorities to consider orthopaedics. Volunteer with the Perry Initiative or take a minority student through Nth Dimensions. Go to a school and give a dog and pony show on orthopaedics. I think we can solve these problems if we all take responsibility and do our part.

Jacqueline Krumrey, MD
Program Director, Samaritan Health Services Orthopaedic Surgery Residency

Residency Faculty

OHSU Residency Core Faculty

Adult Reconstruction



Thomas Huff, MD
Fellowship Director



Ryland Kagan, MD



Kathryn Schabel, MD
Director Comprehensive
Joint Replacement,
Section Head

Orthopaedic Oncology



Yee-Cheen Doung, MD
Vice Chair; Director of
Clinical Operations



Kenneth Gundle, MD
Residency Program
Director



James Hayden, MD, PhD
Section Head



Duncan Ramsey, MD

Foot & Ankle



Lara Atwater, MD



Bopha Chrea, MD
Director of Diversity,
Equity & Inclusion



James Meeker, MD
Section Head

Pediatrics



Matthew Halsey, MD
Section Head



Scott Yang, MD

Residency Faculty

OHSU Residency Core Faculty

Physical Medicine & Rehabilitation



Hans Carlson, MD
Section Head



Nels Carlson, MD
Assistant Dean of
Continuing Professional
Development



Jesse Day, MD

Upper Extremity



Adam Mirarchi, MD
Fellowship Director



Omar Nazir, MD
Director of Wellness
& Health;
Section Head



**Robert Orfaly, MD,
FRCS(C)**
Quality Medical
Director



**Trish Ann Marie
Otto, DPM**



Brian Johnstone, PhD
Section Head

Podiatry

Research / Basic Science

Spine



Jonathan Kark, MD



Clifford Lin, MD
Fellowship Director,
Section Head



Travis Philipp, MD



Jung Yoo, MD
Director of Spine
Center

Residency Faculty

OHSU Residency Core Faculty

Sports Medicine (Surgical)



Jacqueline Brady, MD
Associate Residency
Program Director



Dennis Crawford, MD, PhD



Andrea Herzka, MD

Trauma



Graham Dekeyser, MD



Darin Friess, MD, MPH
Interim Chair



Zachary Working, MD
John & Susan Hayhurst
Distinguished Scholar in
Orthopaedic Research,
Section Head

Residency Faculty

Portland VA Medical Center Residency Core Faculty



Lucas Anissian, MD, PhD



Mark Berkson, MD
Section Chief for
Orthopedic Surgery



Kenneth Gundle, MD



Ryan Wallenberg, MD

Shriners Hospital for Children Residency Core Faculty



Jeremy Bauer, MD
Director of Education



Robert Bernstein, MD
Chief of Staff

Kaiser Permanente Pediatrics Residency Core Faculty



Stephen Renwick, MD

Orthopedic + Fracture Specialists Residency Core Faculty



Elizabeth Lieberman,
MD



Brett Andres, MD

Residency Faculty

Samaritan Health Services Orthopedic Surgery Core Faculty



Erin Campaigniac, MD



Wael Ghacham, MD



Lauren Hansen, MD



Jacqueline Krumrey, MD
Program Director



Jason Lin, MD



Christopher McCrum,
MD



Cay Mierisch, MD



Christopher Noonan,
MD



Donald Pennington, DO



Nicholas Tedesco, MD



Peter Tsai, MD

OHSU Program Fellowships 2022-2023

Sports Medicine Primary Care



Nate Cutshall, MD



Hayley Winninghoff,
MD

Arthroplasty



Aalok Patel, MD

Spine



Michael Moore, MD

Hand and
Upper Extremity



Matthew Zeiderman,
MD



Reflections on a Career in Orthopaedic Surgery

By Paul Duwelius, MD; Edited by Kate Hutchison, MD

Dr. Duwelius retired in 2022 after over 30 years in practice in the Portland area. He has treated multiple generations of patients while training generations of orthopaedic surgeons. We asked him for his perspective on his career.

Since my retirement at the end of 2022, I have had a few months to reminisce about the great career satisfaction I have had as an orthopedic surgeon. I started my first orthopedic job at OHSU in 1988 after my orthopedic trauma fellowship at University of California-Davis. When OHSU became a Level 1 trauma center, I was the first fellowship trained orthopedic traumatologist practicing in Oregon. I was a full time OHSU faculty member under Chairman Rodney K. Beals until 1995 when I joined the Orthopedic and Fracture Specialists group at Saint Vincent Hospital. As my hair turned greyer, I transitioned from trauma into the field of adult reconstruction.

Being involved with teaching residents and fellows has been one the highlights of my career. I greatly enjoyed working with residents when I was full time at OHSU but also felt privileged to have been able to work with residents from OHSU at Saint Vincent Hospital over the past 10 years. Reviewing difficult cases with my partners and residents, doing preoperative planning of complex cases, and executing that plan in surgery have been a fantastic part of my career. Helping residents grow and develop their clinical and surgical skills is tremendously satisfying. This process made me a better clinician and surgeon. The younger generation of residents are very bright and keep you challenged to be up to date on the latest techniques and newer literature. In addition to teaching in the OR, I also continued to be involved in clinical outcomes research as

well as volunteer teaching activities with AAOS. For the past 12 years, I have also been involved with Operation Walk-Freedom to Move which is a humanitarian orthopedic mission in the Dominican Republic where we have done over 600 total joint procedures.

I would like to continue the next chapter of my career by seeking teaching opportunities with residents and fellows and continuing to pursue research projects and outcomes studies. Having also personally had orthopedic sports injuries and, more recently, total joint replacements, I want the residents and my colleagues to know what an impact they have on patients' lives. Without a doubt, the field of orthopedic surgery has been one of tremendous academic satisfaction. Teaching, patient care, and surgery will provide all those entering this field a great career. Thanks for letting me be a part of your training.

SpeakUpOrtho Grand Rounds at OHSU

By Kate Hutchison, MD and Phillip Lam, MD, MCR

Though the field of orthopaedic surgery continues to rapidly innovate aspects such as implant design, optimization of patient outcomes, and operative efficiency, the subspecialty as a whole lags behind in rates of practicing women and underrepresented minorities. As a historically male-dominated field within medicine, orthopaedic surgery has the unique distinction of women representing only 6% practicing surgeons,¹ the lowest out of any subspecialty, and women orthopaedic surgeons have higher risk of early-career attrition.² Women and racial/ethnic minorities face a higher rate of workplace microaggression and are more likely to experience and report burnout.³

Recognizing the unique challenges faced by women and other minorities in orthopaedic surgery, associate program director Dr. Jacqueline Brady, Diversity Equity and Inclusion Chair Dr. Bopha Chrea, and program director Dr. Kenneth Gundle, with inspiration from recent graduate Dr. Natalie Zusman, arranged a visit from the founders of SpeakUpOrtho. Three of the four SpeakUpOrtho founders, Dr. Ariana Gianakos, Dr. Nancy Yen-Shiple, and Dr. Jennifer Weiss, presented at a journal club and departmental grand rounds. Over beers and burgers at Steeplejack Brewing Company, residents and faculty discussed several papers centered around diversity, equity, and inclusion in orthopaedic surgery. Our visitors then delivered an inspiring departmental Grand

Rounds the following morning covering allyship, podcasting, and moral injury in our profession.

SpeakUpOrtho began as an offshoot of a Women in Orthopaedics Facebook group after a simple question about experiences of harassment during surgical training led to an outpouring of stories shared by members. This sparked the creation of a SpeakUpOrtho social media campaign in 2021, led by the SpeakUpOrtho founders, including Dr. Lisa Cannada, and anonymously shared stories of mistreatment and harassment with the goal of raising awareness of the prevalence of abusive behaviors within orthopaedic surgery, especially surgical training. The organization's mission is sharing "the reality of events occurring in orthopaedic surgery in the present" to lay the foundation for "a widespread culture of mutual respect" and to catalyze change in the field.

You can visit SpeakUpOrtho at speakuortho.org or on Instagram at SpeakUpOrtho.



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Arianna Gianakos, DO



Nancy Yen-Shipley, MD



Jennifer Weiss, MD

OHSU Sarcoma Center Research Update

By Sarah Rogers, MD and Kenneth Gundle, MD

Oregon Health & Science University's Knight Cancer Center is one of 53 National Cancer Institute designated Comprehensive Cancer Centers. Comprehensive Cancer Centers are recognized for the breadth and depth of their research, the leadership and resources they bring to the table, and their demonstration of significant transdisciplinary research. Within the Knight Cancer Institute, the efforts of the sarcoma team exemplify the breadth and depth of this transdisciplinary research. The #OHSUSarcoma team includes surgeons, pathologists, medical oncologists, radiation oncologists, radiologists, nurses, allied healthcare professionals as well as a full research team. Studies from multiple countries and continents have demonstrated improved patient outcomes when sarcomas are treated at sarcoma centers, which have dedicated multidisciplinary sarcoma tumor board meetings and ongoing clinical trials.

Here is a sample of recent and ongoing projects:

PARITY Trial

The Prophylactic Antibiotic Regimens in Tumor Surgery, or PARITY, trial investigated the effectiveness of different antibiotic regimens in reducing surgical site infections after tumor surgery. The trial compared two antibiotic regimens: a single day of post-operative prophylaxis and a five-day postoperative prophylaxis course. The primary outcome measure was the incidence of surgical site infections within 30 days of surgery.

The study found that there was no significant difference in the incidence of surgical site infections between the two antibiotic regimens studied. However, the longer course was associated with increased antibiotic-associated complications, such as *C. difficile* colitis.

Dr. Doung was instrumental in bringing these results to publication as a member of the PARITY work group and Site Principal Investigator (PI). OHSU was the top enrollment site in the United States for this multinational RCT. Both Dr. Doung and Dr. Hayden were on the writing committee for the primary results, which were published in *JAMA Oncology* (PMID: 34989778). Additional secondary analysis is ongoing, with numerous recent presentations at national and international meetings and several publications forthcoming.

The PARITY team was recently honored with a Kappa Delta Award at the 2023 AAOS Annual Meeting in Las Vegas.

50/50 Trial

The Preoperative vs Postoperative Intensity Modulated Radiation Therapy for Extremity and Truncal Soft Tissue Sarcoma, or 50/50 Trial, is a phase III study investigating the effectiveness of radiation therapy for soft tissue sarcoma. The trial aims to enroll approximately 200 patients with localized soft tissue sarcoma who will be randomized to 50 Gy of preoperative vs postoperative radiation. Dr. Gundle is the site PI and OHSU is the top enrollment site in the United States to date.

The primary endpoint of the trial is the incidence of acute wound healing complications, while secondary endpoints include survival, disease free survival, incidence of radiation toxicity, and patient-reported functional outcomes.

Previous studies have suggested that pre-operative radiation therapy was associated with a decreased rate of fibrosis, edema, and limb stiffness; however, this is based on different radiation doses between the pre-operative and post-operative radiation

interventions. This study will help provide clarity on the effect of the timing of perioperative radiation on wound healing and tissue complications with the radiation dose held constant.

ClinicalTrials.gov Identifier: NCT02565498

CIVO Trial

The Phase 0 Master Protocol for CIVO™ Intratumor Microdosing of Anti-Cancer Therapies was designed to evaluate the safety and feasibility of a technology called CIVO, which stands for “Cancer In Vivo Operation.” CIVO is a system that allows for the direct injection of small doses of anti-cancer drugs into tumors.

One of the major problems in drug development is that many new treatments that are taken to clinical trials are ultimately not successful, despite abundant pre-clinical research. The concept behind CIVO is to complete phase 0 studies using microdosing to assess the response to an agent in a patient’s own tumor, while it is still in the human body. A feasibility study was published in *Clinical Cancer Research* in 2020 (PMID: 32299817), and is among the top 5% of all research output scored by Altmetric.

An accompanying editorial (see figure, from PMID: 32482905) shows how technologies like CIVO may help bridge the translational gap in cancer clinical trials.

Per the master protocol clinical trial website: “Tumor responses to cancer treatments are highly context-specific and often involve complex interactions between the anti-cancer therapy, genetically diverse tumor cells, and a heterogeneous TME. This complexity is rarely modeled accurately in preclinical translational models of cancer... [T]his study will evaluate anti-cancer therapies directly in patients each with their own unique tumor genomic profile, intact TME, and immune system functional status.” Tumors are injected with microdoses of several anti-cancer agents. When the tumor is then removed, tumor responses are assessed, allowing individualized treatment based on tumor response. Dr. Gundle

is the site PI, and OHSU is the number one enrolling site in the United States.

ClinicalTrials.gov Identifier: NCT04541108

SAFETY Trial

The Surveillance After Extremity Tumor Surgery, or SAFETY, trial is a prospective, multicenter study that aims to evaluate the safety and efficacy of surveillance strategies for patients who have undergone surgery for soft tissue tumors of the extremities. Dr. James Hayden is the OHSU site principal investigator, and OHSU has been the number one enrolling site in the United States.

Surveillance after soft tissue sarcoma is critical, but there is little clarity about the optimal surveillance strategy. The trial enrolls patients who have undergone surgery for extremity tumors at one of the participating centers in the United States. After surgery, patients are randomized to one of four surveillance arms for two years of surveillance:

- Clinical evaluation and chest x-ray every six months
- Clinical evaluation and chest x-ray every three months
- Clinical evaluation and chest CT every six months
- Clinical evaluation and chest CT every three months

The primary outcome is five-year mortality and secondary outcomes include patient experience, disease and metastasis free survival, and healthcare costs.

The trial is expected to enroll approximately 830 patients. The trial began in June 2017 and is expected to be completed in June 2030. The results of the trial will directly impact the postoperative management of these patients, potentially improving their long-term outcomes.

ClinicalTrials.gov Identifier: NCT03944798

SARC032 Trial

Our medical oncology team are involved in many ongoing trials as well, one of which we will highlight here. OHSU is one of the participating institutions in the SARC032 trial – A Randomized Trial of Pembrolizumab & Radiotherapy Versus Radiotherapy in High-Risk Soft Tissue Sarcoma of the Extremity. The SARC032 trial is evaluating the effectiveness of neoadjuvant pembrolizumab with concurrent radiotherapy, followed by surgical resection and adjuvant pembrolizumab compared to the current standard of care, which is radiation therapy followed by resection for patients with clinically localized extremity soft tissue sarcoma at high risk for developing metastatic disease. The primary endpoint of the trial is disease free survival.

Secondary endpoints include overall survival, loco-regional disease-free survival, and safety and tolerability of the treatment.

If the combination therapy of pembrolizumab and radiation proves to be safe and effective in treating soft tissue sarcoma, it may become a new standard of care for patients with this type of cancer. Furthermore, the trial may also pave the way for further research into the use of immunotherapy in combination with radiation therapy for other types of bone and soft tissue tumors.

Patients are being considered for the SARC032 trial when discussed at the Sarcoma Multidisciplinary Tumor Board and in clinic at the Knight Cancer Institute.

ClinicalTrials.gov Identifier: NCT03092323



From left to right:
Dr. Lara Davis, Dr. Kenneth Gundle, and Dr. Sarah Lindsay at CTOS (Nov. 2022)

OHSU Orthopaedic Trauma Research Update

By Kate Hutchison, MD and Zachary Working, MD

The last few years have included growth of many types for the OHSU orthopaedic trauma team. Three residents have successfully matched into trauma fellowship positions in the last two years after many years without any residents pursuing the subspecialty. The number of patients treated by the trauma team, both operatively and nonoperatively, continues to increase from 1,724 in 2020 to 2,149 in 2021, to 2,487 in 2022. This increase in patient volume has been accompanied by a parallel increase in the trauma team to three trauma attendings on faculty and five residents on service per block. To accommodate more cases, there are now dedicated orthopaedic trauma operating rooms six out of seven days a week, with an expansion to two dedicated ORs for trauma three weekdays and a dedicated spine trauma OR the other two weekdays.

Growth has also been occurring in the research realm. The John and Susan Hayhurst Distinguished Scholar in Orthopaedic Research and Innovation Award, held by Jacqueline Brady, MD for the inaugural 3-year term, has now been awarded to Dr. Zachary Working to support pilot and early scale research projects to determine feasibility and allow for preliminary data collection that would support applications for national-level independent funding. The award includes \$150,000 in funding over a three-year period. "It's an honor to be selected for this funded position from the department," said Dr. Working. "I look forward to continuing to use the funding to continue to learn more about translational models for orthopaedic research and move orthopaedic trauma patient care forward, from the lab to the operating room."

One notable development in this realm is the creation of reciprocal joint appointments for Karina Nakayama, PhD and Zachary Working, MD in the orthopaedics & rehabilitation and biomedical engineering departments. Dr. Nakayama specializes in tissue and cellular engineering and studies mechanisms relevant to bone and soft tissue growth and healing. These joint appointments serve to further collaborations between the departments. Already, a biomedical engineering research team including Dr. Working, Dr. Nakayama, Brian Johnstone, PhD, and Nick Willett, PhD of the University of Oregon biomedical engineering department have monthly meetings to review grant proposals. One of the products of this committee is an R01 grant award from the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), part of the National Institute of Health (NIH). This \$2.5 million dollar grant over 5 years is for a project led by Dr. Nakayama and Dr. Working to further explore tissue engineering and biologic scaffolds in a mouse model for orthopaedic trauma.

In addition to the Hayhurst Award, Dr. Working is also collaborating with Justin Haller, MD of the University of Utah using a \$100,000 AO Trauma North America - Orthopaedic Trauma Association (OTA) grant award over two years for research into porcine modeling of intramuscular pH, intra-compartmental pressure, and muscle histopathology for compartment syndrome in the setting of a tibial shaft fracture. This work expands upon prior research at OHSU on monitoring of intramuscular pH in patients with tibial shaft fractures. An additional partnership that is ongoing with Chelsea Bahney, PhD and the Steadman Phillippon Research Institute in

Vail exploring the correlation between serum collagen X levels and bony union during fracture healing continues and now has over 300 patients enrolled and has past and pending presentations at multiple national meetings.

Residents have also been pursuing research projects, including multiple prospective studies. The intravenous iron therapy study, headed by Dr. Danielle Peterson, PGY-4, and highlighted in the 2022 OJO, continues on in the first stage with 30 active patients and ongoing enrollment. The project is supported by multiple grants, including the OTA Resident Research Grant. The WHOOP study, using the WHOOP biometric device worn by residents and faculty for an entire year, continues to undergo complex data analysis to better examine rest, recovery, and performance

among trainees and attendings under different call schedules and workloads. Dr. Michelle Lawson, PGY-4, has presented this research at multiple national meetings.

OHSU was a strong presence at the 2022 OTA annual meeting, with twelve podium presentations involving OHSU research team members, including new OHSU trauma faculty member Dr. Graham DeKeyser. Multiple trauma-based projects have also made appearances at other national meetings, including podium presentations at the 2023 AAOS annual meeting and the 2023 AOA CORD Annual Meeting. With over 30 published journal articles in the last five years, the trauma research footprint continues to grow at OHSU, and we look forward to continuing to ask questions that allow us to better care for orthopaedic trauma patients.



OHSU Becomes Certified Advanced Hip and Knee Replacement Center

By Kate Hutchison, MD and Roy Lugo, AGACNP

In 2022, OHSU achieved official certification as an Advanced Hip and Knee Replacement Center (HKRPC). DNV (Der Norske Veritas) is one of the main accreditation bodies, another being The Joint Commission, that addresses regulatory requirements and compliance set by Centers for Medicare and Medicaid (CMS) and advises best practices across healthcare. OHSU is DNV accredited as a healthcare organization and the HKRPC is an additional special program certification. OHSU also holds DNV center of excellence certifications for stroke and cardiac care.

Earning the HKRPC designation demonstrates an institution's compliance with both DNV healthcare standards and with guidelines set by the American Academy of Orthopedic Surgeons (AAOS). Areas of focus for HKRPC include quality management, medical and nursing staff education, infection control, surgical services, and program policies, protocols, and procedures. Under the leadership of Kathryn Schabel, MD, HKRP Medical Director for OHSU, and Roy Lugo, AGACNP, program coordinator, OHSU had initial certification following a site visit in November, 2022. Annual DNV site visits are required but initial certification is for a three-year period. Additional requirements for HKRPCs include quality metric data, multiple protocols, a robust patient and staff educational program, Enhanced Recovery After Surgery (ERAS) protocols, and information sharing with the AAOS American Joint Replacement Registry (AJRR), the largest registry of hip and knee replacement data.

DNV findings on the initial OHSU site visit included commendations on the involvement of medical staff including Drs. Schabel, Friess, and Orfaly as well as high marks for the sterile

processing department and an absence of non-conformities between medical and nursing team documentation. "We are very excited to be working with the DNV to offer our total hip and total knee arthroplasty patients exceptional, high-quality care," said Roy Lugo. "Since pursuing the certification, we have revamped our quality metrics, established and implemented ERAS guidelines, and improved nursing staff orthopaedic-specific onboarding and education." Future plans include optimizing electronic medical record organization in preparation for submission of patient information to AJRR, where it will be used alongside data from across the country to answer research questions.

DNV also offers certifications for shoulder, spine, and foot & ankle surgery centers of excellence, three out of four of which are required to allow for designation as an Orthopaedic Center of Excellence. In the near future, the department hopes to pursue additional collaboration with the hospital system to pursue additional certifications and continue to advance perioperative orthopaedic patient care.



OHSU Arthroplasty Team and Alumni at the 2022 AAKHS Meeting (Left to right) Joe Langston, MD; John Cox, MD; Taylor Lara, MD; Kathryn Schabel, MD; Ryland Kagan, MD; Kirsten Jansen, MD; Elizabeth Lieberman, MD; Thomas Huff, MD; Aalok Patel, MD; Rebecca Smith, MA



New Faculty Spotlight:

A Q&A session with Graham DeKeyser, MD

Hometown: Anchorage, Alaska

Medical School: Medical College of Georgia; Augusta, GA

Residency: University of Utah; Salt Lake City, UT

Fellowship: Orthopaedic Trauma; Harborview Medical Center, University of Washington; Seattle, WA

Tell us a little about yourself.

I was born and raised in Anchorage, Alaska. I'm married to a fellow Alaskan, Briana. We have three daughters, Violet (4), Savannah (2) and Holland (just born). We enjoy camping, hiking, skiing, fishing and are happy to have found a home in the Pacific Northwest.

What brought you to OHSU?

Living in the Northwest or Mountain West was important to me and my family. We wanted to be at an academic teaching center and at a level 1 trauma center to continue to be challenged by patients. We found all of that at OHSU. Finally, the culture at OHSU was very collegial and supportive and seemed like a great fit.

What drew you to your subspecialty?

The mentors that I learned from in residency truly enjoyed their work and their lives outside of work. They made fixing fractures seem fun and they made the process of learning enjoyable. They were people that I hope to emulate in my own life and practice.

What have you been most proud of so far in your career?

Maintaining a good relationship with my family throughout residency, fellowship and early practice. Separating work and home-life is something that I find incredibly challenging, but I

have really focused on trying to leave work at work as much as possible.

What are some goals you have for your practice?

I hope that the OHSU ortho trauma service can be the referral center for malunion/nonunion/challenging orthopaedic trauma cases for all of Oregon and the surrounding areas.

Do you have any research projects or areas of interest that you are pursuing?

I'm really interested in research surrounding pelvic ring injuries, young femoral neck fractures, and distal femur fractures. There is still so much we do in orthopaedic trauma that is not evidence-based. It's exciting to think about ways to design and implement studies that could potentially affect how patients are cared for and how they recover from these injuries.

Do you have any advice for the graduating chiefs?

Fellowship year is a lot of work but is really special. It's the first year where you get to just focus on your sub-specialty and hopefully have less of the rounding/floor duties, but don't yet have the administrative attending obligations. Enjoy it. Soak it all in. Sample everything at the buffet.

What has it been like to work as an attending on a team with a former co-resident?

So much fun! Dr. Working was my chief resident when I was an intern on ortho trauma. Many good stories to tell that probably shouldn't be printed in a journal. From residency through this first year in practice, Zach has been very supportive and has always found ways to push me and challenge me to be better. He is a great partner and a better friend and person. Our daughters are best friends too!

What is something you wish you had learned earlier in training?

Complications and mistakes are part of surgery. Learn from them, grow from the experience, then move on. I'm still trying to learn this.

What do you do when you aren't at the hospital?

Spending time with family. We love being outside, camping, fishing, hiking, skiing and snowboarding. I also enjoy soccer, smoking meat, and building furniture.

What is your go-to OR music?

Zach Bryan. I've been driving the OR crazy playing the same Pandora station for every case. Turns out people in Portland don't love bluegrass country.





New Faculty Spotlight:

A Q&A session with Jonathan Kark, MD

Hometown: Denver, CO

Medical School: University of Colorado School of Medicine; Aurora, CO

Residency: University of Washington Department of Orthopaedics; Seattle, WA

Fellowship: Orthopaedic Spine, University of Washington Department of Orthopaedics; Seattle, WA

Tell us a little about yourself.

It's hard to tell my story in only a few sentences, but here it goes... I never envisioned myself as a physician, let alone an orthopaedic surgeon, and honestly considered myself a college dropout for a number of years. I tried going to college straight out of high school, but ultimately ended up taking a semester off that lasted the better part of a decade. I consider Denver home, but only because I lived there for the longest consecutive stretch of time after dropping out, not because I have any familial roots in the region. I found myself working as a firefighter for the city of Colorado Springs, and returned to college to complete the prerequisites required to become a paramedic. However, I overshot my goal, ultimately taking the MCAT and accepting an offer to attend the University of Colorado School of Medicine. Along the way I married the love of my life and had 2 beautiful children. We called Seattle home during all of my orthopaedic and spine training, and after a short stint at the University of Kentucky, decided that the Pacific Northwest was a much better fit. We are happy to be back in the region, and glad to call Portland our forever home.

What brought you to OHSU?

When I drove from Kentucky, it was a 2019 Toyota Rav4 hybrid, however I typically ride my bike or take the bus now that I live locally.

What drew you to your subspecialty?

I think the biggest impact for my decision to go into spine were the mentors I had in training. Drs. Bransford and Bellabarba were not only phenomenal surgeons but were people I wanted to model myself after. They cared

deeply about their patients, and wanted what was best for the individual, instead of a dogmatic approach to spine care. They held themselves to the highest standard and carried themselves with a gravitas that commanded respect from all in attendance, inspiring everyone around them to be their absolute best.

Do you have any advice for the graduating chiefs?

Before you sign any contract, weigh heavily the intangible factors that go into you and your family's happiness. It is easy to be enticed by promises of financial security, or a low clinical burden, but you will not be happy if you do not enjoy going to work or coming home from it.

Favorite thing about living in Portland?

Did you know Oregon has a coast AND mountains?

What do you do when you aren't at the hospital?

I like having a project to work on, so there's always something in my garage that is in some stage of being built, rebuilt, or repaired. My happy place is turning a wrench in the garage with music blaring in the background, so in a lot of ways, it is just like the OR.





New Faculty Spotlight:

A Q&A session with Duncan Ramsey, MD, MS

Hometown: Galveston and Dallas, Texas

Medical School: Long School of Medicine of the University of Texas; San Antonio, TX

Residency: Oregon Health & Science University; Portland, OR

Fellowship: Orthopaedic Oncology, Harvard Medical School/Massachusetts General Hospital; Boston, MA

Tell us a little about yourself.

I was born on an island off the coast of Texas. I came to Portland to attend Reed College more than 20 years ago where I would meet my wonderful wife. Despite stints on the East Coast (twice) and Texas, I keep ending up in Portland – now for the 3rd time with a lively 5-year-old in tow. I had a previous career in mathematics which continues to haunt me as an orthopaedic surgeon.

What brought you (back) to OHSU?

Many things. I was excited for the opportunity to return to my wonderful colleagues, friends, and mentors, as well as to return to my adopted city.

What drew you to your subspecialty?

First and foremost, my patients; I love getting to know patients of literally every age and helping them and their families through the sometimes-long and difficult course of their disease. Every surgery is usually exciting, often complex, and always unique. Finally, I had great mentors in oncology and oncology-adjacent subspecialties that inspired me to do this work.

What are some goals you have for your practice?

I hope to continue the team-based approach that they've cultivated in the orthopaedic oncology division. Orthopaedic oncology is an exciting field

that is seeing exciting new tools and technologies I hope to incorporate into our care here at OHSU.

Do you have any research projects or areas of interest that you are pursuing?

I am part of a national team of oncologists studying long-term survivors of pediatric sarcomas, and I have an interest in infectious complications after sarcoma surgery and I am further studying disparities in orthopaedic care for marginalized groups in hopes of improving access and outcomes for all of our patients.

Do you have any advice for the graduating chiefs?

Be confident in your training (you'll learn soon that it was quite good) while remembering you have lots more to learn. And put your family before work as much as you can.

What do you do when you aren't at the hospital?

I enjoy mountain biking, motorcycling, and otherwise exploring the PNW with my family.

What is your go-to OR music?

Grunge, 80's and early 90's punk, and Lana del Rey

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Reaming the Intramedullary Canal During Tibial Nailing Does Not Affect in Vivo Intramuscular pH of the Anterior Tibialis

Loren O. Black, MD, MBA; Megan Rushkin, MPH; Karalynn Lancaster, BS; Sam Cheesman, MD; James Meeker, MD; Jung Yoo, MD; Darin M. Friess, MD, MPH; Zachary M. Working, MD



Loren O. Black, MD, MBA

Hometown: Portland, Oregon

Medical school: Oregon Health & Science University

Fellowship Plans: Orthopaedic Trauma, Harborview Medical Center, Seattle, WA

OBJECTIVES

Many investigations have evaluated local and systemic consequences of intramedullary (IM) reaming and suggest that reaming may cause, or exacerbate, injury to the soft tissues adjacent to fractures. To date, no study has examined the impact on local muscular physiology as measured by intramuscular pH (IpH). Here, we observe in vivo IpH during IM reaming for tibia fractures.

METHODS

Adults with acute tibia shaft fractures (level 1, academic, 2019-21) were offered enrollment in an observational cohort. During IM nailing, a sterile, validated IpH probe was placed into the anterior tibialis (<5 cm from fracture, continuous sampling, independent research team). IpH before, during and after reaming were averaged and compared via repeated measures ANOVA. As the appropriate time period to analyze IpH during reaming is unknown, the analysis was repeated over periods of 0.5, 1, 2, 5, 10 & 15 minutes pre & post reaming time intervals.

RESULTS

16 subjects with tibia shaft fractures were observed during nailing. Average time from injury to surgery was 35.0 h (SD 31.8). Starting and ending perioperative IpH was acidic, averaging

6.64 (SD 0.21) and 6.74 (SD 0.17) respectively. Average reaming time lasted 15min. Average IpH during reaming was 6.73 (SD 0.15). There was no difference in IpH between pre-, intra-, and post-reaming time periods. IpH did not differ regardless of analysis over short or long time domains compared to the duration of reaming.

CONCLUSIONS

Reaming does not impact IpH. Both granular and broad time domains were tested, revealing no observable local impact.

Outliers of Total Shoulder Arthroplasty in the Bundled Payment Era

Derek Bond MD, Duncan Ramsey MD, Yee-Cheen Doung MD



Derek J. Bond, MD

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Fellowship Plans: Hand, Upper extremity and Microvascular fellowship at University of California Davis

BACKGROUND

The Centers for Medicare & Medicaid Services (CMS) has implemented The Bundled Payments for Care Improvement Advanced (BPCIA) Model that covers 90-day care episodes after select Orthopaedic procedures. This study investigated whether or not patients undergoing shoulder arthroplasty for non-degenerative processes incur higher costs than patients undergoing arthroplasty for degenerative processes.

METHODS

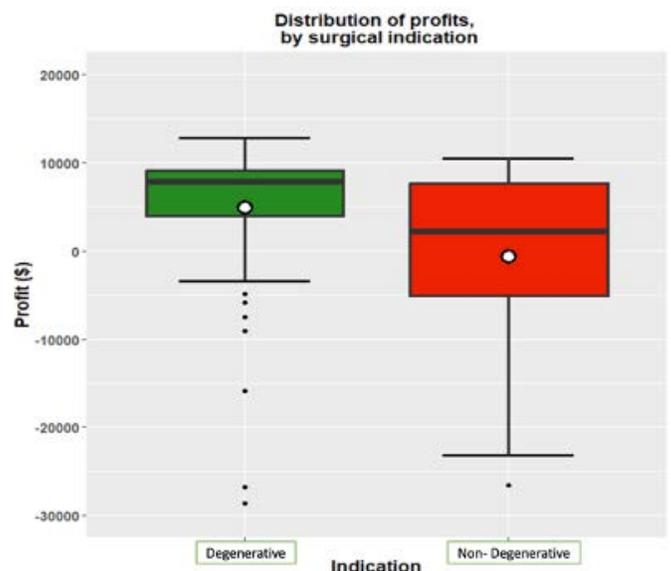
A retrospective review of all patients enrolled in the BPCIA bundled payments model from October 1, 2018, through December 31st, 2022, at a single academic medical center was conducted. To evaluate if patients undergoing arthroplasty for non-degenerative processes accrued more 90-day post-operative costs compared to patients undergoing arthroplasty for degenerative processes a chi-square and two-tailed t-test were utilized.

RESULTS

One hundred patients met the inclusion criteria during the study period. Non-degenerative patients broke the bundle at a higher rate (43% vs. 18%), incurred significantly higher 90-day costs (-\$660 vs +\$4405), had significantly longer hospital length of stay (2.2 vs 1.6 days), and more patients returning to the Emergency department (43% vs. 18%)

CONCLUSIONS

Patients undergoing shoulder arthroplasty for non-degenerative indications within the CMS BPCIA bundled payments program were at greater risk for incurring larger costs than allocated target payments as well as significantly higher costs when compared to patients undergoing arthroplasty for degenerative processes. We recommend that these patients should be exempt from bundled-payment programs.



Perianchor Cyst Formation Is Similar Between All-Suture and Conventional Suture Anchors Used for Arthroscopic Rotator Cuff Repair in the Same Shoulder

Elliott W. Cole, MD, MPH, Brian C. Werner, MD, and Patrick J. Denard, MD



Elliott Cole, MD, MPH

Hometown: Memphis, TN

Medical school: University of Tennessee Health Science Center

Fellowship Plans: University of California San Francisco (UCSF) Sports Medicine and Shoulder Fellowship

PURPOSE

The purpose of this study was to compare perianchor cyst formation between soft and hard suture anchors placed in the same patient 1 year after arthroscopic rotator cuff repair (ARCR).

METHODS

This study reviewed patients who underwent primary ARCR using a “hybrid” technique using at least one soft anchor (FiberTak, Arthrex, Naples, FL) and one hard anchor (SwiveLock) placed in the same shoulder between January 1, 2018 and December 31, 2018. Magnetic resonance imaging was obtained at minimum 1-year postoperative to assess cyst formation (perianchor fluid signal) and rotator cuff healing. Range of motion (ROM) and patient-reported outcome measures (PROMs) were evaluated at baseline and 1-year follow up. PROMs included visual analog scale pain score, Simple Shoulder Test score, American Shoulder and Elbow Surgeon (ASES) score.

RESULTS

Nineteen patients with a combined 45 hard and 26 soft suture anchors were available for follow-up at a mean of 20 months postoperatively. There was a higher proportion of grade 1 fluid signal changes in the hard anchor group compared to the soft group

(62.2% to 7.7; $P < .001$); however, there was no difference in the incidence of cyst formation (grade 2 or 3 changes) between groups (13.3% vs 3.8%; $P .251$). There was also no difference in the rate of cyst formation between biocomposite and polyether-ether-ketone-type hard anchors (18.2% vs 0%; $P .113$) or between anchors placed at the greater and lesser tuberosities (10.2% vs 5.3%, $P .519$).

CONCLUSION

Hard suture anchors showed increased fluid signal compared to soft suture anchors at short-term follow-up after ARCR, but there was no difference in cyst formation between anchor types.

Revision Risk for Total Knee Arthroplasty Polyethylene Designs in Patients 65 Years of Age or Older: An Analysis from the American Joint Replacement Registry

Jamil Kendall, MD, Christopher E. Pelt, MD, Benjamin Imlay, MS, Patrick Yep, MS, MPH, MSP, Kyle Mullen, MPH, and Ryland Kagan, MD



Jamil S. Kendall, MD

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Fellowship Plans: Midwest Orthopedics at Rush University – Adult Reconstruction

BACKGROUND

Polyethylene bearing design may influence the risk of revision after total knee arthroplasty (TKA). Previous investigations from outside of the United States have suggested the potential for an increased risk of all-cause revision and revision for infection with the use of posterior-stabilized bearings. We examine the risk of revision based on the polyethylene bearing design selection for primary TKA.

METHODS

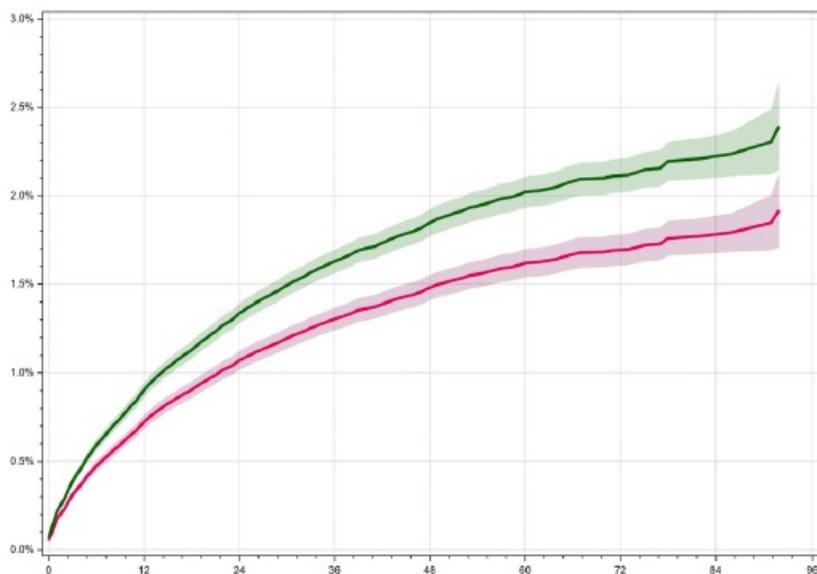
An analysis of the American Joint Replacement Registry (AJRR) data from 2012 to 2019 was performed. We identified all primary TKAs over the study period and linked cases to supplemental U.S. Centers for Medicare & Medicaid Services (CMS) data where available. Patient demographic characteristics, polyethylene characteristics, procedure dates, and cause for revision were recorded. Analysis was performed to compare minimally stabilized implants (cruciate-retaining, anterior-stabilized, or pivot bearing designs) with posterior-stabilized implants. Cumulative incidence function (CIF) curves and Cox proportional hazard ratios (HRs) were created for all-cause revision and revision for infection in each group.

RESULTS

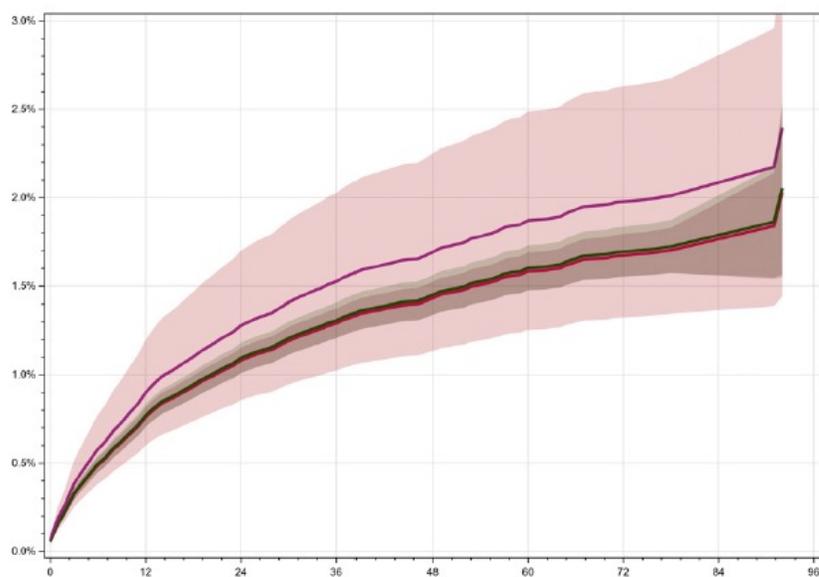
We identified 305,279 cases with reported minimally stabilized or posterior-stabilized implant characteristics. There were 161,486 cases (52.9%) that utilized posterior-stabilized bearings compared with 143,793 cases (47.1%) with minimally stabilized bearings. For minimally stabilized bearings, 1,693 cases (1.18%) had all-cause revision and 334 cases (0.23%) had revision for infection. For posterior-stabilized bearings, 2,406 cases (1.49%) had all-cause revision and 446 cases (0.28%) had revision for infection. The use of posterior-stabilized bearings had HRs of 1.25 (95% confidence interval [CI], 1.2 to 1.3; $p < 0.0001$) for all-cause revision and 1.18 (95% CI, 1.0 to 1.4; $p = 0.02$) for revision for infection.

CONCLUSIONS

Similar to investigations from international registries, we found an increased risk of all-cause revision and revision for infection when using posterior-stabilized bearings in TKA in the United States. Surgeons should consider this finding when considering bearing selection for primary TKA.



*Fig. 1
CIF curve, adjusted for age and sex,
for posterior stabilized bearings
(green) and minimally stabilized
bearings (red). The y axis shows the
cumulative incidence of revision, and
the x axis shows the months. The
shaded areas indicate the 95% CIs.*



*Fig. 2
CIF curve, adjusted for age and sex,
for anterior-stabilized bearings
(green) cruciate-retaining bearings
(red), and pivot bearings (purple).
The y axis shows the cumulative
incidence of revision, and the x axis
shows the months. The shaded areas
indicate the 95% CIs.*

Arthroscopy Case Experience and Simulator Exposure Association with FAST Workstation Performance

Connor Pihl MD, Erik Woelber MD, Jacqueline Brady MD, Andrea Herzka MD



Connor Pihl, MD

Hometown: Ketchikan, Alaska

Medical school: University of Washington School of Medicine

Fellowship Plans: OHSU Hand & Upper Extremity

PURPOSE

Arthroscopy simulation has become an increasingly utilized training modality in orthopaedic surgery residency programs. The Fundamentals of Arthroscopic Surgery Training (FAST) Workstation was developed by a consortium of orthopaedic education and certification stakeholders as a standardized, cost-effective, bench-top simulation platform. The objective of this prospective study was to correlate performance on the FAST Workstation to arthroscopy case experience and prior simulator exposure.

METHODS

Forty-nine orthopaedic resident subjects from two training programs completed basic arthroscopy training modules on the FAST Workstation. Time to completion, errors, and failure to meet expert benchmarks were recorded. Performance was compared to prior arthroscopy case experience and prior simulator exposure with univariate and multivariate enter models.

RESULTS

Overall trends for improved FAST performance - decreased time to completion, successful knot tying, decreased errors, and decreased failure - was

associated with increased arthroscopy case experience. Knot tying success with increased case experience was found to be the only statistically significant association ($p < 0.05$). Prior FAST workstation and “other” simulator exposure showed mixed association with performance across FAST modules.

CONCLUSIONS

Though the FAST workstation appears to be a valuable tool for developing the basic motor skills required to perform the three-dimensional work of arthroscopy, it may not be a reliable means to assess competence and/or quantitatively reflect clinical operative skills.

CLINICAL RELEVANCE

This study contributes to our understanding of arthroscopy simulation’s role in orthopaedic training and potential as a future certification exam platform.

Resident Directory 2022-2023

OHSU Residents (PGY-4 to PGY-1)

PGY-4 Class



Michelle Lawson, MD
Hometown:
Seattle, WA

Medical School:
University of
Rochester,
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Hometown:
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Medical School:
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Frank Rodgers, MD
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Columbia, SC

Medical School:
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Carolina, Columbia, SC



Laura Sokil, MD
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Medical School:
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University,
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Naomi Turner, MD
Hometown:
Bloomington, MN

Medical School:
University of
Minnesota,
Minneapolis, MN

PGY-3 Class



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Resident Directory 2022-2023

OHSU Residents (PGY-4 to PGY-1)

PGY-2 Class



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Portland, OR



Sarah Rogers, MD

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Aidan Morrell, MD

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Sebastian Welling, MD

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Washington School of
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PGY-1 Class



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Medical School:
UCLA - Charles R.
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Yash Tarkunde, MD

Hometown:
Sugar Land, TX

Medical School:
Washington University
School of Medicine,
St. Louis, MO



Stephanie Zhao, MD

Hometown:
Beaverton, OR

Medical School:
Oregon Health &
Science University,
Portland, OR

The Utility of AFB and Fungal Cultures in Orthopaedic Infections.

Sanderford J, Krumrey J, Campagniac E, Lin J, Tsai P, Pipitone O.



Jared Sanderford, DO

Hometown: Greeley, CO

Medical School: Rocky Vista University College of Osteopathic Medicine, Parker, CO

Fellowship Plans: Sports Medicine, University of New Mexico

INTRODUCTION

When diagnosing suspected orthopaedic-related infections, fungal and acid-fast bacilli (AFB) cultures are often obtained intraoperatively. These cultures are difficult and time-consuming to grow and increase healthcare costs. This study aimed to quantify the rate of positive AFB and fungal cultures in orthopaedic infections and to compare potential risk factors for a positive result.

METHODS

Orthopaedic surgical cases for suspected infection at one institution from March 2013 through December 2019 were included. Data were collected on patient demographics and procedure characteristics for patients with surgical AFB or fungal lab tests ordered on the day of surgery.

RESULTS

Of the 813 patients for whom intraoperative AFB or fungal cultures were ordered, 3.8% (N=31) had a positive result. Of the 31 positive results, 30 were from fungal cultures and one was from AFB cultures. Patients with a positive versus negative culture result did not differ significantly by age, sex, American Society of Anesthesiologists (ASA) score, diabetes, obesity, or HIV/AIDS. In both unadjusted and adjusted analyses, peripheral vascular disease

(PVD) was associated with higher odds of a positive fungal culture result (adjusted OR (aOR)=3.5, 95%CI=1.3-8.4). Likewise, in both unadjusted and adjusted models, a hand/foot operating region was associated with higher odds of a positive fungal culture result compared with all other regions (aOR=4.2, 95%CI=1.9-9.8).

CONCLUSION

Intraoperative fungal and AFB cultures may not need to be obtained except in orthopaedic surgical cases for hand or foot infections or in patients with PVD.

Effects of Hypercarbia on Lower Extremity Primary Total Joint Replacement Infections.

Goodeill T, Than J, Pipitone O, Lin J, Tedesco N.



Teigen Goodeill, DO

Hometown: Centralia, WA

Medical School: Pacific Northwest University College of Osteopathic Medicine, Yakima, WA

Fellowship Plans: Sports Medicine, Orthopaedic Research of Virginia

INTRODUCTION

Prosthetic joint infection (PJI) is a serious complication after total joint replacement (TJR). Adequate wound oxygenation is critical for wound healing and infection prevention. As carbon dioxide (CO₂) is exchanged for oxygen (O₂) in the lungs, serum bicarbonate (HCO₃⁻) may be used as a marker for predicting relative serum O₂ levels, and therefore, healing potential. No currently published literature explores the relationship between serum bicarbonate levels and PJI in TJR patients.

METHODS

We performed this retrospective review of lower extremity TJR patients to determine whether the risk of PJI and wound complications within one year was correlated with hypercarbia, which was defined as a preoperative serum bicarbonate level >30 mEq/L.

RESULTS

Out of 1,690 TJR procedures, 1.6% (N=27) had a PJI or superficial wound infection within one year postoperatively. The average preoperative serum bicarbonate was 26.9 (SD 2.6) among patients without PJI and 27.2 (SD 2.1) among patients with PJI (p=0.46). Hypercarbia was present in 9.2% of non-PJI patients and in 7.4% of PJI patients. The

relative risk of PJI and wound complications did not differ for patients with vs without hypercarbia (RR = 0.79, 95% CI = 0.19-3.31, p=0.75).

CONCLUSION

The results of this study provide preliminary evidence that preoperative hypercarbia may not be correlated with an increase in the risk of PJI or wound complications. However, due to the rarity of both PJI and hypercarbia, a larger patient population is needed to ensure adequate power to detect clinically meaningful effect sizes.

Acute Care Management of Open Fractures: Development of a standardized protocol for timely administration of antibiotic prophylaxis – Preliminary Results. Taylor Harris, DO; James Reece Harris, DO; Jacqueline Krummy, MD; Jennifer Serfin, MD; Olivia Coskey, MPH



Taylor Harris, DO, MA, MS

Hometown: Appleton, WI

Medical school: Kansas City University, Kansas City, MO

Fellowship Plans: Orthopedic Trauma, OrthoIndy, Indianapolis, IN

BACKGROUND

20% of trauma admissions at Good Samaritan Regional Medical Center (GSRMC) with open fractures in 2019 - 2020 were not administered antibiotics within 1 hour of presentation. This is likely only a portion of the total number of patients with a delay of appropriate treatment, the remainder of whom do not qualify as trauma admissions. Multiple studies have demonstrated prophylactic antibiotics decrease the risk of infection associated with open fractures and current guidelines recommend less than 1 hour from admission to antibiotic administration. Several institutions have initiated performance improvement plans with the aim of decreasing time to antibiotics for open fractures. Standardization of systemic antibiotic therapy is an additional factor found to affect the appropriate and timely administration of antibiotic prophylaxis for open fracture management.

OBJECTIVES

The objective of the current study is to develop a standardized protocol to ensure timely and reliable administration of appropriate antibiotic prophylaxis for open fractures managed in our institution.

METHODS

A protocol was developed reflecting the current literature to aid in the rapid identification of open fractures and timely appropriate antibiotic administration. Implementation of this protocol centers around (1) multidisciplinary provider education with the general surgery, orthopedic surgery, and

emergency department teams, (2) display of the protocol in patient care and provider work areas, and (3) modifications to EMR order sets to facilitate more efficient antibiotic administration. A retrospective review 12 months prior to protocol implementation will be conducted focusing on the antibiotics administered (dose and type of antibiotic) as well as time to antibiotics for patients admitted to the GSRMC ED with an open fracture. At 6 months after protocol implementation, we will re-assess the efficacy of the protocol to determine if deficiencies in the protocol exist and identify potential areas for improvement. We will then repeat our review of the data at 1 year after protocol initiation.

RESULTS

Initial retrospective review of patients treated in the GSRMC within 12 months prior to development of the protocol demonstrated correct antibiotic, dosing, and timely administration in 10/26 (38%) patients. 6-month post intervention data has demonstrated 10/17 (59%) of patients received correct type and dose of antibiotics in a timely manner.

CONCLUSIONS

This study is ongoing, but preliminary data has demonstrated an improvement in administration of the correct antibiotic and dose within an hour for open fractures who present to the GSRMC emergency department. Future projects could focus on protocol implementation to emergency departments system-wide to further improve management of patients with open fractures.

Resident Directory 2022-2023

Samaritan Health Services Residents (PGY-4 to PGY-1)

PGY-4 Class



Christopher Canario, DO

Hometown:
Newark, CA

Medical School:
Rocky Vista University
of Osteopathic
Medicine, Parker, CO



Delaney Keane, DO

Hometown:
Los Gatos, CA

Medical School:
West Virginia School
of Osteopathic
Medicine,
Lewisburg, WV



Alexandra Mackenzie, DO

Hometown:
Sonora CA

Medical School:
Rocky Vista University of
Osteopathic Medicine,
Parker, CO

PGY-3 Class



Maxwell Jiganti, DO

Hometown:
Gig Harbor, WA

Medical School:
Burrell College of
Osteopathic Medicine,
Las Cruces, NM



Jessica Le, DO

Hometown:
Mill Creek, WA

Medical School:
Pacific Northwest
University of Health
Sciences, Yakima, WA



Jacob Pearson, DO

Hometown:
Craig, CO

Medical School:
Rocky Vista University
College of Osteopathic
Medicine, Parker, CO

Resident Directory 2022-2023

Samaritan Health Services Residents (PGY-4 to PGY-1)

PGY-2 Class



Jeremy Brown, DO

Hometown:
St. Petersburg, FL

Medical School:
Rocky Vista University
College of Osteopathic
Medicine, Parker, CO



Umar Jawad, MD

Hometown:
Lahore, Pakistan

Medical School:
Aga Khan University,
Karachi, Pakistan



Robert Wood, DO

Hometown:
Erie, PA

Medical School:
Lake Erie College of
Osteopathic Medicine,
Erie, PA

PGY-1 Class



Delon McAllister, MD

Hometown:
Irvington, NJ

Medical School:
Georgetown
University,
Washington, DC



Marielle Ngoue, MD

Hometown:
Dallas, TX

Medical School:
University of Texas
Austin Dell Medical
School, Austin, TX



Carson Twiss, DO

Hometown:
San Francisco, CA

Medical School:
Pacific Northwest
University of Health
Sciences, Yakima, WA

Alumni Updates: Class of 2020



DAVID PUTNAM, MD

Medical School: Oregon Health & Science University

OHSU Residency Class of 2020

Post graduation training: Adult Reconstruction, OHSU

After fellowship, I took a job with Kaiser at Northwest Permanente. My practice mainly involves primary and revision hip and knee arthroplasty as well as some community level general orthopedic trauma. We have a wonderful group of fellowship trained surgeons that have been incredibly supportive in helping me get started.

As life outside the hospital, my amazing wife Katie Putnam also finished her residency at the same time I finished fellowship and is now practicing as a family medicine physician at OHSU. Our two boys Charlie (3) and Freddie (1) keep us very busy and we try to spend as much time as possible exploring the gorge, coast and everything that Oregon has to offer. In my free time I do my best to put in some miles mountain biking, kite boarding or snowboarding in the winter.



GRANT SUN, MD

Medical School: University of Utah

OHSU Residency Class of 2020

Post graduation training: Foot and ankle fellowship, Baylor University Medical Center in Dallas, Texas

I am excited to have been able to return to my home state of Utah with my family after training. I am now in a private practice group, primarily based out of the orthopedic specialty clinic at TOSH (the orthopaedic specialty hospital) but also operating at some other area hospitals in Salt Lake City, Utah. Since graduation, my wife and I have also welcomed two children, Gloria (2 years old) and Kenji (3 months old)! Everyone is healthy and doing well!



TAYLOR LARA, MD

Medical School: *University of Tennessee Health Science Center*

OHSU Residency Class of 2020

Post graduation training:

Adult Reconstruction, Florida

Orthopaedic Institute, Tampa, FL

After completing my fellowship, I embarked on my professional journey at St. Alphonsus in Boise, ID, where I have had the privilege of performing revision hip and knee arthroplasty, as well as primary hip and knee replacements. Additionally, I am actively engaged in providing orthopaedic trauma care, attending to a diverse range of cases. Notably, the esteemed group of colleagues I joined boasts of accomplished arthroplasty specialists, whose unwavering support has been invaluable in establishing my practice. Beyond the confines of the hospital, I find solace in the splendors of the outdoors, indulging in pursuits such as skiing, biking, hiking, and relishing the joys of gastronomy. In particular, I take delight in the enchanting melodies of live bagpipe music, savored in local bars during the festive occasion of St. Patrick's Day.



NIKOLAS BAKSH, MD

Medical School: Case Western Reserve University School of Medicine

OHSU Residency Class of 2020

Post graduation training: NYU Spine fellowship 2020 - 2021, Memorial Sloan Kettering Orthopedic Oncology fellowship 2021 - 2022

After completing two fellowships, I am now working at Loyola University Medical Center in Chicago. I have a hybrid practice that is about 80% spine and 20% orthopedic oncology. I do the full gamut of spine surgery including MIS, basic degenerative work, level 1 trauma, pediatric scoliosis and complex adult tumor, revision and deformity work. In my tumor practice I do a lot of metastatic disease management and stabilization of the extremities as well as any extremity bone and soft tissue sarcomas that come to Loyola.

On a personal note, I got married in the summer of 2020 after graduating from OHSU. We had a

COVID wedding in Portland. A little over a year ago we had a baby girl named Sloane. We have bought a house and settled down in the western suburbs outside of Chicago. Lots of changes but things are going very well!

Dr. Duncan Ramsey, OHSU Residency Class of 2020, joined the faculty at OHSU – please see the new faculty profiles section.

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OHSU Annual Beals Lectureship



Rodney K. Beals, MD

The Beals memorial lectureship is an annual event established in honor of the late Rodney K. Beals, MD, Professor Emeritus in the Department of Orthopaedics & Rehabilitation at Oregon Health & Science University, who taught orthopaedics for more than 50 years. Dr. Beals was a lifelong “Oregonian” and spent his entire professional career practicing orthopaedic surgery in Portland, OR. Dr. Beals was a committed clinician, master surgeon, revered educator, and accomplished researcher. It was not only out of respect for his scientific accomplishments, but for his humble guidance and mentorship that the OHSU Department of Orthopaedics & Rehabilitation established the annual Beals Memorial Lecture Series.

Dr. Beals attended Willamette University for his undergraduate training, graduating in 1952, and received his medical degree from the University of Oregon Medical School (precursor to OHSU) in 1956. He completed his internship at Minneapolis General Hospital followed by a General Surgical Residency in San Bernadino County Hospital in California. He ultimately completed his training in Orthopaedic Surgery at the University of Oregon Medical School in 1961. Dr. Beals immediately joined the faculty and rapidly rose through the ranks at OHSU, serving as Head of the Division of Orthopedics from 1981 to 1994. Dr. Beals also served as the first chairman for the Department of Orthopaedic Surgery at OHSU in 1994. At the age of 77, he remained an active member of the Orthopaedic faculty at OHSU until the time of his passing on August 7, 2008.

Dr. Beals was an accomplished researcher throughout his career. He was nationally recognized for his research on skeletal manifestations of growth disturbances in children. He authored more than 150 peer-reviewed publications. Dr. Beals was also a revered educator. During his tenure at OHSU, he helped train more than 150 orthopaedic surgeons in residency. He also helped thousands of patients and mentored countless numbers of medical students. Throughout his remarkable career, Dr. Beals represented and personified excellence in medicine and orthopaedic surgery.

Visiting Lectureships



Guest Lecturer 2023
Matthew L. Graves,
MD

Professor and
Residency Program
Director of
Orthopaedic Surgery
University of
Mississippi Medical
School

BEALS GUEST LECTURER

Matthew L. Graves, MD

Dr. Graves received his Bachelor's degree from Vanderbilt University, and Doctorate of Medicine from the University of Mississippi Medical School (UMMC). He then stayed to completed orthopaedic residency at UMMC. He then completed two fellowships afterwards in orthopaedic trauma at Northern Nevada Medical Center and University of Washington. He is also the Hansjörg Wyss AO Medical Foundation Chair of Orthopaedic Trauma.

His research expertise spans many areas of orthopaedic trauma, including management of periarticular fractures, medical education, and participation in multiple national multi-center trials. He is the residency program director at the UMMC and also serves as vice-chair of the UMMC School of Medicine.

OHSU FACULTY SPEAKERS

Darin Friess, MD, MPH



OHSU Faculty Speaker
Darin Friess, MD, MPH

Dr. Friess is a fellowship-trained orthopaedic trauma surgeon. He specializes in helping people during some of the worse times of their lives. Specifically, he specializes in fracture surgery in all extremities. He provides advanced treatment options and specialized care for a wide variety of orthopaedic trauma including acute fracture care, malunion, nonunion, and deformity.

Graham Dekeyser, MD



OHSU Faculty Speaker
Graham Dekeyser, MD

Dr. Dekeyser a fellowship-trained orthopaedic trauma surgeon that has joined our team within the last year (See his new faculty spotlight for details). His main research interests involve pelvic ring injuries, young femoral neck fractures, and distal femur fractures.

Shriners Hospital for Children – Beattie Lecture Series



Mr. Byron J. Beattie was the owner and operator of a printing plant in Portland, Oregon. Mr Beattie became acquainted with Dr “French” Eldon Chuinard, while Dr Chuinard was the chief of staff at Shriners Hospital for Children, Portland. He was so impressed with the importance of the educational mission of Shriners Hospital that he created an endowment fund to support our local education activities. The first seminar was held in 1985.



Guest Lecturer 2022
Scott Kozin, MD

BEATTIE GUEST LECTURER 10/2022

Scott Kozin, MD

Dr. Scott Kozin graduated from Duke University in 1982 with a degree in computer science. Medical School was completed at Hahnemann University in Philadelphia, followed by orthopedic residency at Albert Einstein Medical Center. Fellowship was completed in 1992 at the Mayo Clinic focusing on hand and microvascular surgery. Dr. Kozin initially cared for adults and children until the year 2000, when he devoted his practice and research to children at Shriners Hospitals for Children in Philadelphia. Since that time, Dr. Kozin has been an advocate for improving the lives of children via research, education, and patient care. He is currently Chief of Staff at Shriners Hospitals for Children in Philadelphia. He has published over 100 peer review papers, mainly on the care of children with various diagnoses including brachial plexus injury, spinal cord injury, and congenital differences. He routinely travels to developing countries to operate on child in need. Dr. Kozin received the Weiland Medal by the American Society for Surgery of the Hand in 2010, which honors a hand surgeon/scientist who has contributed a body of research that advances the field.

Dr. Kozin was president of the American Society for Surgery of the Hand 2014. He implemented the Touching Hands Project to foster hand care around the globe with a focus on developing and underserved countries. The mission statement reads “Creating opportunities for hand specialists to give back their knowledge and expertise to the global community.” The inaugural mission to Haiti occurred in 2014 and has increased to 10 annual missions around the globe. Dr. Kozin was a key member in the first pediatric hand transplant in 2015. The successful procedure transplanted bilateral arms to Zion Harvey and has been inspiration for children with missing limbs.

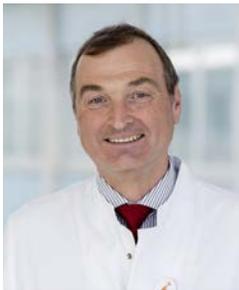
The Shriners Hospital for Children was honored to have Dr. Kozin speak on the following at the 10/2022 Beattie Lecture:

- Elbow Fractures
- Compartment Syndrome
- Pediatric Nerve Injuries



59TH ANNUAL DILLEHUNT MEMORIAL LECTURE

The Dillehunt Memorial Lecture honors the contribution of a great surgeon and legendary teacher, Dr. Richard Dillehunt, who inspired many orthopaedists. With his keen interest in medical education, he played a prominent role in the development of the medical school on the hill. He was particularly devoted to children and was instrumental in the establishment of the Shriners Hospitals for Children, Portland. He became Shriners first Chief Surgeon in 1920, and served in that position until his retirement in 1943. His legacy continues through the Dillehunt Memorial Trust Fund, sponsoring visiting distinguished Pediatric Orthopaedic Surgeons from throughout the world.



Guest Lecturer 2023
Thomas Wirth, MD,
PhD

DILLEHUNT GUEST LECTURER 4/2023

Thomas Wirth, MD, PhD

Thomas Wirth, MD, PhD, is currently Director of the Department of Orthopaedics at the Olgahospital in Stuttgart, one of the largest paediatric hospitals in Germany and is Professor of Orthopaedic Surgery at the Philipps University of Marburg. He previously worked in both the Women's and Children's Hospital in Adelaide, Australia as well as Addenbrooke's Hospital, Cambridge. He was President of the German Association of Paediatric Orthopaedics from 2008 to 2014. He was Councillor of the German Society of Orthopaedics and Orthopaedic Surgery (DGOOC) from 2016 to 2022 and is a member of the International Paediatric Orthopaedic Think Tank (IPOTT). He is also a long-standing member of the European Paediatric Orthopaedic Society (EPOS) and POSNA member for several years. Prof. Thomas Wirth served the EPOS as Treasurer from 2012 until 2016. He entered the EPOS Presidential Line in April 2017 and has started his one-year term as EPOS-President from April 2019 to April 2020 and continued as Interim EPOS President until April 2021. He has an active research interest in the basic science of the growth plate, paediatric hip disorders, paediatric trauma, and the use of arthroscopy in children's orthopaedics. His main clinical work furthermore includes the treatment of children with skeletal dysplasias, osteogenesis imperfecta, spine disorders, and benign and malignant bone tumours. On these topics he has published around 100 articles and written more than 25 book chapters.

The Shriners Hospital for Children was honored to have Dr. Wirth speak on the following at the 4/2023 Dillehunt Lectures:

- Legg-Calvé-Perthes Disease: What Do We Really Know About the Benefit of Surgical Containment Procedures?
- The Orthopedic Treatment of Patients with Soft Bone Diseases
- The Struggle to Maintain High Standard of Paediatric Orthopaedic Care in an Era of Limited Staff and Financial Resources

Grand Rounds Lectures 2022-2023

OHSU Grand Rounds Topics and Speakers 2022-2023

- "Reducing Waste and Increasing Cost Savings in the OR"* Natalie Krane, MD, April 3, 2023
- "Greening the Operating Room"* Katherine Velicki, MD, April 3, 2023
- "Multiligament Knee Injuries and the STaR Trial"* Jacqueline Brady, MD, March 20, 2023
- "Mo' Money Mo' Problems: The Value of Financial Literacy"* Omar Nazir, MD, February 6, 2023
- "Regenerative engineering of the functional musculoskeletal niche following lower extremity trauma"* Karina Nakayama, PhD, January 30, 2023
- "Pain & Anxiety in Orthopaedic Surgery"* Matthew Halsey, MD, December 5, 2022
- "2022 Resident Leadership Forum Recap"* Loren Black, MD, Jamil Kendall, MD, November 21, 2022
- "SpeakUp Ortho: Birth and Evolution"* Arianna Gianakos, MD, Nancy Yen Shipley, MD, Jennifer Weiss, MD, November 7, 2022
- "The PARITY Trial: How long do we give perioperative prophylactic antibiotics for tumor patients with megaprotheses?"* Yee- Cheen Doung, MD, October 31, 2022
- "Mindset and Orthopaedic Surgery"* Andrea Herzka, MD, August 29, 2022
- "Bundled Payments for Care Improvement Advanced Update"* Kathryn Schabel, MD, August 1, 2022
- "The Hip joint & The Aquatic Athlete"* Kim Hall, MD, June 6, 2022

Available to view on <https://www.ohsu.edu/ortho/orthopaedic-grand-rounds-lecture-archive>

Shriners Grand Rounds Topics and Speakers 2022-2023

- "Tibial Bowing and Associated Conditions - An Overview"* Naomi Turner, MD, April 5, 2023
- "Femoroacetabular impingement/Hip Arthroscopy"* Dominique Laron, MD, March 1 2023
- "Lateral Humeral Condyle Fractures in Children"* Scott Yang, MD, February 1, 2023
- "Pediatric Shoulder Instability"* Ahmad Bayomy, MD, January 4, 2023
- "Management of Tibia Fractures"* Laura Sokil, MD, December 7, 2022
- "Congenital Hand Review"* Krister Freese, MD, November 2, 2022
- "Syndromes of Orthopaedic Importance"* Michelle Welborn, MD, September 7, 2022
- "Natural History and Long-Term Outcomes with Treatment of AIS"* Daniel Bouton, MD, July 6, 2022
- "Femoral Head Osteonecrosis"* Jamil Kendall, MD, June 1, 2022

Resident and Teaching Awards

LEO S. LUCAS OUTSTANDING ORTHOPAEDIC EDUCATOR AWARD: Presented to the faculty member most instrumental in the development of future orthopaedic surgeons.

MORRIS HUGHES AWARD: Presented to the resident who best demonstrates concern for patients and for education of the next generation of physicians.

RESEARCH AWARD: Presented to the resident recognized for a commitment to the development, execution, and publication of original research during residency.

RODNEY BEALS AWARD: Awarded yearly by faculty to the best resident based on intelligence, quality of work, work ethic, and effect on the environment.

YEAR	LEO S. LUCAS	MORRIS HUGHES	RESEARCH AWARD	RODNEY BEALS AWARD
2007	Tom Ellis	Rob Tatsumi	Joseph Schenck	
2008	Dennis Crawford	Stephan Pro	Kate Deisseroth	
2009	Darin Friess	Stephan Pro	Khalid Shirzad	
2010	Amer Mirza	Gary Kegel Gregory Byrd	Patrick Denard	
2011	James Hayden	Jayne Hiratzka	Jayne Hiratzka Matthew Harrison	
2012	Jesse A. McCarron	Luke Rust	Dawson Brown Matthew McElvany	
2013	James Hayden	Laura Matsen Ko Jacqueline Munch	Adam Baker	
2014	Adam Mirarchi	Rich Myers	Trevor McIver	
2015	Kathryn Schabel	Dustin Larson	Alexander DeHaan	
2016	Paul Duwelius	Jacob Adams	Thomas Kowalik	
2017	Jacqueline Brady	Ryland Kagan	Michael Rose	
2018	Darin Friess	Dayton Opel	Derek Smith	Elizabeth Lieberman
2019	Kenneth Gundle	Elizabeth Lieberman	Shanjean Lee	Taylor Lara
2020	Yee-Cheen Doung	Taylor Lara	Duncan Ramsey	Loren Black
2021	Kenneth Gundle	Trevor Barronian	Sean Sterrenberg	Natalie Zusman
2022	Zachary Working	Natalie Zusman	Natalie Zusman Erik Woelber	Jamil Kendall

Additional Award Recipients from OHSU's Department of Orthopaedics and Rehabilitation:

Dr. Aidan Morrell won the both-bone forearm fixation competition at the AO Basic Course.

Drs. Naomi Turner and Laura Sokil were selected to attend the American Orthopaedic Association Annual Resident Leadership Forum in 2023.

Dr. Mackenzie Kelly won best poster in Adult Reconstruction Hips, American Association of Hip and Knee Surgeons annual conference.

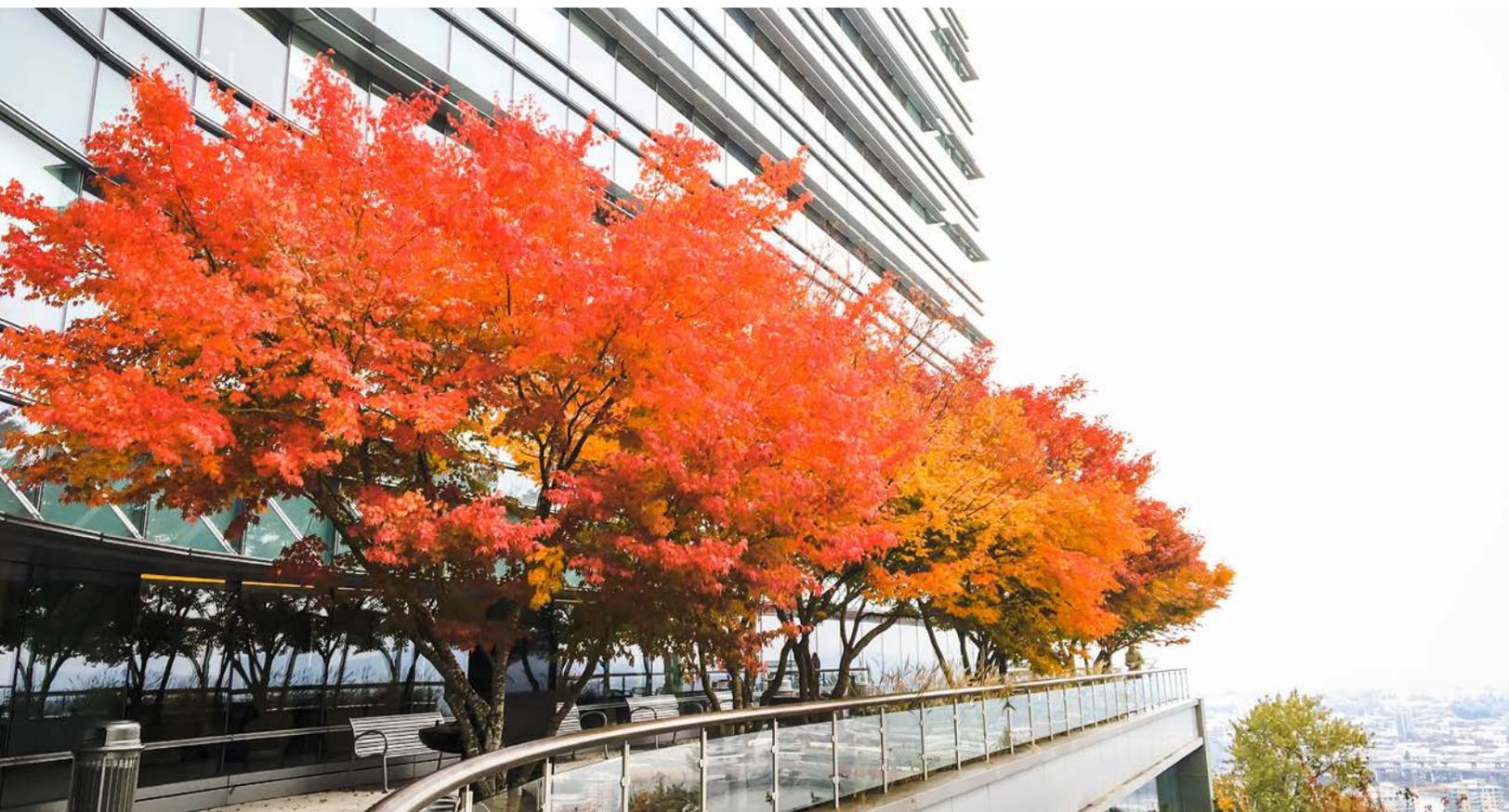
Dr. Kate Hutchison was recognized as the consult resident of the year by the Emergency Medicine Department. She was also appointed as the resident member of the Accreditation Council for Graduate Medical Education orthopaedic surgery Residency Review Committee.

Dr. Yee-Cheen Doung was named vice chair of the Department of Orthopaedics & Rehabilitation.

Dr. Kenneth Gundle was nominated for the "He for She" award from the Ruth Jackson Orthopaedic Society for the second year in a row.

Dr. Ellen Raney of Portland Shriners' Hospital for Children was nominated for the "She for She" award from the Ruth Jackson Orthopaedic Society

Dr. Jamil Kendall and senior authors **Drs. Kathryn Schabel** and **Ryland Kagan** were awarded the American Association of Hip and Knee Surgeons James A. Rand, MD, Young Investigator's Award during the 2022 annual meeting for a project entitled "Increased Revision Risk with Rotating Platform Bearings in Total Knee Arthroplasty."



OHSU Orthopaedic Program Alumni Directory

GRADUATE	FELLOWSHIP TRAINING	CURRENT PRACTICE LOCATION
2022		
Sam Cheesman	Hand – University of New Mexico, Albuquerque, NM	
Ryan Hadden	Hand and Upper Extremity – Brown University, Providence, RI	
Sam Moulton	Sports Medicine & Shoulder – University of California San Francisco, San Francisco, CA	
Erik Woelber	Adult Reconstruction – Rothman Orthopaedic Institute, Philadelphia, PA	
Natalie Zusman	Pediatric Orthopedics – Children’s Hospital Los Angeles, Los Angeles, CA	
2021		
Torgom Abraamyan	Sports Medicine – Southern California Orthopaedic Institute, Van Nuys, CA	Kaiser Permanente, Woodland Hills, CA
Trevor Barronian	Total Joint Arthroplasty – Rothman South Jersey, Atlantic City, NJ	Olympia Orthopaedic Associates, Olympia, WA
Jason Laurita	Adult Reconstructive Surgery – Houston Methodist Hospital, Houston, TX	Sterling Ridge Orthopaedics & Sports Medicine, Houston, TX
Michael Robbins	Hand/Upper Extremity – University of Utah, Salt Lake City, UT	Orthopedic Associates of Northern California, Chico, CA
Sean Sterrenberg	Arthroplasty – Reno Orthopedic Clinic, Reno, NV	CHRISTUS St. Vincent Orthopedic Specialty Clinic, Santa Fe, NM
2020		
Nikolas Baksh	Spine – New York University, New York, NY	Loyola University Medical Center, Maywood, IL
Taylor Lara	Adult Reconstruction – Florida Orthopaedic Institute, Tampa, FL	Saint Alphonsus, Boise, ID
David Putnam	Adult Reconstruction – OHSU, Portland, OR	Kaiser Permanente, Hillsboro, OR
Duncan Ramsey	Orthopaedic Oncology – Massachusetts General Hospital, Boston, MA	Oregon Health & Science University, Portland, OR
Grant Sun	Foot and Ankle – Baylor University, Dallas, TX	The Orthopaedic Specialty Clinic at TOSH, Salt Lake City, UT
2019		
Courtney Bell	Adult Reconstruction – Rothman Institute, Egg Harbor Township, NJ	Neuroscience and Spine Associates (NASA), Naples, FL
Shanjuan Lee		VA Sierra Nevada Healthcare System, Reno, NV
Elizabeth Lieberman	Adult Reconstruction – Washington University, St. Louis, MO	Orthopedic + Fracture Specialists, Portland, OR
Peters Otlans	Sports Medicine – Jefferson University, Philadelphia, PA	Proliance Southwest Seattle Orthopedics, Burien, WA
Travis Phillip	Spine – New York University, New York, NY	Oregon Health & Science University, Portland, OR
2018		
Hannah Aultman	Hand & Upper Extremity – University of Chicago, Chicago, IL	Orthopedic + Fracture Specialists, Portland, OR
Karlee Lau	Hand & Upper Extremity – University of Alabama, Birmingham, AL	University of Alabama, Birmingham, AL
Dayton Opel	Hand & Upper Extremity – Cleveland Clinic, Cleveland, OH	Orthopedic & Spine Centers of WI, Madison, WI
Derek Smith	Hand Surgery – Mary S. Stern, Cincinnati, OH	Desert Orthopedics, Bend, OR
Benjamin Winston	Arthroplasty – Tahoe Reno Orthopedic Clinic, NV	Kaiser Permanente, Hillsboro, OR
2017		
John Cox	Adult Reconstruction – Scripps Health, San Diego, CA	Kaiser Permanente, Antioch, CA
Ryland Kagan	Adult Hip and Knee Reconstruction and Hip Preservation – Univ. of Utah, Salt Lake City, UT	Oregon Health & Science University, Portland, OR
Joseph Langston	Adult Reconstruction – Melbourne Orthopaedic Group, Melbourne, Australia	Kaiser Permanente, Lone Tree, CO
Michael Rose	Sports Medicine – Steadman Hawkins Clinic, Denver, CO	The CORE Institute, Phoenix, AZ
Ryan Wallenberg	Orthopedics – St. Vincent Hospital, Portland, OR	VA Portland Health Care System, Portland, OR
2016		
Jake Adams	Adult Reconstruction – Mayo Clinic, Scottsdale, AZ	Integrated Surgical Services, Phoenix, AZ
Kirsten Jansen	Adult Reconstruction – Indiana University, Indianapolis, IN	VA, St. Louis Healthcare System, Saint Louis, MO
Tom Kowalik	Trauma & Adult Reconstruction – Orthopedic + Fracture Specialists, Portland, OR and Sydney Australia Arthroplasty & Trauma	OHSU Hillsboro Medical Center, Hillsboro, OR
Jared Mahylis	Shoulder & Elbow – Cleveland Clinic, Cleveland, OH	Henry Ford Health System, Detroit, MI
Farbod Rastegar	Spine – Cleveland, Cleveland, OH	Cincinnati Elite Orthopaedic and Spine, Cincinnati, OH

GRADUATE		FELLOWSHIP TRAINING	CURRENT PRACTICE LOCATION
2015			
Alex DeHaan	Adult Reconstruction – Tahoe Reno Arthroplasty, Reno, NV	Orthopedic + Fracture Specialists, Portland, OR	
Troy Miles	Adult Reconstruction – UC Davis, Davis, CA	Shasta Orthopaedics, Redding, CA	
Dustin Larson	Hand and Upper Extremity – University of New Mexico, Albuquerque, NM	Olympic Medical Physicians Orthopaedic Clinic, Port Angeles, WA	
Vivek Natarajan	Pediatrics – Childrens Hospital of Pittsburgh, PA Spine – Oregon Health & Science University, Portland, OR	Institute For Orthopaedics and Neurosciences, Roanoke, VA	
John Seddon	Foot & Ankle – Melbourne Orthopedic Group, Melbourne, Vic, Australia	UCHealth Orthopaedics Clinic - Briargate, Colorado Springs, CO	
2014			
Zachary Domont	Sports Medicine – University of Pennsylvania, Philadelphia, PA	Advocate Medical Group, Lincolnshire, IL	
Jia-Wei Kevin Ko	Shoulder & Elbow – The Rothman Institute, Philadelphia, PA	SEATTLE Joint Surgeons, Seattle, WA	
Trevor McIver	Spine – Spine Institute of Arizona, Scottsdale, AZ	St. Cloud Orthopedics, Sartell, MN	
Richard Myers	Trauma – R Adams Cowley Shock Trauma Center, Baltimore, MD	Sentara Orthopaedic Trauma Specialists, Norfolk, VA	
Brent Roster	Foot & Ankle – University of California Davis Medical Center, Sacramento, CA	Missoula Bone & Joint, Missoula, MT	
2013			
Adam Baker	Foot & Ankle – Northwest Orthopedic Specialists, Portland, OR	Kaiser Permanente, Hillsboro, OR	
Michael Kuhne	Trauma – Orthopedic Trauma Institute (UCSF), San Francisco, CA	Enloe Medical Center, Chico, CA	
Laura Matsen Ko	Adult Reconstruction – The Rothman Institute, Philadelphia, PA; Adult Reconstruction and Trauma – Providence St. Vincent, Portland, OR	SEATTLE Joint Surgeons, Seattle, WA	
Jacqueline Brady (Munch)	Shoulder Surgery, Sports Medicine – Hospital for Special Surgery, New York, NY	Oregon Health & Science University, Portland, OR	
Daniel Wiekling	Foot & Ankle – Melbourne Orthopaedic Group, Melbourne, Australia	Southern Oregon Orthopedics, Grants Pass, OR	
2012			
Dawson Brown	Sports Medicine – Southern California Orthopedic Institute, Van Nuys, CA	WestSound Orthopedics, Silverdale, WA	
Peter Fredericks	Trauma – Indiana Orthopedic Hospital (OrthoIndy), Indianapolis, IN	UCHealth, Colorado Springs, CO	
Matthew McElvany	Shoulder & Elbow – University of Washington, Seattle, WA	Kaiser Permanente, Santa Rosa, CA	
Cuchulain Luke Rust	Foot & Ankle – Orthopaedic Associates of Michigan, Grand Rapids, MI	Rebound Orthopedics, Vancouver, WA	
2011			
Matthew Harrison	Foot & Ankle – Oakland Bone & Joint Specialist Clinic, Oakland, CA; Middlemore Hospital, Auckland, New Zealand	Alta Orthopedics, Santa Barbara, CA	
Jayne Hiratzka	Spine – University of Utah, Salt Lake City, UT	Southern Oregon Orthopedics, Medford, OR	
Jackson Jones	Adult Reconstruction – Harvard Medical School's Brigham and Women's Hospital, Boston, MA	Reno Orthopedic Clinic, Reno, NV	
2010			
Matthew Bradley		St. Louis Spine and Orthopedic, Town & Country, MO	
Gregory Byrd	Hand – Beth Israel Deaconess Medical Center, Boston, MA	Olympia Orthopaedic Associates, Olympia, WA	
Adam Cabalo	Spine – Spine Care Medical Group, Daly City, CA	Southern Oregon Orthopedics, Medford, OR	
Patrick Denard	Shoulder – Centre Orthopédique Santy, Lyon, France and San Antonio Orthopaedic Group, San Antonio, TX	Southern Oregon Orthopedics, Medford, OR	
Gary Kegel	Hand – St. Luke's-Roosevelt Hospital Center, New York, NY	Kaiser Permanente – Capital Hill, Seattle, WA	
2009			
Stephan Prô	Sports Medicine – Santa Monica Orthopaedic and Sports Medicine Group, Santa Monica, CA	OrthoKansas, University of Kansas Health System, Lawrence, KS	
Khalid Shirzad	Foot & Ankle – Duke University, Durham, NC	Northwest Orthopaedic Specialists, Spokane, WA	
Abner Ward	Hand – SUNY Stony Brook; Sports Medicine – Southern CA Center for Sports Medicine, Long Beach, CA; Shoulder & Elbow – Alps Surgery Institute, Annecy, France; Shoulder & Elbow – Schulthess Klinik, Zurich, Switzerland	Yosemite Bone and Joint, Inc., Merced, Turlock, Modesto, and Manteca, CA	

GRADUATE		FELLOWSHIP TRAINING	CURRENT PRACTICE LOCATION
2008			
Kate Deisseroth			VA Medical Center, Lebanon, PA
Andy Kranenburg	Spine – San Francisco Spine Institute, San Francisco, CA		Southern Oregon Orthopedics, Medford, OR
Kenna Larsen	Hand – University of New Mexico, Albuquerque, NM		Tanner Clinic, East Layton, UT
2007			
William Magee	Sports Medicine – TRIA Orthopaedic Center, University of Minnesota, Minneapolis, MN		Providence Northeast Washington Medical Group, Colville, WA
J. Rafe Sales	Spine – San Francisco Spine Institute, San Francisco, CA		Summit Spine, Portland, OR
Joseph Schenck	Sports Medicine – Perth Orthopaedic Sports Medicine Clinic, Perth, Australia and Arthroscopic Surgery and Computer Navigated Total Joint Arthroplasty – Sir Charles Gairdner Hospital, Nedlands, Western Australia		Oregon Surgical Institute, Portland, OR
Robert Tatsumi	Spine – LA Spine Institute, Santa Monica, CA		Oregon Spine Care, Portland, OR
2006			
Catherine Humphrey	Trauma – Vanderbilt University, Nashville, TN		University of Rochester, Rochester, NY
Amer Mirza	Trauma – Harborview Medical Center, Seattle, WA		Summit Orthopaedics, Portland, OR
Mark Wagner			Orthopedics Northwest, Portland, OR
2005			
Patrick Dawson	Upper Extremity and Sports Medicine – Congress Medical Associates, Pasadena, CA		Cascade Orthopaedic Group, Tualatin, OR
Suresh Kasaraneni			Scott Memorial Hospital, Scottsburg, IN
Christopher Untch	Davis Monthan Air Force Base, Tucson, AZ		Arizona Orthopedics, Tucson, AZ
Corey Vande Zandschulp	Trauma – OrthoIndy, Indianapolis, IN		Summit Orthopaedics, Portland, OR
2004			
Benjamin Kam			Kinetic Orthopedics, Colorado Springs, CO
Britton Frome (Polzin)	Hand – University of Texas Southwestern, Dallas, TX		Summit Orthopaedics, Portland, OR
2003			
Jennifer Miller	Sports Medicine – Congress Medical Associates, Pasadena, CA		Idaho Sports Medicine Institute, Boise, ID
John (Jeb) Reid	Sports Medicine – Taos Orthopaedic Institute, Taos, NM		Asante Orthopedic Surgery and Sports Medicine, Ashland, OR
Eric Shepherd	Trauma – UC Davis Medical Center and Auckland City Hospital, NZ		Santa Barbara Orthopedic Associates, Santa Barbara, CA
2002			
Michael Binnette	Spine – University of Washington, Seattle, WA		Maine Medical Partners, Scarborough, ME
Kevin Kahn	Trauma – Vanderbilt University, Nashville, TN and Universitatsspital, Zurich, Switzerland		Rebound Orthopedics, Vancouver, WA
Tamara Simpson	Trauma – Orthopedic Trauma Institute (UCSF), San Francisco, CA and Hennepin Medical Center, Minneapolis, MN		Cascade Orthopaedic Group, Tualatin, OR
2001			
Michael Gustavel	Sports Medicine – San Diego Arthroscopy and Sports Medicine, San Diego, CA		Gustavel Orthopedics, Boise, ID
James Hayden	Oncology – Massachusetts General Hospital, Boston, MA		Oregon Health & Science University, Portland, OR
Todd Ulmer	Sports Medicine – University of Washington, Seattle, WA		Adventist Health Orthopedic Clinic, Portland, OR
2000			
Mark Metzger	Joint, Spine & Tumor – Harvard Medical School, Boston, MA		
Lorenzo Pacelli	Hand & Microvascular Surgery – Hand Center, San Antonio, TX		Scripps Clinic Torrey Pines, La Jolla, CA
Edward Perez	Trauma – R. Adams Cowley Shock Trauma Center, Baltimore, MD		Broward Health, Fort Lauderdale, FL
1999			
Anthony I. Colorito	Sports Medicine – Cincinnati Sports Medicine and Orthopedic, Cincinnati, OH		
John M. Kioschos	Shoulder and Elbow Surgery – Florida Orthopaedic Institute, Tampa, FL		
Jill A. Rider-Graves			

GRADUATE		FELLOWSHIP TRAINING	CURRENT PRACTICE LOCATION
1998			
John D. Curtis			Medical West Orthopedics, Bessemer, AL
Darrin F. Eakins	Sports Medicine and Knee – Royal N Shore Hospital, Sydney, Australia		
Ronald D. Wobig	Sports Medicine and Knee – Louisiana State University, Lake Charles, LA		Beaver Sports Medicine, Corvallis, OR
1997			
Dennis J. Davin			
Kevin M. Lee			Upper Valley Orthopedics, Rexburg, ID
Ronald L. Teed			
1996			
Knute C. Buehler	Lower Extremity Reconstruction – Scripps Clinic and Research Foundation, San Diego, CA		The Center Orthopedic & Neurosurgical Care, Bend, OR
Thomas J. Croy			Providence Newberg Specialty Clinic, Newberg, OR
Marc R. Davidson	Sports Medicine – The Hughston Clinic, Columbus, GA		Advantage Orthopedic and Sports Medicine
1995			
Douglas R. Bagge			Cortez Orthopedics, Cortez, CO
Robert A. Foster	Hand and Microvascular Surgery – University of Minnesota, Mineapolis, MN		Texas Orthopedics Sports & Rehabilitation Associates, Austin, TX
Gregory A. Voit	Hand and Microvascular Surgery – University of New Mexico, Albuquerque, NM		
1994			
Robert J. Grondel	Sports Medicine and Shoulder – Mississippi Orthopaedic & Sports Medicine Clinic; Trauma – Emanuel Hospital, Portland, OR		Orthopaedic Institute of Henderson, Henderson, NV
Allen L. Hershey	Lower Extremity Reconstruction – Scripps Clinic and Research Foundation, San Diego, CA		Precision Orthopedics and Sports Medicine, Salinas, CA
Brian J. Padrta	Foot and Ankle – Florida Orthopaedic Institute, University of South Florida, Tampa, FL		Northwest Orthopaedic Specialists, Spokane, WA
Mark R. Rangitsch			Cheyenne Orthopaedics, Cheyenne, WY
1993			
Blaine A. Markee			
Dean K. Olsen			TRIA Orthopedics Burnsville, Burnsville, MN
Andrew H. Schmidt	Adult Reconstruction – Hennepin County Medical Hospital, Minneapolis, MN		Hennepin County Medical Center, Minneapolis, MN
1992			
Edward C. Pino	Sports Medicine – Cincinnati Sports Medicine, Cincinnati, OH; Kaiser Permanente, Denver, CO		Kaiser Permanente, Denver, CO
Stephen S. Tower			Alaskan Arthroplasty Initiative, Anchorage, AK
Michael R. Van Allen	Hand and Microsurgery – University of Alabama, Birmingham, AL		South Portland Surgical Center, Tualatin, OR
1991			
Ronald R. Bowman			Northwest Extremity Specialists, Tigard, OR
William H. Dickinson			
Richard A. Rubinstein	Methodist Sports Medicine Center, Indianapolis, IN		The Oregon Clinic, Portland, OR
1990			
Gregory T. Bigler	Sports Medicine and Arthroscopy – Harvard Medical School, Massachusetts General Hospital, Boston, MA		Knee and Shoulder Institute, Las Vegas, NV
Adrian B. Ryan			Alaska Fracture & Orthopedic Clinic, Anchorage, AK
Theodore S. Woll	Foot and Ankle – University of Washington, Seattle, WA		Rebound Orthopedics, Vancouver, WA
1989			
James R. Hazel			
Asa E. Stockton			
Keith J. Ure	Joint Replacement – Joint Replacement Institute, Los Angeles, CA		Doctors Park, Mt. Shasta, CA
Robert G. Zirschky			Orthopaedics of Oregon, Salem, OR

1988
John D. DiPaola
Jeffrey E. Flemming
Morris Hughes
Michael B. Wyman

1987
Dale G. Bramlet
Scott B. Jones
Stefan D. Tarlow

1986
Mark J. Buehler
Wendell D. Ferguson
Paul A. Switlyk

1985
Stanley J. Neitling
Daniel N. Ovidia

1984
Steven J. Bruce
Kenneth A. Hermens
Wendy M. Hughes

1983
Michael J. Grundy
Paul J. Mills
John C. Schwartz

1982
Julie Isaacson
James D. Livermore
John S. Toohey

1981
Christopher A. Blake
Wayne K. Nadamoto
Samuel K. Tabet

1980
Lenart C. Ceder
Jonathan H. Hoppert
Robert W. Jordan

1979
Brian Laycoe
Donald Peterson
James Robbins

1978
Lyle Mason
Edgar K. Ragsdale
Enoch D. Shaw

1977
David L. Noall
Byron K. Skubi
Robert K. Smith
Theodore J. Vigeland

1976
Wayne C. Kaesche
Walter A. Smith
Stephen J. Thomas

1975
Randy W. Crenshaw
John O. Hayhurst
Patrick T. Keenan
Kelsey C. Peterson
Ned R. Schroeder

1974
Thomas W. Hutchinson
Robert J. Porter
Frederick L. Surbaugh

1973
James L. Baldwin
David A. Haaland
Craig MacCloskey

1972
Michael S. Hmura
Grant D. Lawton
Michael R. Marble

1971
Charles B. Bird
Robert G. Chuinard
Jim Dineen
Ilmar O. Soot

1970
Philip J. Fagan
Robert J. Foster
Art Hauge
Edwin A. Kayser
Gerald T. Lisac
Ira M. Yount

1969
Thomas E. Fagan
Michael H. Graham
George W. Ingham
Joseph P. Klein
Scott Struckman

1968
Benjamin F. Balme
James D. Kunzman
James D. Nelson
Frederick D. Wade

1967
Michael S. Baskin
John W. Gilsdorf
John W. Thompson

1966
Charles A. Bonnett
McGregor L. Church
Don D'Amico
Fred G. Grewe
Howard E. Johnson

1965
Arthur L. Eckhardt
John Hazel
Richard L. Mercer

1964
Robert F. Corrigan
Richard C. Zimmerman

1963
Donn K. McIntosh
Michael R. Rask

1962
Phaen Gambée
Norman D. Logan
Keith A. Taylor

1961
Rodney K. Beals
Thomas A. Edwards
George Keyes
Ralph E. Peterson

1960
Charles A. Fagan
Calvin H. Kiest
Betty J. Hohmann
Robert W. Straumfjord
Bud Yost

1959
Raymond A. Case
James V. Harber

1958
Richard G. Gardner
William D. Guyer

1957
Hadley F. Fitch
Richard S. Gilbert

1956
William E. Hummel
Joseph R. McProuty
Jack B. Watkins

1955
Edward A. Attix
Max M. Bocek

1954
Howard I. Popnoe
Dale D. Popp

1953
Donald D. Smith

1952
Melvin L. Makower

1951
Bob Maris
William E. Snell
James W. Weed

1950
Ralph Thompson

1949
Howard Cherry
Boyd G. Holbrook
Richard J. Hopkins

1948
Robert F. Anderson
George W. Cottrell
Carl L. Holm

1947
Edward A. LeBold

1946
William P. Horton
Clyde D. Platner
Faulkner A. Short

1945
Joseph H. Gill

1943
Paul G. Hafner

1942
Rodney Begg
Harold E. Davis

1940
Leslie S. Porter

1938
Arthur M. Compton

1935
E.G. Chuinard

1931
Harry Leavitt

1929
D.G. Leavitt

1928
Leslie C. Mitchell

1925
John LeCocq

1924
Leo S. Lucas

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For further inquiries, please contact Tim Coffey, Senior Director of Development, OHSU Foundation Phone: (503) 901-6100, Email: coffeyt@ohsu.edu

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