DEPARTMENT OF ORTHOPAEDIC SURGERY

SPRING ISSUE • 2022

DEPARTMENT OF ORTHOPAEDIC SURGERY NEWSLETTER

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THE CHAIR'S CORNER

BY NICHOLAS BERNTHAL, M.D.

Dr. Eric Johnson's famous lecture - "Orthopaedic Trauma and Bristlecone Pines" - elegantly weaves principles of orthopaedic trauma fixation into the story of how earth's oldest living non-clonal species evolved to master the quest to survive the elements. In the talk, EJ pushes us to reflect on the durability of palm trees, built flexible and resilient enough to sway and bend in high winds. He contrasts this to the rigidity of the oak tree, unable to adjust to its environment, which leads to its snapping or uprooting in storms. There is no better time to reflect on these lessons than in the current environment - a persistent pandemic, a war in Ukraine, and recent gun violence tragedies in a supermarket in Buffalo, a church in Southern California, and an elementary school in Texas.

As we navigate the storms around us, I remain in awe of resiliency of the UCLA orthopaedic community. This group of physicians, scientists, staff, patients, and alumni continue to ask the question: how can we contribute to making things better? In this edition, you will read about how Dr. John Adams led a team of orthopaedic researchers to demonstrate to the world that vitamin D could be repurposed as an immune booster to fight COVID and lessen the impact of the pandemic. You will hear the story of Efrain, a child born with one functional leg whose family's journey across borders and through hardship led them to our Department and OIC for a chance at a new leg and a new life. You'll also see how alumni Dr. Justin Barad is tackling the challenges of teaching surgical skills with virtual reality technology, how residents like Dr. Will Sheppard are reaching out to younger students to open the pathway to our field to those who might not normally find it, and how donors Joy and Bill Appleby turned a cancer diagnosis and successful treatment into a mission to get the very most out of life, experiencing every adventure they can find across the vastness of our amazing planet.

I find great satisfaction and optimism in being part of such a resilient, committed community. Leveraging our intellect, humanity, and kindness, we continue to innovate, care for each other, and teach the next generation. Like a palm tree, we acknowledge the storms around us, but we do so with the flexibility to adjust, bounce back, and sustain our purpose. We also do so with a confidence that, as a community, we can weather any storm.

BRU[w]INS

UCLA ORTHO IN THE NEWS

Elizabeth Lord, M.D.
Global Spine Congress: "*Gender Differences in Spine Pain and Pathology* ", Women in Spine Symposium, Paris, November 2021

AO Spine Podcast: Diversity in Spine Surgery- https://podcasts.apple.com/lb/podcast/ao-access-to-success/id1590737664

Nicholas Bernthal, M.D. and Anthony Scaduto, M.D.
LA Times: "*The Many Miracles Needed to Help a Boy Walk on His Own*"
Link: *www.latimes.com/california/story/2022-03-24/efrain-prosthesis-new-life*

Nicholas Bernthal, M.D.
Becker: "*10 Orthopedic Surgeons to Know*"
Link: www.beckersspine.com/orthopedic/item/54376-10-orthopedic-surgeons-to-know.html

Adam Sassoon, M.D.
U.S. News & World Report: "*What to Expect After Knee Replacement Surgery: Treatments and Recovery*"
Link: health.usnews.com/health-care/patient-advice/articles/what-to-expect-after-knee-replacement-surgery-treatments-recovery

Alexandra Stavrakis, M.D.
UCLA Health News: *UCLA Night at Dodger Stadium-Ceremonial First Pitch. Photos by UCLA Health*
instagram.com/p/CdGp35Sppyr

Scott Nelson, M.D.
Honorary Ph.D., Presented by the King and Queen of Thailand

Sharon Hame, M.D.

We are proud to announce that the department of Orthopaedic surgery has a critical role in the new multiyear partnership between UCLA Health and the Los Angeles Sparks WNBA team. Our faculty, Drs. Sharon Hame and Calvin Duffaut will provide medical care for the outstanding athletes on the team. Dr. Hame will serve as Head Team Physician and Dr. Duffaut will lead the effort in primary care sports medicine. Dr. Duffaut is the current team physician for the UCLA Men's Basketball team and the UCLA Softball team. Dr. Hame is a team physician for UCLA football, women's basketball, women's indoor and beach volleyball, and men's tennis.

The multiyear partnership between UCLA Health and the Los Angeles Sparks WNBA team is a unique collaboration during which UCLA Health will provide comprehensive physical and mental health care for LA Sparks players, who will wear the UCLA Health logo on their jerseys. Under the new partnership, our organizations will also join in community outreach to address health care disparities in Los Angeles.

Read more on connect.uclahealth.org/2022/04/27/ucla-health-and-los-angeles-sparks-announce-new-multiyear-partnership/

PROMOTIONS

Nelson SooHoo, M.D.
DGSOM Associate Dean of GME

Every so often you come across good mentors who help guide you to the next step in life, and on rare occasions, you find great mentors whose lessons follow you for a lifetime. For over 15 years Dr. Nelson Soohoo has led the UCLA Department of Orthopaedic Surgery as Residency Program Director alongside Associate Program directors Drs. Richard Bowen and Rachel Thompson. He ensured that the program complied with ACGME (accreditation body) and the UCLA GME rules and regulations. Day-to-day responsibilities include supervising the residents, and the education office and initiating and implementing any policies that helped develop the program. Dr. Soohoo is a mentor and a leader amongst his peers and is passionate about the residents' professional growth and well-being. The program curriculum as we know it today owes much to the efforts of Dr. SooHoo and his team of Associate program Directors.

We are proud to announce his promotion to Associate Dean for Graduate Medical Education at UCLA's David Geffen School of Medicine and Designated Institutional Official for UCLA Health.

SCHOLARSHIPS & AWARDS

Don Park, M.D.
Award: Best Paper, North American Spine Society (NASS) 2022 Annual Meeting

William Sheppard, M.D.
Scholarship: To attend the OVBC 2022
Award: WOF David Mansfield, M.D. Donor Resident Award for paper entitled "*Spondylolisthesis and Mismatch Deformity Affect Outcomes After Total Knee Arthroplasty*"

Akash Shah, M.D.
Award: WOA Resident's Award, for manuscript "*Machine Learning-Driven Prediction of Perioperative Complications After Instrumented Lumbar Fusion*"

Seth Ahlquist, M.D.
Award: Finerman Seed Grant 2022

Alan Li (C/O 2024)
Award: 2022 AΩA Carolyn L. Kuckein Student Research Fellowship *for his research entitled, "Bacteriophage-derived Endolysin as Antimicrobials in Orthopaedic Implant-related Infections."*

GRANTS

Bruno Peault, Ph.D.
Grant: Horizon Europe 2021-2027 Program of European Commission for "*SINPAIN. A game changer for the treatment of osteoarthritis.*"

Congratulations to the Kameron Gait Analysis and Functional Assessment Laboratory

Left to right: Andy Vuong, Eileen Fowler, Kristen Reider, Christy Skura,and Loretta Staudt. Missing from the photo: Rachel Thompson and Marcia Greenberg

We are proud to announce that the Kameron Gait & Motion Analysis Laboratory at the UCLA Semel Institute was granted Full Accreditation by the Commission for Motion Laboratory Accreditation, Inc. This achievement is the result of a two-year effort on the part of the Kameron Laboratory team, including the Director, Eileen Fowler, Ph.D., P.T., and the Associate Director, Kristen Reider, Ph.D., P.T. as well as Andy Vuong, B.S., a Graduate Student Researcher and a Ph.D. candidate, with special recognition to Marcia Greenberg, P.T., Christy Skura, P.T., and Rachel Thompson, M.D., the Director of the Center for Cerebral Palsy.

The accreditation process required a nearly 100 focus point application and included equipment inventory and validation as well as a complete look at each of the personnel. The team submitted a mountain of technical information, calibrations, and experiments, along with the most recent 50 clinical exams and final reports for the accreditation panel's review.

Full Accreditation is recognized by the US News and World Report and is a testament to the high--quality care that the Kameron Gait & Motion Analysis Laboratory consistently provides to patients. The Accreditation is valid for three years and is subject to renewal.

Photo by Skye Peyton

EFRAIN: IT WAS ALL A DREAM

BY JOCELYN APODACA SCHOLSSBERG

As the Los Angeles Police Department SWAT helicopter circled the Orthopaedic Institute for Children (OIC) with Santa Claus waving overhead, 10-year-old Efrain Ordoñez, Jr. squeaked with excitement.

With both the OIC Toys & Joy Holiday Party and a special doctor's appointment on Dec. 8, 2021, it was a huge day for Efrain. Not only would he get to meet Santa Claus, but he would also get to take home the prosthesis that would allow him to walk on two legs for the first time.

"Today's the day, today's the day," Efrain told his mother Nancy on the morning of the OIC Toys & Joy Holiday Party and doctor's appointment.

Nancy said Efrain had trouble falling asleep the night before the appointment because he was so excited. She was feeling emotional.

"It's been almost like a dream," she said of the six-month journey since his surgery at UCLA Santa Monica Medical Center, in June of this year.

Efrain was born with a congenital femoral deficiency, part of a spectrum of conditions that affect the femur and sometimes the knee, and can cause bone deformation. In Efrain's case, he had a severe bone deficiency in his hip and upper thigh, causing one leg to be shorter than the other.

> *...this is where I always hoped to bring him.*

At his birth, doctors considered him fully developed. It was just before his hospital discharge, however, that Efrain Sr. noticed his son's right leg wasn't moving.

"I came in to hold him as he was stretching. Then I noticed he could only move one of his legs," Ordoñez Sr. recalls.

He brought it to the attention of physicians and a referral was made for the family to see a pediatric orthopaedist, who recommended a limb-lengthening procedure. Another orthopaedist for adults – a family member – intervened. He urged them not to do the procedure, citing that at a month old, Efrain was too young and the procedure would be too risky for his age.

Feeling helpless, Nancy sought the help of the Teletón Foundation, a nonprofit organization in Mexico that provides children with disabilities and cancer with comprehensive care and resources. Efrain was 3 years old when he went to his first appointment.

Physical therapists recommended he begin using crutches. Other doctors predicted Efrain Jr. wouldn't be able to jump or run, let alone walk upright.

When he was 5, doctors from Teletón suggested above-the-knee amputation as the only viable option for fitting him with a prosthetic leg. This procedure requires two prosthetic joints and gives the patient less control over movement.

The Ordoñez family hoped there might be a different option that would allow Efrain to have as much mobility as possible.

When Nancy first moved to Los Angeles in 2018, a billboard with the words "orthopeadic" and "children" caught her attention as she and a friend were driving north on the 110 Freeway. She leaned over and said to her friend, "I'd love to be able to take my son there someday."

Her friend assured her, "It'll happen, Nancy."

At an allergy appointment at the St. John's Well Child and Family Clinic, the primary care doctor recognized Efrain Jr.'s leg length discrepancy and made an appointment with the Orthopaedic Institute for Children on the family's behalf.

"I shared the address with my friend and she said to me, 'Don't you realize this is the exact hospital you said you wanted to bring Efrain,'" Nancy recalls her voice breaking. "I immediately began crying, because this is where I always hoped to bring him."

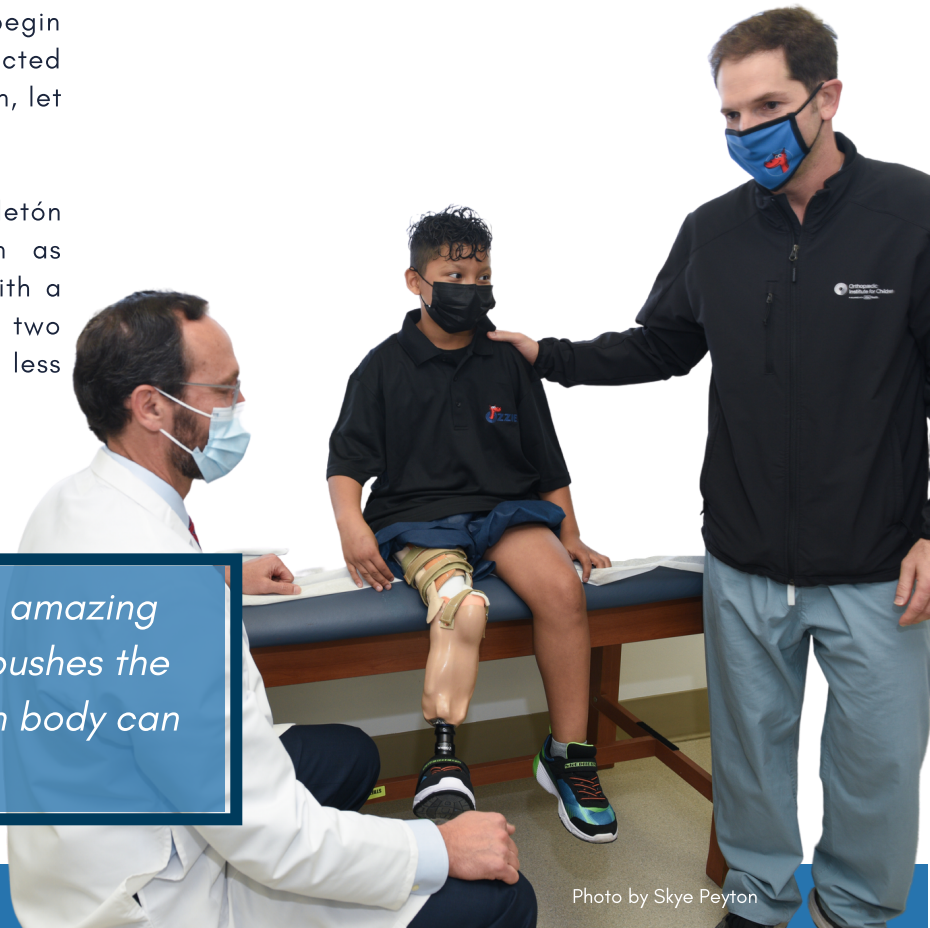


Photo by Skye Peyton

> *It's really one of these amazing surgeries that kind of pushes the limit to what the human body can do*

THE PROCEDURE

In June 2021, UCLA Health surgeons Anthony Scaduto and Nicholas Bernthal performed a rare procedure on Efrain called rotationplasty, which involves flipping the foot and leg backward and making the ankle a functioning joint.

"Van Ness Rotationplasty is one of those surgeries that doesn't make a lot of sense until you've seen one and see how well kids can do after them," says Dr. Bernthal, interim chair and executive medical director for the Department of Orthopaedics at the David Geffen School of Medicine at UCLA, adding that the surgery works well "for kids who don't have part of their leg, but have a functional foot and ankle."

The heel, transferred from the back of the foot, becomes a knee, allowing the joint to bend.

During the procedure, the femoral artery and sciatic nerve are kept intact while the bottom of the leg, ankle, and foot are rotated 180 degrees and reattached to the top of the leg, converting the reversed ankle joint into a functional knee joint. The foot acts as a tibia and fits into a prosthesis.

"It's really one of these amazing surgeries that kind of pushes the limit to what the human body can do," Dr. Bernthal says. "It's spectacular in terms of results."

Dr. Scaduto, executive vice chair of orthopaedic surgery and chief of pediatric orthopaedic surgery, says each case presents unique challenges. Efrain, for example, has well-formed bones in his foot, ankle, and lower leg, but a severe deficiency in his hip and upper thigh area.

Additionally, surgeons must make precise calculations with younger patients on how much growth potential remains in the foot and ankle so that the heel matches the level of the knee on the other side.

"For Efrain, he's 10, so typically around the age of 16, he will become skeletally mature. We've calculated and accounted for about six more years of growth," Dr. Scaduto says.

After a six-month rehabilitation, the procedure will allow Efrain to walk, run and jump with more mobility than above-the-knee amputation. One of the advantages to this procedure, says Dr. Scaduto, is that Efrain will have a "better shot at having better speed and control with running and playing sports."

That's one aspect Efrain is eager to explore. He has learned how to move around quickly with his crutch and likes to play basketball on the universally accessible playground at the OIC campus. Once he gains strength in his leg, the prosthesis will allow him to move even faster.

"Efrain has never held himself back from doing anything," Nancy says. "He's very motivated and independent and in school, he plays soccer with his classmates. He tells them not to go easy on him either."

Photo by Skye Peyton

> *..everyone has enjoyed his positive attitude.*

Photo by Skye Peyton

Dr. Scaduto says Efrain has had the perfect outlook regarding his surgery.

"I think everyone has enjoyed his positive attitude. He has a good sense of self-awareness and he's extremely motivated," Dr. Scaduto says.

Other members of his care team share the same sentiment, noting how funny, eager and smart he is.

"Sometimes I think he's smarter than me," says Chris Caron, PT, DPT, director of rehabilitation at OIC, as she fine-tunes the fitting of his prosthesis.

Dr. Bernthal says he feels good about Efrain's progress. He says to Efrain as he leaves the room, "I'm proud of you."

GOING THE DISTANCE

Efrain and his family have come a long way - both in his medical journey and in life. The Ordoñez family, his parents, and older sister came to Los Angeles from Chiapas, Mexico, where for Efrain's first five years, they endured countless appointments, referrals, and therapies, along with little relief.

Now, months after the procedure Efrain is living out the dream she envisioned for him. Thanks to the generosity of donors and volunteers, the Ordoñez family won't have to pay for his care.
"This is a dream," Nancy repeats several times throughout the day. "We are grateful to all of his doctors and everyone involved. May God bless all of you."

Read more of Efrain's story in the **LA Times** or on **UCLA Health**.

COMBATING COVID: HOW UCLA ORTHO RESEARCHERS IDENTIFIED A NOVEL WAY TO TREAT COVID WITH VITAMIN D

BY JOHN ADAMS, M.D.

Dr. John Adams is an MD scientist. He is a Distinguished Professor in the Departments of Orthopaedic Surgery and Molecular, Cell & Developmental Biology at UCLA, and serves as Founding Director of the Orthopaedic Hospital Research Center. His recent focus has been discovering the link between vitamin D and COVID-19.

The lives and work of biological scientists worldwide were significantly impacted by the Covid-19 pandemic. In addition to adapting research to remote work, many felt a duty to contribute to the world's effort in combating the disease. Dr. John Adams, distinguished professor in the Department of Orthopaedic Surgery and Molecular, Cell & Developmental Biology at UCLA, contributed by designing and obtaining emergency FDA authorization to undertake a randomized, placebo-controlled clinical trial to test a novel, orally-administered therapy for Covid-19 outpatients. The therapy took advantage of the underappreciated potential of a fast-acting form of vitamin D to shorten the duration of illness and avoid hospitalization to decrease the burden on the healthcare system and the risk of dying for patients.

Early data revealed that certain characteristics in patients led to poor Covid-19 outcomes. These characteristics included obesity, heart disease, diabetes, and substandard nutrition. Black and Hispanic communities remain those most susceptible to poor outcomes in the US. Importantly, those factors were not solely socioeconomic. These factors included: increased skin pigmentation that diminished vitamin D synthesis, deficient dietary vitamin D intake, and propensity for obesity with vitamin D stores trapped in fat. While there are literally hundreds of reports from medical literature linking vitamin D deficiency to poor Covid-19 outcomes, there existed only a handful of randomized, placebo-controlled clinical trials using vitamin D as a therapeutic.

Vitamin D is commonly known as a hormone that maintains skeletal health. However, Dr. Adams' lab discovered that vitamin D was also active in promoting our body's immune health by countering the attack of the SARS virus. In this role, the active metabolite of vitamin D, made inside the microbe-activated macrophage, acts to increase the production of endogenous antibiotic-like proteins that attack and kill the SARS virus.

The immune-modulatory role of vitamin D is distinct from its role as a bone-active hormone. In the case of Covid-19, that role depends on the sheer number of virus-activated macrophages in the lungs of Covid-19 patients, the rapid response of the vitamin D system to acute infection, and high levels of vitamin D in its active form at the site of infection. Dr. Adams' lab undertook a multi-centered, randomized, double-blinded, placebo-controlled, proof-of-principle trial of acute administration of vitamin D form, called calcifediol, in the treatment of symptomatic Covid-19 patients, early in the course of the disease.

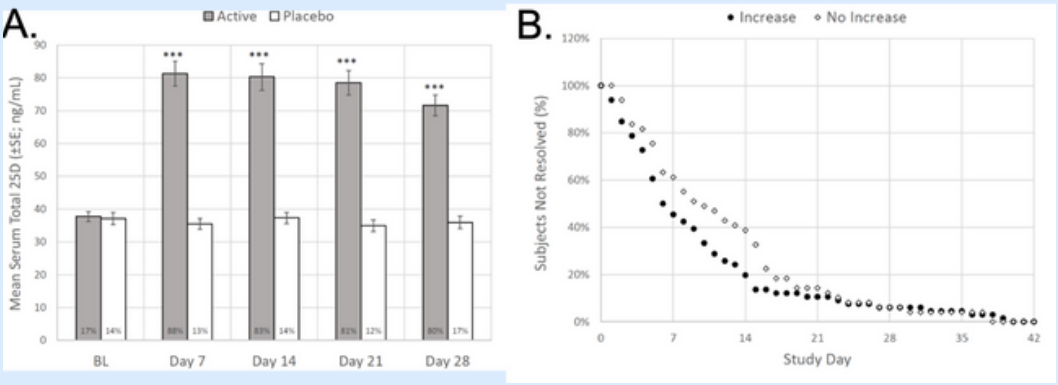


Figure 1. Panel A shows the mean (SE) serum total 25-hydroxyvitamin D (25D) by study day and treatment group. Percentages at the base of each bar indicate the proportion of subjects achieving serum 25D levels of at least 50 ng/mL. Asterisks indicate significant differences between treatment groups ($p<0.001$). Panel B are Kaplan-Meier curves displaying the time to resolution of a composite of three respiratory symptoms (trouble breathing, chest congestion, dry or hacking cough) in subjects achieving increases (closed circles), versus no increases (open circles) in 25D levels. The difference between the plotted curves in 25D levels at both day-7 and -14 is statistically significant ($P<0.05$).

The clinical trial was approved by the FDA in the summer of 2020 and concluded in November of the same year. There were three major outcomes projected for the group of patients with mild to moderate Covid-19 symptoms, treated with vitamin D (calcifediol). First, a 28-day course of orally-administered high-dose calcifediol would significantly and rapidly increase circulating levels of calcifediol to the immune-active range. Second, this increase would be without adverse events in the treated compared to the placebo group. And third, the triad of pulmonary symptoms characteristic of Covid-19, namely, shortness of breath, chest congestion, and dry hacking cough, would more rapidly resolve in the calcifediol-treated group. All of these safety and efficacy outcomes were achieved. (data from the trial is available at https://www.medrxiv.org/content/10.1101/2022.01.31.22270036v1[AJS1].)

Dr. Adams' lab expects to identify the genomic and serum biomarkers which determine the success of Covid-19 treatment with calcifediol. The lab will use blood and circulating immune cells harvested from placebo- and calcifediol-treated patients during the clinical trial.

The clinical trial has successfully shown that a high-dose calcifediol treatment regimen is effective in significantly increasing serum calcifediol in outpatients with mild-to-moderate Covid-19, an increase that accelerates resolution of respiratory symptoms, suggesting mitigation of Covid-19 pneumonia risk.

John Adams, M.D.
Distinguished Professor in the Departments of Orthopaedic Surgery and Molecular, Cell & Developmental Biology

TRAINING PROGRAM: SPECIALTY ACE

BY MELANIE CALUZA & WILLIAM SHEPPARD, M.D.

Two years ago, only 33% of medical students at UCLA's DGSOM who applied in orthopaedic surgery successfully matched. This needed to change. With Guidance from Drs. Jeffcoat, Hame, and SooHoo, efforts were made to establish a pipeline program for medical students to better increase their ability to match into a specialty of their choosing. Specialty ACE (Specialty Advisor for Career Exploration) was created to address this need throughout all specialties at DGSOM. Regarding Orthopaedics, through ACE, attending & resident-led groups were established to create continuity in mentorship throughout the year (and beyond).

Groups would meet initially to discuss CVs, VSAS/ESRA applications, timelines for submissions, Sub-Internship Rotations, research, and more. In addition, resident led Zoom meetings were held throughout the year to better guide current applicants to and through match day. The following year, for first-time applicants, the Match Rate was 100%. Now, just after the second year of pandemic limitations, the Match Rate hit 100%, again!

These mentorship efforts have and will continue to usher in success for future leaders of Orthopaedics at UCLA. We recognize additional efforts are still needed and we aim to provide more support.

As pandemic restrictions are lifted, we are excited to host in-person mentorship opportunities, expand ACE Mentorship Groups to include medical students in Years 1-3, and host our beloved Sawbones event once more. We want to thank all the attendings who have agreed to lead their respective mentorship groups. Feedback thus far has been exceedingly positive!

Dr. Sheppard is one of our resident physicians who mentors medical students interested in an Orthopedic Residency Program. He completed his undergrad at UC Davis, received his Master in Public Health at UCLA Fielding School of Public Health, and completed medical school at David Geffen School of Medicine. I was able to catch him on a busy day running around and asked him a few questions about the program.

William Sheppard, M.D.
Resident Physician

What have you gained from mentoring?
Personally, I have gained knowledge that more programs like this are needed to best increase recruitment, retention, diversity, and inclusion.

What inspired you to become a mentor?
I received a ton of help from attendings and residents throughout my journey through medicine. I would not be where I am without this guidance as my father is a janitor and my mother a file clerk. Needed as much guidance as possible. Programs like these made that possible.

When mentoring medical students, what do you think they enjoy most about the program?
Students enjoy the continuity of mentorship. Overall, I just appreciate orthopaedics paying attention to how difficult matching has become (and our attempts to try to support them through the difficult application process).

ALUMNI SPOTLIGHT

The department of Orthopaedic Surgery is proud of its graduates. Our alumni are a group of outstanding surgeons with diverse achievements. We have recently caught up with Dr. Justin Barad, a graduate of our residency program. Dr. Barad currently practices at the Orthopaedic Institute for Children and is a co-founder and CEO of Osso VR, the world's largest VR surgical training platform. Dr. Barad shared with us his story.

From an early age and well before pursuing a career in medicine, Dr. Barad was passionate about video games and especially, about the way video games were made. Determined to become a game developer, he changed this course after a family member was unexpectedly hospitalized. Dr. Barad asked himself whether he could direct his passion for technology into creating health, rather than entertainment. To pursue this new goal, he went to UC Berkeley to study bioengineering to create novel healthcare technology.

Realizing he did not know how to invent, Dr. Barad sought advice and received one memorable to this day "if you want to invent something, you need to understand the problem you are trying to solve first. The best way of understanding medical problems is to become a physician". It was then that Dr. Barad decided to pursue a path of obtaining an MD.

During his time at the UCLA School of Medicine, Dr. Barad began building his network of innovative and talented colleagues, received in his words- an "incredible education", and had the opportunity to shadow Dr. Eric Johnson who strongly encouraged him to pursue the Orthopaedic specialty. Dr. Barad says he found Orthopaedics to be incredibly attractive as it involved technology and leveraged his engineering background; he also found that peers meshed well with his "food-loving upbeat personality".

As a trainee surgeon, Dr. Barad encountered various challenges he found stimulating with one, in particular, he could not ignore. He noticed that novel and rare cases did not always go smoothly for the team. This issue was more prevalent in cases with newer technologies, where assistants from medical device companies helped the team through the case. The challenge was that despite training on newer techniques, the team often did not have a chance to perform the actual surgery until months after the training.

This challenge merited a deeper dive that prompted Dr. Barad to discover three core dynamics:

- Too much to learn: with the accelerating rate of science and technology expanding, the library of procedures surgeons were expected to know rapidly expanded too. Teams were expected to perform procedures with no prior experience in these procedures. Dr. Barad vividly remembers a trip to LA Zoo when he assisted Dr. Nick Bernthal with an emergency surgery on a gorilla. Dr. Barad says that today, surgeons face more of these "gorilla-like" situations.

- Increasing complexity: modern surgeries are harder to learn than traditional procedures. The learning curve for a traditional procedure is around 20 cases while for a modern procedure, such as robotics or minimally invasive, it takes 50-100 cases to learn.

- Lack of assessment: Lacking ways to assess surgical ability and procedural proficiency of clinicians performing the procedure.

Dr. Barad's findings were backed by data from studies that 31% of graduating residents could not operate without supervision.

Involvement in gaming and, especially, in virtual reality (VR) allowed Dr. Barad to see a solution. VR was perfect for solving the issues due to giving users the ability to access the technology anytime & anywhere, train on any procedure, train as a team, and receive an objective assessment. Dr. Barad notes the "tremendous support" he received from UCLA, namely his program director, Dr. Nelson SooHoo, who held innovation brainstorming sessions and encouraged Dr. Barad to audit classes and network.

Dr. Barad also notes Professor Jennifer McCaney from what later became the UCLA Bio-design Lab, where Dr. Barad had the opportunity to meet with Paul Grad, the CEO of Medtech Innovator.

Today, Dr. Barad's idea grew into Osso VR, raising $109 million, employing nearly 200 individuals, and training thousands of surgeons per month around the world. With six peer-reviewed studies, Osso VR has demonstrated a 230%-300% improvement in skill transfer and surgical independence.

Dr. Barad believes that innovation is a lifelong journey, which requires grit and takes a village. He adds that he would not be the innovator he is today without experience and continued support from the UCLA ecosystem and the opportunity to continue to care for patients at Orthopaedic Institute for Children and pay it forward with our future surgical leaders to maintain UCLA Orthopedics as the center of the most exciting innovations in healthcare today.

To learn more visit www.ossovr.com

This article was written by Justin Barad, M.D., Melanie Caluza, and Ksenia Kurnakova, M.P.H. Photos are courtesy of Justin Barad, M.D.

GRANT SPOTLIGHT

BY MELANIE CALUZA

In FY22, UCLA Orthopaedics and Bioengineering were awarded grants from the National Science Foundation (NSF) and David Geffen School of Medicine (DGOSM) with the Clinical and Translational Science Institute (CTSI). These grants will provide our scientists and surgeon-scientists with the opportunity to find ways to improve mobility assistive devices and implants for comfort, safety, and long-term stability.

NATIONAL SCIENCE FOUNDATION: DARE

The National Science Foundation (NSF) awarded UCLA with the Disability and Rehabilitation Engineering (DARE) grant. Dr. Tyler Clites leads this project as the principal investigator alongside co-principal investigators Drs. Nick Bernthal and Alexandra Stavrakis.

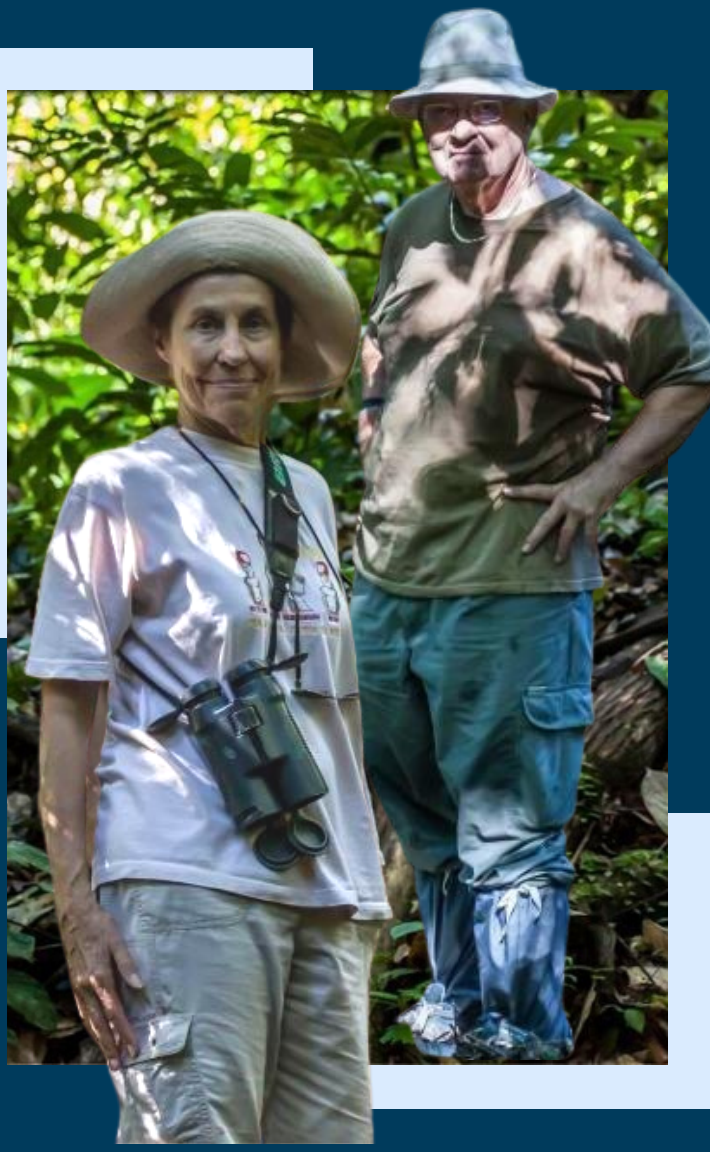
With many health issues that affect our ability to move, innovative assistive devices have helped restore mobility but are limited due to overall comfort and safety. This project will focus on improving the mechanics between arm prostheses and the body with the goal to create prosthetic suspension systems that are safer and more comfortable, fit better, and require less frequent adjustment in the clinic.

DGSOM &CSTI: SEED GRANT

Drs. Tyler Clites, Nelson Soohoo, Jonathan Hopkins, Sophia Sangiorgio, and Alexandra Stavrakis were awarded the DGSOM/ CSTI Seed Grant. Their efforts will go towards the development and validate a novel revision knee replacement implant with the potential to restore limb function throughout a patient's lifetime.

DONOR SPOTLIGHT: JOY & BILL APPLEBY

BY MELANIE CALUZA



The Applebys' in Borneo on an orangutan chase (2018).

Life is completely unpredictable. If there's one thing certain about life, it's that the people you meet along the way are the paths you're meant to cross. Arthur "Bill" Appleby, crossed paths with Dr. Jeffery Eckardt when he was diagnosed with bone cancer in the mid-'90s. Dr. Eckardt met Bill with empathy and compassion during a time when Bill's life was clouded with uncertainty and darkened by the unknown. Bill's commitment to UCLA Ortho started because of the expertise and professionalism Dr. Eckardt provided and the feeling of home every time he visited. Joy Appleby, Bill's wife, has become a UCLA patient herself, and the two of them not only found a home, but also a family with UCLA Ortho.

When I asked them what inspires their philanthropic work, Bill was quick to dismiss labeling his commitment as philanthropic but humbly said that this is just his way of showing genuine appreciation of UCLA's professionalism and expertise.

Bill Appleby retired from Boeing in 2002, and Joy Appleby is a retired high school mathematics teacher of 37 years. They live in Orange County, have been married for 55 blissful years (and counting), and now spend their time wandering the world together. Their passion for learning about and photographing new cultures and inspiration to take on new adventures have led them to 135 counties.

They've dined at 25 Michelin 3-Star restaurants along the way- though Bill endearingly believes Joy's cooking is the best.

When I caught up with them, we talked about their latest travels through West Africa and the countries they visited- Benin, Togo, and Ghana, following the historic slave trade route and learning about the Voodoo religion. When I asked them, "Where to next?" I could almost hear a smile, and then with elation in their voice, "Brazil for panthers and India to see tigers!" The Applebys' travels are less quiet-beachside vacations and more Indiana Jones adventures!

AAOS ANNUAL MEETING 2022

BY MELANIE CALUZA

Every year the members of the American Academy of Orthopaedic Surgeons (AAOS) team up for a week of education and collaboration on what's new and upcoming in orthopedic surgery. Many of our residents and surgeon-scientists had the opportunity to share what the UCLA Department of Orthopaedic Surgery has been working on to keep us on the leading edge of patient care.

UPCOMING EVENTS

ORTHO GRADUATION

UCLA-LOS ANGELES

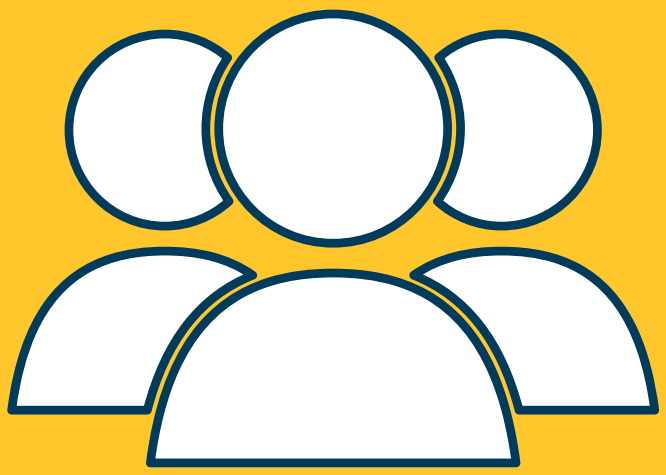
JUNE 2022

ISOLS 2022

MEETING-LOS ANGELES

SEPT 6- 9, 2022

Show us your Bru[W]ins!



We want to hear from you!

Every issue as we will highlight leading-edge Ortho care and research, we'd like the opportunity to showcase the honors and awards of individuals from our Ortho Team.

This invite is extended to every Ortho Team member. We'd like a chance to celebrate with you! Please email your latest accomplishment or award and a brief description to Melanie Caluza.

You're also welcome to send us the accomplishments of others on our Ortho Team that you'd like to celebrate.