

Rady
Children's
Hospital
San Diego

UC San Diego
SCHOOL OF MEDICINE



Connections

A Newsletter from the Rady Children's Orthopedic and Scoliosis Program

2023

Issue 19



Message from the Chief

Dear Friends and Colleagues,

I am more than honored to introduce the Rady Children's / UCSD orthopedic Connections Newsletter for 2023. This year in review is filled with details and fun photos I am sure you will enjoy. Our team continues to grow and excel with spectacular contributions from each of physicians, advanced practice providers and researcher and staff.

Our focus remains in providing the absolute best orthopedic care for patients, passing the knowledge and experience to future stars, and leading in the pursuit of new knowledge. We have completed 3 successful recruitments this year with Chris Souder, MD (trauma, lower extremity recon, DDH), Matt Schmitz, MD (sports, hip preservation) and Erika Ofek, MD (sports med) slated to join our team in the coming year who will help continue to advance these goals.

Per usual we are graduating a wonderful class of fellows and welcoming in an equally impressive new group. The training program led by Dr. Upasani remains a jewel of our program and a we highly value the opportunity to train the future generations/leaders of our specialty. Dr. Cidambi has taken on the residency training with a similar commitment to the residents

(UCSD, Balboa Naval, San Antonio Army/Air Force) educational experience.

Our research team has always been strong but this year Dr. Edmonds' team led by Tracey Bastrom and Christy Farnsworth hit it out of the park. We are always searching for "orthopedic truths" and this year was particularly productive with more than 70 published manuscripts. A big congrats to everyone for their commitment to discovery.

It was a real treat to have Dr. Jon Davids back for a "homecoming" as our 49th annual David Sutherland visiting professor (group photo below). From the Rady Children's / UCSD orthopedic family to you and yours, wishing you all the best in the coming year. Enjoy the newsletter, find joy in the smiles and stories, and keep the connections strong.

Most sincerely,

Peter Newton, MD
Chief of Orthopedic Surgery
Surgeon-in-Chief



Message from the Clinical Fellowship Program Director



Dear Friends and Rady Orthopedic Family,

This has been an incredible year for the clinical fellowship at Rady Children's Hospital. Our last class of fellows graduated at the end of July 2022 and are flourishing in their current positions. Drs. Orner and Hollnagel are completing their additional fellowships in Sports and Hip Preservation and are getting ready to start their careers. Dr. Orner accepted a position at the Medical College of Wisconsin, while Dr. Hollnagel will join the team at UH Rainbow Babies and Children's in Cleveland, Ohio. Dr. Tretiakov is developing his lower extremity and foot and ankle practice in Seattle, Washington and Dr. Speirs is busy building his practice in Salt Lake City, Utah. It has been wonderful to run into them at national and international meetings over the past year and to see their continued development.

Our current group of fellows is only a few short months away from finishing their training. They have become an extremely tight knit group and have excelled in their clinical, academic, and surgical development. All four of them have accepted positions and are excited to hit the ground running later this year. Dr. Carveth will join a private practice in Des Moines, Iowa. Dr. Katsma will join the Balboa Medical Center in San Diego, California. Dr. Paranjape will join the Shriners Hospital in Portland, Oregon. And Dr. Tadlock will join the San Antonio Military Medical Center in Texas.

These four had a wonderful time with our 49th Annual David H. Sutherland Visiting Professor, Dr. Jon Davids from the Shriners Hospital in Northern California. Dr. Davids spent an extra day with us visiting the Southern Family Center for Cerebral Palsy and the fellows were able to get an in-depth understanding of how Dr. Davids utilizes gait analysis to guide and assess his management of children with CP. Our entire team especially enjoyed Dr. Davids Pediatric Grand Rounds

lecture on the history of gait analysis and how the treatments for children with CP have evolved over the past 4 decades of his career. It was wonderful to welcome Dr. Davids back home in San Diego for this visiting professorship and we really appreciate all the time and energy he put into making it a special day for all of us.

This year, during the VP meeting, two of our fellow alumni were able to join us to present some of the new research they have been working on. Dr. Bob Cho from the Shriners Hospital in Los Angeles presented his work on the use of 3D printing to teach complex spine surgery and Dr. Matt Schmitz from the San Antonio Military Medical Center presented the collaborative research he is doing with the ANCHOR (Academic Network of Conservational Hip Outcomes Research) study group. We welcome our alumni to join us in future VP meetings and submit their research ideas if they would like to present their work.

Preparations are now under way to welcome our upcoming class of fellows. Dr. Tanner Campbell will be joining us from the University of Kansas Medical Center, Dr. Madeleine Jackson from the University of Washington, Dr. Taylor Jackson from the Mayo Clinic, and Dr. Lukas Keil from the University of North Carolina. They will have the opportunity to train with our newest faculty member Dr. Chris Souder who will be starting with us in August 2023.

Best,

V. Salil Upasani, MD
Clinical Fellowship Program Director



Rady Children's Hospital Orthopedic Surgery

Ranked #6

The US News and World Report magazine makes an important contribution to consumer perception of medical quality in North America by publishing an annual national ranking of medical institutions. This includes ranking children's hospitals in the U.S.A. and, more importantly for us, ranking children's orthopedic programs. In addition to standardized quality measures, the ranking also includes the opinions of other academic leaders in children's orthopedics. We are happy to note that the Rady Children's Hospital made the honor roll and the Rady Children's Hospital/UCSD orthopedic training program was ranked 6th in the nation for the 2023 ranking.

From the beginning, we have made a concerted effort to have a balanced program focused on patient care and surgery quality, teaching, and research. This has been hard work for all of us, and also reflects the energy and effort of our large group of fellows who we have trained over the past 30+ years. Finally, we are fortunate to work within a hospital and university that are highly committed to excellence. **Rady Children's continues to be ranked in all 10 pediatric specialties and earned a spot on the Honor Roll this year with five specialties ranked in the top ten!**



The 2nd Annual Scott Mubarak Surgical Grand Rounds

The 2nd annual Scott Mubarak Surgical Grand Rounds was a success. Each year, near the end of the fellowship year, a special grand rounds is held in which surgical fellows from various departments are offered the opportunity to present their research. Orthopedics was well represented at this event with all four of our fellows presenting. The 2023 Best Paper award went to Jose Rodriguez from the Cranio Facial/Plastic department for his paper on the predictive parameters associated with the management of Pierre Robin Sequence. Our own ortho fellow Josh Tadlock took home second place for his work on anterior vertebral body tethering and Bubba Carveth, also an ortho fellow, won 3rd place with his randomized controlled trial evaluating traditional versus waterproof cast material. Congratulations to all.

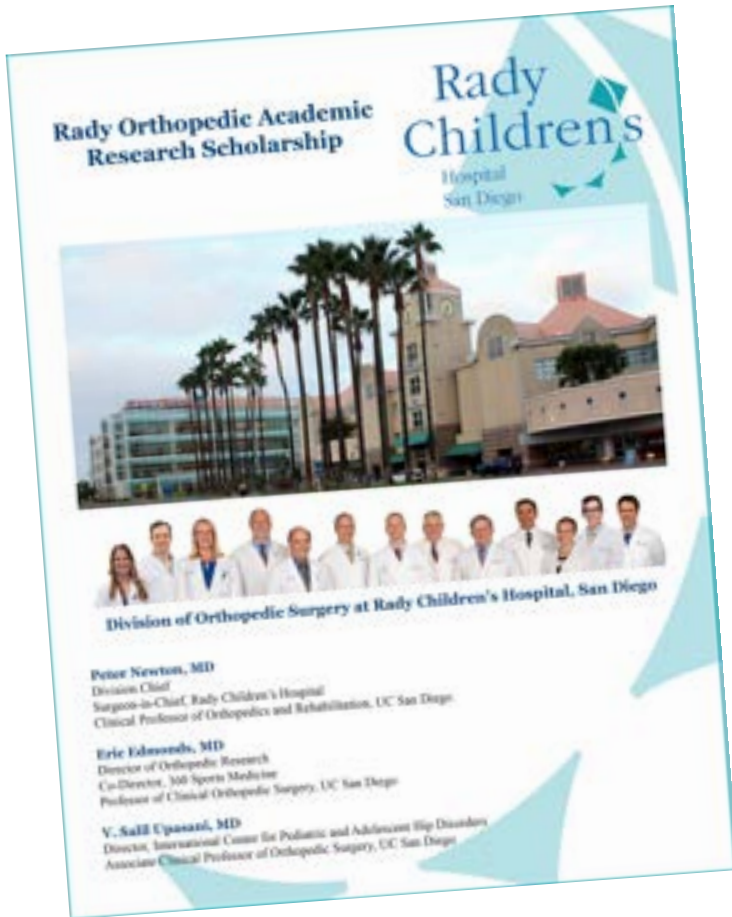


Rady Orthopedic Academic Research Scholarship

This year marked the launch of our ROAR scholarship. The Rady Orthopedic Academic Research Scholarship (ROARS) award promotes clinical research by giving extraordinary undergraduate and medical students the opportunity to investigate pertinent topics in clinical orthopedic research at Rady Children's Hospital, San Diego (RCHSD). While there are several funded year-out programs for students to conduct research, this award is unique because it is specifically designed for students who are interested in pursuing a career in academic orthopedic surgery. The ROAR Scholarship focuses on giving the student clinical research opportunities, advanced orthopedic skills through weekly clinical exposure, and mentoring for residency applications and beyond.

Applicants will be enrolled in or have completed a BA/BS degree. Step 1 results will be an application advantage. The student must be in good academic standing and have an interest in pursuing a career in orthopedic surgery. The successful applicant will be responsible, motivated, intellectually curious, and independent.

Our inaugural ROAR Scholar, Garrett Rupp, worked on 8 projects this year – 3 were accepted at POSNA, one at EPOS, and one was accepted at both AACPD and GCMAS. The topics are as follows: Treatment of scaphoid non-unions, Opioid use following supracondylar fractures, Application of Microsoft Kinect as a tool to measure upper body function, Screw retention in distal tibial fractures, PCL injuries, Epiphyseal bars in an animal model, Comparison of the modified San Diego acetabuloplasty to the traditional San Diego, and he studied the relationship between posterior tibial slope and PCL ruptures.



Drs. Pat Curran and Hank Chambers presenting Garrett Rupp with his ROARS award. Garrett is our first ROARS scholar. His hard work and talent exemplify the qualities we are looking for in our ROARS scholars.

2021-2022 Fellows – Rady Children’s Hospital



Stephen “Bubba” Carveth, MD

Dr. Carveth “Bubba” graduated from medical school at Oakland University William Beaumont School of Medicine and completed residency at Spectrum Health/Michigan State University. Upon graduation, Dr. Carveth will join a multi-specialty, private Orthopedic group in Des Moines, Iowa. He will have a general Pediatric Orthopedic practice, with a focus on trauma, sports medicine, and hip preservation. During his fellowship, Bubba worked on a randomized control trial evaluating the differences in ortho tech- and patient-reported outcomes among traditional cast material and waterproof cast material. He also helped to validate an ankle-based bone age system developed by Dr. Pennock. Congratulations Bubba!



Mark Katsma, DO

Dr. Katsma graduated from medical school in Arizona at Midwestern University and completed residency at the Portsmouth Naval Medical Center in Virginia. After he graduates he will stay in San Diego and work at the Balboa Naval Medical Center. His primary research project this year was related to hip surveillance and treatment patterns for children with spinal muscular atrophy. This paper was accepted as a poster presentation at this year’s CureSMA conference and the American Academy for Cerebral Palsy and Developmental Medicine conference. Dr. Katsma also worked on projects related to foot deformities in patients with myelomeningocele, ischiofemoral impingement findings on MRI, and MRI perfusion in patients with Legg-Calvé-Perthes disease.

2021-2022 Fellows – Rady Children’s Hospital

Dr. Paranjape graduated from medical school at Duke University. He completed his residency at the University of North Carolina, Chapel Hill. During his fellowship he studied residual acetabular dysplasia in patients with dislocated hips that were successfully treated with bracing. This paper was accepted as a podium presentation at both EPOS and POSNA. He also studied little league elbow and completed a book chapter with Dr. Upasani related to hip trauma. Dr. Paranjape has accepted a position at Portland Shriners Hospital for Children and will focus half his time on spine and half on general orthopedics.



Chinmay Paranjape, MD



Josh Tadlock, MD

Dr. Tadlock graduated from medical school at the University of South Carolina in Greenville. He completed his residency at William Beaumont Army Medical Center in El Paso, Texas. During his time with us he studied the effects of surgical site infiltrate of liposomal bupivacaine in patients undergoing major hip surgeries. This paper was accepted as an ePoster at POSNA. He also studied vertebral body tether survivorship, which was accepted as podium presentation at SRS. Upon graduation, Dr. Tadlock will return to the military and begin a general ped ortho practice, with a focus on adolescent and young adult hip preservation at San Antonio Military Medical Center working along side of former fellow Matt Schmitz (class of 2012) (at least until Dr. Schmitz returns to San Diego in 2024).

2023-2024 Incoming Fellows

The process of applying, interviewing, and being accepted to one of the top-ranked fellowship programs in children's orthopedics is a demanding one. Each year we receive 40-50 applications and narrow these down to a smaller group that we can interview and then select the very best of these candidates. The surgeons listed below arrive August 1, 2023 to begin their academic year. They are outstanding young orthopedic surgeons from throughout North America and we look forward to working with them.

Tanner Campbell, MD



Undergraduate:
Texas Christian University,
BS Biology
Medical school:
University of Texas Health Science
Center at San Antonio
Residency:
University of Kansas Medical Center

Madeleine Jackson, MD



Undergraduate:
Princeton University,
AB Religion
Medical school:
University of California,
San Diego
Residency:
University of Washington,
Seattle

Taylor Jackson, MD



Undergraduate:
Baylor University,
BA Biology
Medical school:
University of Texas Southwestern
Dallas, TX
Residency:
Mayo Clinic

Lukas Keil, MD



Undergraduate:
University of North Carolina, Chapel
Hill, BS Biology, Chemistry
Medical school:
University of North Carolina,
Chapel Hill
Residency:
University of North Carolina,
Chapel Hill

Future Fellows – 2023 Match (for 2024-2025 Academic Year)

We are happy to announce that we have matched with the outstanding residents listed below

Alexandre Boulos, MD

Brown University

Ena Nielsen, MD

University of Washington, Seattle

Stephanie Kha, MD

Stanford

Amy Steele, MD

Harvard

Hands On Infant Ultrasound Course



In continuing with the tradition that Dr. Mubarak started decades ago, Dr. Salil Upasani holds an annual infant hip ultrasound course. Typically held near the start of each fellowship year, Dr. Upasani invites a family with a newborn child to come in so that

our fellows and residents can have hands on training in infantile hip ultrasonography. Fellows and residents are given a lecture on hip ultrasonography and then move onto performing an ultrasound examination on a volunteer baby.





Notes from a Former Fellow

Brian Scannell, MD

*Carolinas Medical Center – Charlotte, NC
(Fellow – 2012-2013)*

I have always enjoyed the name of this newsletter - Connections. I am very grateful for the connections that have helped me throughout my life and my career and many of those connections point back to San Diego.

My family moved to Charlotte, NC when I was 10 years old, so it has been home now for quite a while. I wasn't very excited about the move initially but very quickly grew to love Charlotte and North Carolina. I generally stayed fairly busy throughout grade school, middle school, and high school with sports and primarily swimming. Swimming became an outlet for me very early on and connected me to so many people that I am very grateful to have met.

Swimming and academics helped to pave my way to the University of Georgia (UGA). My experiences there have led me to become a lifelong and diehard Georgia bulldog...and it has been a great few years for Georgia fans! At the University of Georgia I was very fortunate to be put into a number of leadership positions within our swim program as well as the University. I am very thankful for the guidance and leadership from my coach at that time, Jack Bauerle, who just recently retired from one of the most impressive collegiate swimming coaching careers there has ever been. I learned from Coach how to manage teams of different people from very different backgrounds – some of the things I learned have been invaluable to me in some of my current roles. Coach Bauerle along with my family helped to give me the nudge that I needed to head into medicine.

I didn't travel too far up the road but left UGA for the University of North Carolina (UNC) at Chapel Hill for medical school. The best connection that I could make there was a lifelong partner, my wife Dr. Kasey Scannell (Pediatrician). We met just before medical school and became best friends – the rest is history as we just celebrated our 17th wedding anniversary. When Kasey and I initially met at the beginning of medical school I thought I was going to be

a pediatrician. At the UNC, I met some incredible faculty but the one that stood out the most was a pediatrician, Dr. Julie Byerley. She became a mentor and an advocate for me and helped me to truly figure out a career path. I'm very grateful for my connection with Dr. Byerley. I remember sitting in her office as a third year medical student telling her all the things I wanted in a career as a pediatrician. After she patiently listened to me, she very calmly steered me in a different direction to a career as an orthopedic surgeon. It is connections like this that truly help to shape young medical students. I try to think back to my interactions with Dr. Byerley and provide the same support and advocacy for the medical students that I educate/mentor.



The Scannells

When I was a fourth year medical student, I did an away rotation at Carolinas Medical Center (CMC) in Charlotte, NC. This is where I met the individual who would most influence my career, Dr. Steve Frick. Dr. Frick was the Program Director at the time. Although I don't know that I mentioned it in my interviews, I knew after meeting him as a medical student, I wanted to be a pediatric orthopedic surgeon and follow in his footsteps as a program Director one day. Dr. Frick was probably the single biggest influence on

my career at that time and still is today. I learned so much from him about caring for patients, pediatric orthopaedics, and educating residents.

During my time at CMC, it was a very easy decision for me to pursue pediatric orthopedic surgery. It offered everything I was looking for in a career as I really had interest in all areas of orthopaedics (except for sports medicine). When I was looking for fellowships, I remember keeping fairly detailed notes of all of my fellowship interviews. For me, San Diego stood out above all the rest. I already had some connections to San Diego including Dr. Frick and one of my previous chief residents in Charlotte - Dr. Eric Edmonds.

I will forever be grateful for the connections that I've made with the faculty in San Diego. Over the last 10 years of my career my spine



The class of 2013 then and now.

practice has gotten busier and busier - I still very much lean on the teaching and guidance from Dr. Peter Newton as well as Dr. Burt Yaszay. Both of them have been fantastic anytime I have sent them difficult cases to get their expertise. I learned to tackle the difficult upper extremity, as well as lower extremity, deformity cases from Dr. Doug Wallace and Dr. Maya Pring. I know that I am a better surgeon for my patients with cerebral palsy after working with Dr. Hank Chambers. I certainly learned a lot about CP surgery from Dr. Chambers, but the experience of sitting down and talking to Dr. Chambers and his wife about their personal experiences with their son has been invaluable to me in providing care to my patients and their families. During the fellowship year, there was so much more that I learned on how to have a successful and a sustained career in pediatric orthopedic surgery from Dr. Scott Mubarak as well as Dr. Dennis Wenger.

There is no doubt that the connections through the San Diego faculty continue to influence me. However, the connections that I have made with peers through the network of fellows are what make San Diego so special. I think many of us have had this experience: my co-fellows from 2012-13 (Dr. Avrum Joffe, Dr. John Kempainen, and Dr. Chris Souder) and the relationships that we built with each other (with countless hours in the fellow office) during our fellowship have endured over the course of the last 10 years. There is rarely a day that goes by that we are not sharing cases, asking for each other's opinions, or simply laughing at ourselves via text. I am unbelievably grateful for each of these gentlemen and their friendship over the years. I feel fortunate to have been "adopted" by the class ahead of me as well. Dr. Chris Bray (also previous co-resident of mine), Dr. Matt Schmitz, Dr. Jacob Schulz, and Dr. Eric Fornari have become great friends over the years. I was fortunate enough in 2018 to go to Ecuador on a mission trip with this crew and I am very much looking forward to heading back there in October 2023 with them as well.



Fellowship graduation - 2013



Dr. Scannell in Ecuador with Drs. Bray, Schulz, and Schmitz



POSNA 2023 & Ortho Reunion

POSNA 2023 was held in Nashville. We presented 7 podium presentations this year as well as 4 ePosters and **Dr. Mubarak received the Distinguished Achievement Award**. Congratulations Dr. Mubarak! Please enjoy these photos from our annual Fellowship reunion.



2023 POSNA & Ortho Reunion



Matt Ellington (class of 2016), Eric Fornari (class of 2012), Scott Mubarak, Matt Schmitz (class of 2012), and Eric Edmonds (class of 2008)



Chinmay Paranjape, Josh Tadlock, and Bubba Carveth (current fellows) with Lauren Fox, one of our ortho nurses.



Brian Scannell (class of 2013), Matt Schmitz (class of 2012), Peter Newton



Chrissy Paik, Casey Abare, and Amanda Asaro –RCHSD Advanced Practice Providers



Chris Souder (class of 2013) and Julia Sanders (class of 2018)



Bob Cho (class of 2010), Hank Chambers (class of 1990), Ryan Fitzgerald (class of 2017).

2023 POSNA & Ortho Reunion



Keith Bachmann (class of 2016), Dr. Edmonds (class of 2008), Brian Kaufman (Austin), Matt Ellington (class of 2016), David Lazarus (class of 2016), Tim Borden (UT Houston), Caitlin Orner (class of 2022).



Ernie Young (class of 2019) and Jaysson Brooks (class of 2017).



Christine Caltoun (class of 2007) and Tracey Bryan (Ortho Research – San Diego).



Jon Schlechter (class of 2008), James Hui (Singapore), James Beaty (Campbell Clinic - Presidential Guest speaker), SJM (Distinguished achievement award winner), Dr. Edmonds (class of 2008), and Unni Narayanan (Sick Kids).



Afshin Aminian (class of 2000) and Wally Yassir (class of 2001).

2023 POSNA & Ortho Reunion



Pat Henderson (class of 2008), Dr. Chambers (class of 1990), Hilton Gottschalk (class of 2011), and Luis Moraleda (class of 2009).



Caitlin Orner (class of 2022), Jon Schlechter (class of 2008), Pat Henderson (class of 2008), and Dr. Pennock.



Anthony Catanzano (class of 2021) and Clarabelle DeVries (class of 2020).



John Kempainen and Avrum Joffe (both class of 2013).



Stefan Parent (class of 2004), Lissette Salgueiro (class of 2014), Burt Yaszay, Dr. Edmonds (class of 2008), Amelia Lindgren (former UCSD resident), Emily Cidambi, and Bob Cho (class of 2010).

2023 POSNA & Ortho Reunion



David Lazarus (class of 2016), Katharine Hollnagel (class of 2022), and Josh Speirs (class of 2022).



Christine Caltoun (class of 2007), Dr. Wallace (class of 1995), and Meghan Imrie (class of 2009).



Ken Kuo, MD (Chicago/Taipei), Eric Fornari, MD (class of 2012), and Christina Kuo, MD (Chicago). Dr. Fornari won the POSNA 2023 Angela S.M. Kuo Memorial Award for his work on the psychological assessment of scoliosis patients undergoing surgery.



Tracey Bryan (Ortho Research – San Diego) and Michelle Marks (Setting Scoliosis Straight Foundation).



Dr. Wenger and Ken Kuo (Chicago/Taipei).



Jeff Sawyer and Dr. Mubarak, both former Presidents of POSNA.

2023 POSNA & Ortho Reunion



Dr. Upasani, David Scher (class of 2000), Afshin Aminian (class of 2000), Dr. Newton, and Amir Misaghi (former UCSD resident).



Matt Hollenbeck and Lissette Salgueiro (both class of 2014).



Dan Bland (class of 2017), Chrissy Paik, PA-C (San Diego), Jaysson Brooks (class of 2017), Dr. Edmonds (class of 2008), and Dr. Wallace (class of 1995).



49th Annual *David H. Sutherland* Visiting Professorship

Jon R. Davids, MD

Shriners Children's Northern California – May 4 & 5, 2023

Jon Robert Davids, M.D., assistant chief of orthopedics at Shriners Children's Northern California, is an internationally recognized pediatric orthopedic surgeon noted for his work in treating children with cerebral palsy.

Dr. Davids graduated Magna Cum Laude from Brown University before earning his Doctor of Medicine at Harvard Medical School, where he was a member of the Aesculapian Club and president of the Harvard Chapter of the American Medical Students Association. He completed his Residency in Orthopaedic Surgery at the University of Colorado Affiliated Hospitals and a Fellowship in Pediatric Orthopaedics at Children's Hospital and Health Center at the University of California, San Diego. Dr. Davids is a member of the Pediatric Orthopaedic Society of North America, International Pediatric Orthopaedic Think Tank, the American Orthopaedic Association, the American Academy of Orthopaedic Surgeons, the American Board of Orthopaedic Surgeons, Gait & Clinical Movement Analysis Society, and the American Academy of Cerebral Palsy and Developmental Medicine.



49th Annual David H. Sutherland Visiting Professorship





Research Team *Year in Review*

Written by Tracey Bryan, MA

Our team continues with our diligent efforts to assist with the research and educational missions of the department. We are also preparing to move into new office space on Frost Street. I hope POSNA puts San Diego back on the rotation after 2020's cancellation so that you all can come see our new home on campus! I know many of you will not recognize the facilities here on the main campus, as there has been so much exciting growth.

It was great to catch up with everyone at POSNA in Nashville after these last few years of the pandemic. The opportunity to see so many of our past fellows on the podium and active in POSNA board and committee positions was truly rewarding. It is such a great reminder that our time and investment assisting our fellows with their research project(s) goes beyond the conclusion and publication of that project.

The 49th Annual David Sutherland Visiting Professor was a great success. Our current fellows have been working hard to complete their projects and as always it was wonderful to see all of the hard work come together for presentation. We heard Dr. Paranjape talk about residual dysplasia in infants with dislocated hips that were successfully treated with a brace. Dr. Tadlock presented on the survival curve of AIS tether patients, with a focus on examining outcomes over time (which was also accepted as a presentation at the upcoming SRS annual meeting!). Dr. Carveth completed a RCT this year with a lot of help from our APPs, ortho techs, and our research team. This project looked at waterproof versus traditional casting for non-displaced distal tibia or fibular fractures. Dr.

Katsma worked with our neuromuscular and rehab team to look at practice variations for hip surveillance and treatment in children with spinal muscular atrophy. We also got to hear from some of the many medical students, residents, and international fellows that are working with us. Including Garrett Rupp, who is a UCSD medical student that spent a year with us as part of a new Rady Orthopedics Academic Research Scholarship. Garrett has been a great asset for our team this year and has worked hard on at least 10 different projects!

We also invited two of our past fellows, Dr. Bob Cho and Dr. Matt Schmitz to give talks during our VP program. Dr. John Schlechter worked together with our own Dr. Pennock on a project this last year and we were able to provide Dr. Schlechter's medical student with an opportunity to present the findings. It's always a fun time to have past fellows at VP day. You are all always welcome, we'd love to have you!

Our overall focus on our research studies in general is about improving levels of evidence, efficiency of data collection, and ensuring that we have longer term follow-up in diagnoses where even 2 years doesn't provide a full picture of outcomes. As you all know this is easier said than done, but we continue to work toward leveraging technology in order to achieve these aims. I always enjoy getting to chat with our alumni at conferences to hear about how you all are accomplishing these tasks at your institutions.

Thank you for taking the time to read our research team update.



Claire Manhard – Research Assistant, presenting her work on supracondylar fractures at Visiting Professor. Claire has been accepted to a DO program in Chicago. Congratulations Claire!



Orthopedic Biomechanics & Translational Research Center

Year in Review



Written by Christy Farnsworth, MS

We are honored to continue to provide tools and resources for orthopedic research and the training of future orthopedic surgeons, physicians, scientists and engineers. Academic year milestones for the OBTRC include 4 manuscripts published and presentations (posters or podium) at various meetings including the Northwest Biomechanics Symposium, Boise State University Undergraduate Research Symposium, AAOS, POSNA and the Association of Bone and Joint Surgeons. We are especially delighted that this has been a particularly effective year for grant applications as we had a hand in preparation and submission of 12 research grants, 5 of which have been awarded and 5 remain pending award notice. Two grants are for our work with both of the 2023-2024 POSNA Roshen N. Irani Research Training Grants! They are awarded to Madeleine Jackson MD (Rady Children's Orthopedics Fellow class of 2024) and Taylor Johnson MD (Stanford). It's a privilege to be working with Dr. Jackson and Dr. Johnson this coming year.

The thoracoscopic spine tutorial and lab was held in November, earlier in the fellowship year compared to those in the past, so that training could be put to clinical use in the Rady Children's OR. Drs. Newton, Upasani, Kelly, and returning fellow Dr. Firoz Miyajni imparted wisdom to our fellows (Drs. Tadlock, Carveth, Katsma, Paranjape, and Shinohara) and some ZimVie supported attendees. They practiced approaching the spine through ports, dissections, and tether instrumentation using thoracoscopic visualization. Thank you to our skilled and accommodating anesthesiologists, Dr. Liane Chun and Garrett Rupp, for helping to make this annual course a success. Looking back as I pack up old files for our office move in a few weeks, I've been reminded that Dr. Newton's first thoracoscopic course we provided was in 2001!

Some of our surgeons regularly use 3-D printed models for patient-specific surgical planning including use for implant sizing and osteotomy location choices. We have also created models for Dr. Pring to use in a deformity correction training course where residents and fellows practiced osteotomy and pinning techniques in deformed plastic prints of proximal and distal humeri. It is a true pleasure to create these along with Justin Ryan PhD and the Helen and Will Webster Foundation 3D Innovations Lab.

We are very grateful for our research collaborations, both near and far. Dr. Upasani performed spinal tether tension testing work with Dr. Mannen and the Boise Applied Biomechanics of Infants (BABI) Lab. With Dr. Mannen, we aim to include some motion analysis work in an animal model of DDH with the support of the Rady Children's Motion Analysis Lab in the Southern Center for Cerebral Palsy. Collaborative studies with the UCSD Department of Bioengineering, Cartilage Tissue Engineering Lab,

PI Robert Sah MD ScD comprise multi-level (macro-, meso-, and micro-scale) imaging of growth cartilage and articular cartilage development and multi-level imaging of spine development and comparative anatomy investigation between growing mice and the pediatric population. We have access to state of the art MRI imaging and image processing at UCSD with the partnership of David Berry PhD. We also get to work with UCSD Orthopaedic Surgery, University of Minnesota, and the Rady Children's Genomics Institute Biorepository on several tissue accession protocols.

We had a chance to look back to some fond memories when Dr. Jon Davids, fellow 1990-1991, returned to San Diego as our 49th Annual David H. Sutherland Pediatric Orthopedic Visiting Professor. Does anyone else reading this newsletter remember when outpatient clinic was in the brick building (now Building 12), when there were only 4 surgeons on staff, sending triplicate copies of manuscripts and photos with labels on the back to journals by FedEx, Dr. Chambers as bartender with his red bow tie, Dr. Mubarak missing a Christmas party while being overseas but showing up "virtually", and "The Hoof?" Likewise, we have a chance to look forward as Rady Children's Hospital campus is expanding. Our current building, "Building 12," which housed the original polio hospital and the orthopedic clinic through the early 1990's will be raised to make room for a new power plant for the hospital campus. As of mid-June, please come visit us on the first floor of the 7920 Frost Street building with close proximity to the Southern Center for Cerebral Palsy and the Motion Analysis Lab.



Dr. Pring planning out her surgical correction on a patient-specific 3-D print.



Hip Team Year in Review

Written by Vidyadhar Upasani, MD

The International Center for Pediatric and Adolescent Hip Disorders (ICPAHD) at Rady Children's Hospital San Diego is a leading referral center for both simple and complex hip conditions in children, adolescents, and young adults. Our unit is comprised of an expert team of orthopedic surgeons, non-operative sports medicine physicians, advanced practice providers, nurses, athletic trainers, and physical therapists who have extensive experience in the diagnosis and treatment of hip disorders. We offer a comprehensive range of services for pediatric and adolescent patients affected by hip disorders. From diagnosis to treatment and beyond, the center's multidisciplinary approach ensures that each patient receives personalized care tailored to their unique needs. The team's expertise spans various conditions, including developmental dysplasia of the hip (DDH), Perthes disease, hip impingement, and hip joint instability, among others.

Utilizing state-of-the-art diagnostic tools and advanced imaging techniques, the center's specialists employ cutting-edge technology to accurately assess and diagnose hip conditions. This allows for precise treatment planning and enables families to make informed decisions.



Innovative Treatments and Surgical Expertise:

Our team prides itself on staying at the forefront of medical advancements. The expert surgeons at Rady Children's Hospital specialize in both non-operative and surgical interventions, employing the latest techniques to optimize outcomes and enhance the quality of life for our patients. Minimally invasive surgical procedures, such as arthroscopy, are routinely performed to correct hip disorders while minimizing scarring and recovery time. The center also offers innovative surgical techniques, including hip preservation surgeries, joint realignment, and reconstructive procedures, which aim to restore the functionality of the hip joint and improve long-term outcomes.

We have established an extensive patient referral base which expands from the Pacific Northwest to the Midwest and provides international services to a number of patients from Mexico, Saipan and Central America. We recently treated a 33-year-old female who presented to Dr. Upasani with bilateral hip pain and was diagnosed with bilateral hip dysplasia and labral pathology. In coordination with Dr. Pennock she underwent staged bilateral hip arthroscopy and periacetabular procedures 3.5 months apart. She was most impressed with our innovative multi-modal peri-operative pain management regimen that allowed her to leave the hospital on post-operative day 2 and rapidly recover from her bilateral procedures.



Collaborative Research and Global Impact:

At the heart of our team's mission is the pursuit of knowledge and the advancement of pediatric hip care worldwide. The center's dedicated team actively engages in cutting-edge research, collaborating with leading institutions and professionals across the globe. By pushing the boundaries of scientific understanding, we strive to develop innovative treatments, refine existing protocols, and improve the lives of patients affected by hip disorders globally.

Through our research efforts, our team has contributed significantly to the scientific community, publishing groundbreaking studies, presenting at prestigious conferences, and developing best practices in pediatric hip care. Drs. Curran and Upasani recently presented at the European Pediatric Orthopedic Society annual meeting in Krakow, Poland. Dr. Curran's research was selected as one of the best neuromuscular clinical papers, reporting on the long-term results of hip reconstruction into adulthood in patients with cerebral palsy. Dr. Upasani's research focused on acetabular development in infants with dislocated hips treated successfully with a Pavlik harness.

Scoliosis & Spine Deformity Center *Year in Review*



Written by Michael Kelly, MD

The Spine Service had a productive clinical, academic, and research year. Our clinical practices continue to expand with Drs. Upasani and Kelly working in clinics to expand our regional base. Dr. Newton's expertise continues to bring patients from far and wide, giving us a national and international reputation for clinical excellence. Dr. Kelly continues to challenge the definition of "Pediatric" with patients well over 21 years of age. He has brought concepts and techniques from the adult spine world which garner conference comments including "interesting" and "do you think that is a good idea?"

We remain active in the Scoliosis Research Society and the Pediatric Orthopaedic Society of North America, giving invited lectures and research presentations. We were fortunate to debate with prior Rady Children's fellow, Stefan Parent, at the most recent meeting in Nashville and the debate will roll over to Prague this summer. We hosted the Scoliosis Research Society traveling fellows, Drs. Javier Pizones (Madrid), Dong-Cune Chang (Seoul), and Rene Castelein, and had a wonderful time. A San Diego research symposium included their talks on minimally invasive scoliosis surgery and the possible etiologies of Adolescent Idiopathic Scoliosis. The fellows had a great time at a Padres game, despite a loss, and went for a ride on Maya Pring's boat, though we did not catch any fish. We look forward to lifelong friendships and academic collaborations with these surgeons.

Our research program remains one of the most productive pediatric spine programs worldwide, with over 50 peer-reviewed publications in 2022. We received grant funding to support im-

munophenotyping in neuromuscular scoliosis surgery, as we strive for a precision-medicine approach to spine surgery. Drs. Newton and Upasani continue high-level work in Vertebral Body Tethering, including both indications and technical aspects to this innovative procedure. Our quest for patient-specific alignment targets continues, using data from both the adult and pediatric world as we refine our approaches to caring for 3-Dimensional diseases. Our residents and fellows presented our work at several meetings, including the SRS, POSNA, and the AANS. As this group leads the path in a pediatric "One Spine" approach with our neurosurgery colleagues worldwide, our involvement in the Joint Section meeting will increase.

The worldwide research and educational missions of the division are thriving. We have welcomed Kensuke Shinohara – Japan, Carlo Iorio – Italy, Francis Lovecchio – Hospital for Special Surgery, and Kyung-Hyun Kim – South Korea over the course of the year. Dr. Shinohara will present Rady Children's work on the podium of the Scoliosis Research Society meeting in Seattle, WA. In addition, we will host the SRS Traveling fellows, led by David Marks, in late August for surgery observation, research discussion, and some San Diego fun.

Our program graduates four fellows per year. We look forward to hearing from you, seeing your success, and debating you on the podium at our meetings. Drs. Newton, Kelly, and Upasani take great pleasure as the future generations rise and we look forward to the successes of Drs. Carveth, Katsma, Paranjape, and Tadlock.



Visiting SRS
fellows and local
hosts



360 Sports Medicine Year in Review

Written by Eric Edmonds, MD

Now in our 11th year, the 360 Sports program continues to be successful in the realms of clinical impact and academics for our Division. Currently, we have five providers. Two (Drs. Edmonds and Pennock) are surgeons, Drs. Elizabeth Kaufman, Yo Cheng, and Suraj Achar are our non-operative physicians and continue to expand our reach at the satellite clinics and expand our capabilities with diagnostic ultrasonography skills. For the first time ever, the Sports team is outpacing the Spine team for RVU productivity, and we have no plans to slow down in 2024 as we bring in Dr. Matt Schmitz as a part time Sports Medicine surgeon.

This clinical volume and dominance in productivity (not that it's a competition, but we are Sports providers) would not be possible without the entire team. Always present and thankfully über fantastic at her job, our care coordinator Val Calandra-Young, remains the stalwart backbone of the Sports program. Without her herding the cats, we would be ... well, like a bunch of cats and not effectively providing the best care possible to our patients. And she managed this success, with what appears to be an ever changing team. Sarah Gilleland, ATC (who had been the Team Pennock rockstar) was promoted to be the Assistant Clinical Manager. Congratulations to you, Sarah. Although Sunny Park, NP remains a workhorse of the 360 Team, Phil Stearns, NP has become somewhat of a ronin seeing his own mix of patients and Justin Anderson, PA-C has taken over the role of being dedicated to the 360 Team. Moreover, Jasleen Guevara, ATC had a beautiful baby girl and has spent some time on maternity leave this season, while Domanique Peretti, ATC has continued to manage the primary care Sports Medicine doctors and has become an integral part of the new Dance clinic with Dr Cidambi. New to the team are Gabriel Saltzman, ATC (primarily working with Dr Edmonds) and Kevin Berning, ATC (primarily working with Dr Pennock). Gabriel is a board-certified athletic trainer who joined in October of 2022. A graduate of San Diego State University, he completed an internship with the Los Angeles Rams, where he assisted with athlete rehabilitation and was exposed to sports medicine at the professional level. Being an athlete himself, Gabriel understands the hardships that come with sports injuries and works diligently to help athletes and patients get back to sports and activities safely. Kevin graduated from North Park University in Chicago, IL; then, worked with the United States Olympic Committee in Colorado Springs through USA Volleyball, Basketball, and Figure Skating. After earning his Masters of Science in Athletic Training from Texas State University, he completed the ATC residency program at The Steadman Clinic. Welcome to the team, gentlemen.

Drs Pennock and Edmonds must never sleep, because the clinical volumes have not diminished their ability to be juggers

on the academic stage. Our group had 13 peer-reviewed publications go into print over the past 12 months. More importantly, we have promoted the trainees at UCSD and UC Riverside, as well as Balboa Naval Medical Center; as these groups have seen their medical students and resident's names at the podium throughout the past year. Nary a professional society meeting (PRISM, AAOS, POSNA, and AOSSM) goes by without at least one trainee getting up to the podium to discuss their Sports related research project. For all his hard work, Andy Pennock was selected to Chair the POSNA Sports Specialty day programming at the annual meeting, and he was awarded the Hank Chambers Best Scientific Paper: Medical Diagnosis & Intervention Award as the PI at PRISM. Both Drs Pennock and Edmonds shared kudos with co-authorship (via a multi-center research group) in being awarded the Hank Chambers Best Scientific Paper: Mental Health and Wellness Category at the same meeting. Finally, two trainees succeeded in being awarded the distinction of Top 10 Posters – which essentially turned those posters into podium presentations at the same meeting, under the mentorship of Dr Edmonds. Strong work Dr Orner (for her work on shoulder injuries), fellow class of 2022, and Dr. Colon-Morillo (for his work on depression in sports), Navy resident class of 2025.

Not to be outdone by trainees past or currently working at our institution, Dr Madeleine Jackson (fellow class of 2024) under the mentorship of Dr Edmonds, became the inaugural awardee for the POSNA 2023 Roshen N. Irani Research Training Grant. This grant is awarded to promote Justice, Equity, Diversity, and Inclusion. Her work during fellowship year is already dialed in to promote our understanding of the physis, improve our care of children, and support her academic career. Congratulations, Dr Jackson!

Last, but certainly not least, the Sports Program recognizes that without our ever-present Research Division, we would not be successful. QED. Despite being down personnel this past year, we did not lack for publications or academic productivity. First, we recognize and acknowledge the effort and poise under pressure that Ms. Claire Manhard put into our research program. Without you rowing the boat, we are convinced that we would have spent the year adrift. And with all excellent yeoman (in the case, perhaps, yeowoman), she is leaving us at the close of the fiscal year. We are excited for you to start medical school this summer and wish you all the best with your future. Next, Special thanks to JD Bomar for stepping into the role of being the interim "Sports Research Coordinator" while staying afloat with his actual roles as "Team Hip," "Team Other," and "Team Foot-Ankle;" oh, and THE audiovisual specialist. I look forward to what we can accomplish next year with you at the helm.

Advanced Practice Providers Year in Review



Written by Chrissy Paik, MPAP, PA-C

Advanced Practice Provider Team Members

- | | |
|--------------------------|-------------------------------|
| Casey Abare, MSN, CPNP | Chrissy Paik, MPAP, PA-C |
| Justin Anderson, PA-C | Sunny Park, CPNP |
| Amanda Asaro, MPAS, PA-C | Raquel Sanchez, PA-C |
| Jaspreet Bimbh, PA-C | Lexi Santellano-Bartsch, PA-C |
| Erynn Krasovic, PA-C | MaryLou Scott, MSN, CPNP |
| Linh, Munch, PA-C | Philip Stearns, MSN, CPNP |
| Abigail Nakamitsu, PA-C | Katy Yegorova, MPAS, PA-C |
| Kimberly Padilla, CPNP | |

Another year, another fabulous addition to our APP team. Katy Yegorova received her undergraduate degree at the University of San Diego. She then worked at Orthopaedic Trauma and Fracture Specialists and Southern California Institute of Neurological Surgery serving the San Diego community. She completed her master's degree in physician assistant studies from CSU Monterey Bay in 2022 and joined our team shortly after. Katy has demonstrated an eagerness to learn, the ability to challenge herself appropriately, and she has stepped confidently into her role here- running daytime and evening fracture clinics, carrying the call pager, and covering physician clinics.



Katy Yegorova

With the opening of the Southern Family Center for Cerebral Palsy, Rady Children's Orthopedics has entered a new era of multi-disciplinary treatment of children and adults with developmental disabilities. To facilitate collaborative care for these patients, Allison Dickinson PA-C has moved into a new role as the orthopedic liaison to the CP Center. She will see rehab patients in the ortho context, continue her serial casting role, and coordinate the surgical portion of our intrathecal baclofen pump program. She will continue to support medical director Dr. Hank Chambers in his clinics and looks forward to working with our new CP specialist, Dr. Pat Curran. After 20 years in general orthopedics, Allison is excited to be immersed in this world full-time.

Erynn Krasovic has now co-authored the second edition of *Fracture Healing in Children*. This book contains over 130 radiographs of fractures in children ranging from 0-18 years old, nearly dou-

bling the overall radiographic examples from the first edition, with increased exposure particularly for hand and foot. It also includes an entirely new section for elbow radiographs. As providers, we can now use this expanded edition in clinic and easily find a radiographic example that resembles our patient's age and fracture pattern. Thank you, Erynn, for this thoughtful clinical aid that will help increase parent and patient confidence in the success of osseous remodeling.

"Volunteers do not necessarily have the time; they just have the heart"- Elizabeth Andrew. Over the past 2 years, PAs Amanda Asaro and Chrissy Paik, have dedicated much of their time and passion to help create and implement the first ever Rady Children's Hospital Physician Assistant Weekend Medical Academy (PA WMA). The Medical Academy programs are implemented through the Center for Healthier Communities (CHC) and they provide learning and growth opportunities for high school students with an interest in health careers. Amanda and Chrissy worked to make connections with local physician assistants, recruiting them to help sit on provider panels and assist in skills labs. Amanda and Chrissy then created relevant content for the 2.5 day weekend program and themselves facilitated portions of the weekend programming including giving lectures and conducting a hands-on physical exam skills lab. The result was a tremendous success and planning has already commenced for next year's PA WMA. Who knows, Amanda and Chrissy could have just inspired one of our future Rady Ortho PAs!





Rehab Team *Year in Review*

Written by Talia Soto, BA, Alyssa Wieand, BS, and Anna Jensen, MA

The Rehabilitation Medicine Division kicked off the year with an unprecedented milestone: the first visiting professorship in the Division's history. Dr. Rick Lieber, a distinguished physiologist and the current Chief Scientific Officer and Senior Vice President at the Shirley Ryan Ability Lab in Chicago, provided the Division with his extensive expertise. During his visiting professorship, Dr. Lieber delivered lectures on Intraoperative and Laboratory Studies of Muscle in Cerebral Palsy and presented at the Surgical Ground Rounds. Department faculty and their collaborators presented on various topics in the field including Microsoft Kinect Validation in Neuromuscular Conditions, the Instrumented Glove for Testing Hypertonicity, GM1 Antibodies, and Motion Capture technologies in Calculating muscle Length.

Presently, the Rehabilitation Medicine Division has 27 research studies underway, including a mix of retrospective studies, prospective studies, and sponsored clinical trials. Dr. Andrew Skalsky, Division Chief, is heading a pilot study examining the effects of a novel delivery of baclofen via intranasal administration. A randomized crossover trial is being developed as the next step in the development of intranasal baclofen as a treatment option.

Dr. Skalsky, in collaboration with the UCSD Jacobs School of Engineering, is also leading a pilot study to assess an instrumented glove that measures tone, aiming to enhance the clinical assessment of hypertonia. An abstract on the instrumented glove was accepted by AACPD, and the research team will present a poster at the 2023 AACPD Conference in Chicago, Illinois. This instrumented glove is also being utilized alongside a Microsoft Kinect system in another study where patients are evaluated before receiving botulinum toxin (Botox) injections and three to six weeks later in order to track progression of the treatment. This study is actively enrolling patients in the clinic and will be used to validate the instrumented glove and Microsoft Kinect as objective measurements of tone.

Dr. Mackenzie Brown presented findings at AACPD in September 2022 regarding patient and family experiences of barriers, trends, and accessibility of adaptive clothing in pediatric patients. She is also heading several studies. One of which is a randomized crossover study evaluating virtual reality as a means of therapeutic intervention for pediatric patients with cerebral palsy undergoing Botox treatments. Another is in conjunction with Dr. Patrick Curran of Orthopedic Surgery and the team from the Motion Analysis Lab, where the effect of serial casting on the gait of pediatric idiopathic toe walkers is being assessed.

Dr. Susan Biffel is leading several studies, one to note is a multi-center trial that focuses on symptom progression and functionality in pediatric and adolescent patients who experienced a traumatic injury with or without a mild traumatic brain injury. She presented preliminary findings at the Western Trauma Association in Alberta, Canada in March 2023.

Sponsored clinical trials within the Division are focused on drug validation for the treatment of dyskinesia in children and adults with cerebral palsy. Our sponsored clinical trial investigating the safety, tolerability, and efficacy of deutetrabenazine had one enrolled patient in their open-label period and concluded earlier this year. Our other sponsored clinical trial is investigating valbenazine in a placebo-controlled, double-blind to open-label format and started earlier this year. This study is actively enrolling patients and was one of the first sites to recruit a patient!



Dr. Brown presenting her work at the annual AACPD meeting.

Motion Analysis Lab & Human Performance Center

Year in Review



Written by Patrick Curran, MD

The Motion Analysis Lab has had an exciting and productive year. Over the course of a short period of time, the lab has rapidly increased clinical and research volumes. Since opening the lab a little over a year ago, we have completed over 200 studies – nearly two-thirds of which have attended for comprehensive clinical gait analysis studies and the remainder for research studies.

Led by Drs. Chambers and Curran, we continue weekly gait analysis review sessions. These serve as an invaluable opportunity for our multidisciplinary team of orthopaedists, physiatrists, physical therapists, kinesiologists, and engineers to parse out and piece together each of our gait studies. We are fortunate to have young and enthusiastic trainees who join for each session – keeping us on our toes through their thoughtful questions and critical analyses. We've found these to be fun and engaging sessions for us to not only do our due diligence by reviewing each study, but teach our resident and fellows through a systematic, and often Socratic, approach.

Over the year, we have delved further into a number of research collaborations, both internally at Rady and with colleagues at UCSD. These include projects seeking to find more affordable and transferable techniques to measure human motion, assessing movement phenotypes in athletes, and studying emerging/novel technologies to measure spasticity. We were fortunate to have a medical student, Garrett Rupp, join our team during the year during which he spearheaded a study to validate and implement a low-cost, in-clinic motion analysis system for assessing upper extremity motion in children with upper extremity impairment.

As a lab, we attended the AACPDM conference together in Las Vegas in the fall. We are anticipating our upcoming academic opportunities for this year – with presentations from our lab planned at the upcoming Gait Society, American Society of Biomechanics, and AACPDM conferences. We are looking forward as a group to attending the Gillette Gait Course this summer!

This year our lab has hosted several additional teaching sessions and meetings. This included an “Ask the Expert” gait review session with the 49th Annual David H. Sutherland Visiting Professor and Rady fellowship alumni, Dr. Jon Davids. This was an engaging and fun time to directly learn several tips and tricks from one of the greats in the field. We also hosted lectures and lively discussion on muscle physiology and function during the First Annual Rehabili-

tation Medicine Visiting Professorship with Dr. Rick Lieber PhD. Lastly, we hosted a journal club for the UCSD Orthopaedic Surgery residency program during which we applied four important studies to break down and review a gait study.

We continue to be thankful to have this invaluable tool again at Rady Children's Hospital. The successes of the lab is due to the hard work by our Director, John Collins MA, ATC, lab Kinesiologist, Avery Takata MS, and Physical Therapist, Heather Waters PT, DPT. We are thankful for all of their hard work and commitment to excellence in patient care and research. We look forward to continuing to expand upon our current clinical and research efforts in the upcoming year!



Garrett Rupp presenting his work on the validation of low-cost motion analysis systems.



Spreading the Word Our Publications & Travels

The Rady Children's Hospital orthopedic program continues as one of the world's leading centers for children's orthopedic clinical and biomechanical research. Our work is published in the most important orthopedic journals and is widely quoted. The publications listed below were produced by our department between January, 2022 – December 2022.

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Badin, D., Leland, C.R., Matsumoto, H., Roye, B., Vitale, M., Flynn, J., Samdani, A., Larson, A.N., Yaszay, B., Pahys, J., Glotzbecker, M., Bachmann, K.R., Newton, P.O., Betz, R., Miyajni, F., Shah, S., Sturm, P.F., Hwang, S., Erickson, M., Cahill, P.J., Fletcher, N., Upasani, V.V., Sucato, D.J., Sponseller, P.D., 2022. *Best Practice Guidelines for Surgical Site Infection in High-risk Pediatric Spine Surgery: Definition, Prevention, Diagnosis, and Treatment.* J Pediatr Orthop 42, e1008–e1017.

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Bastrom, T.P., Ohashi, M., Bartley, C.E., Marks, M.C., Yaszay, B., Lonner, B.S., Sponseller, P.D., Newton, P.O., 2022b. *Factors associated with increased back pain in primary thoracic adolescent idiopathic scoliosis 10 years after surgery.* Spine Deform 10, 55–62.

Berweck, S., Banach, M., Gaebler-Spira, D., Chambers, H.G., Schroeder, A.S., Geister, T.L., Althaus, M., Hanschmann, A., Vaccelli, M., Bonfert, M.V., Heinen, F., Dabrowski, E., 2022. *Safety Profile and Lack of Immunogenicity of IncobotulinumtoxinA in Pediatric Spasticity and Sialorrhea: A Pooled Analysis.* Toxins (Basel) 14, 585.

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nal deformities exceeding 100° or treated by vertebral column resection (VCR). Does implant density matter?: an observational study of deformity groupings. Spine Deform 10, 595–606.

Bonfert, M., Heinen, F., Kaňovský, P., Schroeder, A.S., Chambers, H.G., Dabrowski, E., Geister, T.L., Hanschmann, A., Althaus, M., Banach, M., Gaebler-Spira, D., 2022. *Spasticity-related pain in children/adolescents with cerebral palsy. Part 2 IncobotulinumtoxinA efficacy results from a pooled analysis.* J Pediatr Rehabil Med.



Dr. Newton presenting his work at the 2022 SRS meeting.

Bourret, S., Cerpa, M., Kelly, M.P., Hasegawa, K., Hey, H.W.D., Wong, H.-K., Liu, G., Sardar, Z.M., Riahi, H., Lenke, L.G., Le Huec, J.C., 2022. **Correlation analysis of the PI-LL mismatch according to the pelvic incidence from a database of 468 asymptomatic volunteers.** Eur Spine J 31, 1413–1420.

Catanzano, A.A., Newton, P.O., Bastrom, T.P., Bartley, C.E., Parent, S., Miyanji, F., Hoernschemeyer, D.G., Alanay, A., Blakemore, L., Neal, K., Lonner, B., Haber, L., Shah, S.A., Yaszay, B., **Harms Non-Fusion Study Group Investigators, 2022. Spontaneous Lumbar Curve Correction Following Vertebral Body Tethering of Main Thoracic Curves.** J Bone Joint Surg Am 104, 1629–1638.

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Chambers, H.G., 2022. **Not another article on selective dorsal rhizotomy?** Dev Med Child Neurol 64, 532.

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Chrissy Paik, PA-C presenting at the first ever Physician Assistant Weekend Medical Academy (PA WMA)

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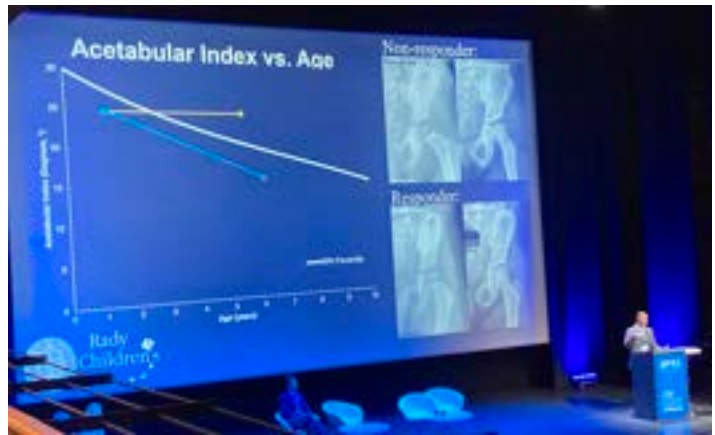
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Former fellows Dr. Shea (class of 1998) and Dr. Schmitz (class of 2012) with Dr. Edmonds at the Pediatric Anatomy Group's dissection lab at Allosource in Denver.



Amelia Lindgren (former UCSD resident, fellow DuPont), Dr. Edmonds, with current fellows – Drs. Mark Katsma & Chinmay Paranjape, and one of next year's incoming fellows Dr. Lukas Keil at IPOS.



Mark and Jean Abel Visiting Professorship at University of Virginia (Oct. 2022). Cathy and Peter Newton hiking with Drs. Abel, Bachman, and Romness.

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Dr. Kelly presenting his work at the 2022 SRS meeting.



International fellow Dr. Tabatabaei with Dr. Upasani hosting the POGO visiting fellow from India Dr. Vikas Vasa.

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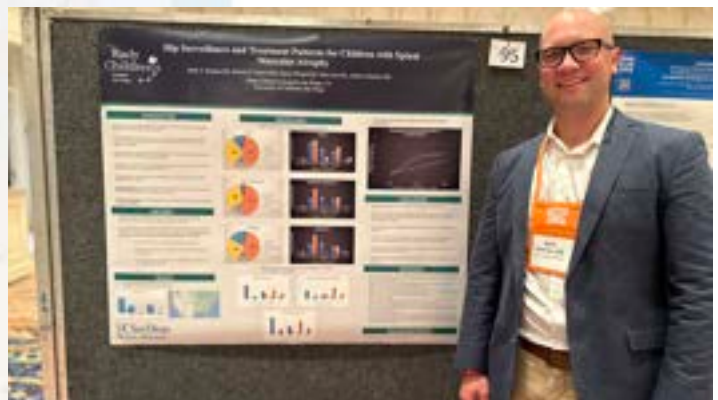
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Tracey Bryan presenting her work on AIS at the 2022 SRS meeting.



Dr. Upasani was the VP at Mayo Arizona and is presenting his work on patient specific 3D printing.



Dr. Katsma (current fellow) presenting his work on SMA at the CURE SMA conference in Florida.



Dr. Upasani was the 6th Annual Denis Drummond “Rising Star” Visiting professor at Children’s Hospital of Philadelphia.

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Navy-UCSD Resident Research Day. Dr. Edmonds was the Keynote speaker. Photo with 2nd place winner Reinaldo Colón-Morillo

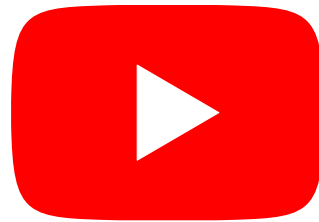


Dr. Upasani representing RCHSD at the annual American Orthopaedic Association meeting.



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