

EPOS & POSNA Present



# 2024 Combined EPOSNA Meeting

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# National Harbor, MD

**May 8-11, 2024**  
**Final Program**

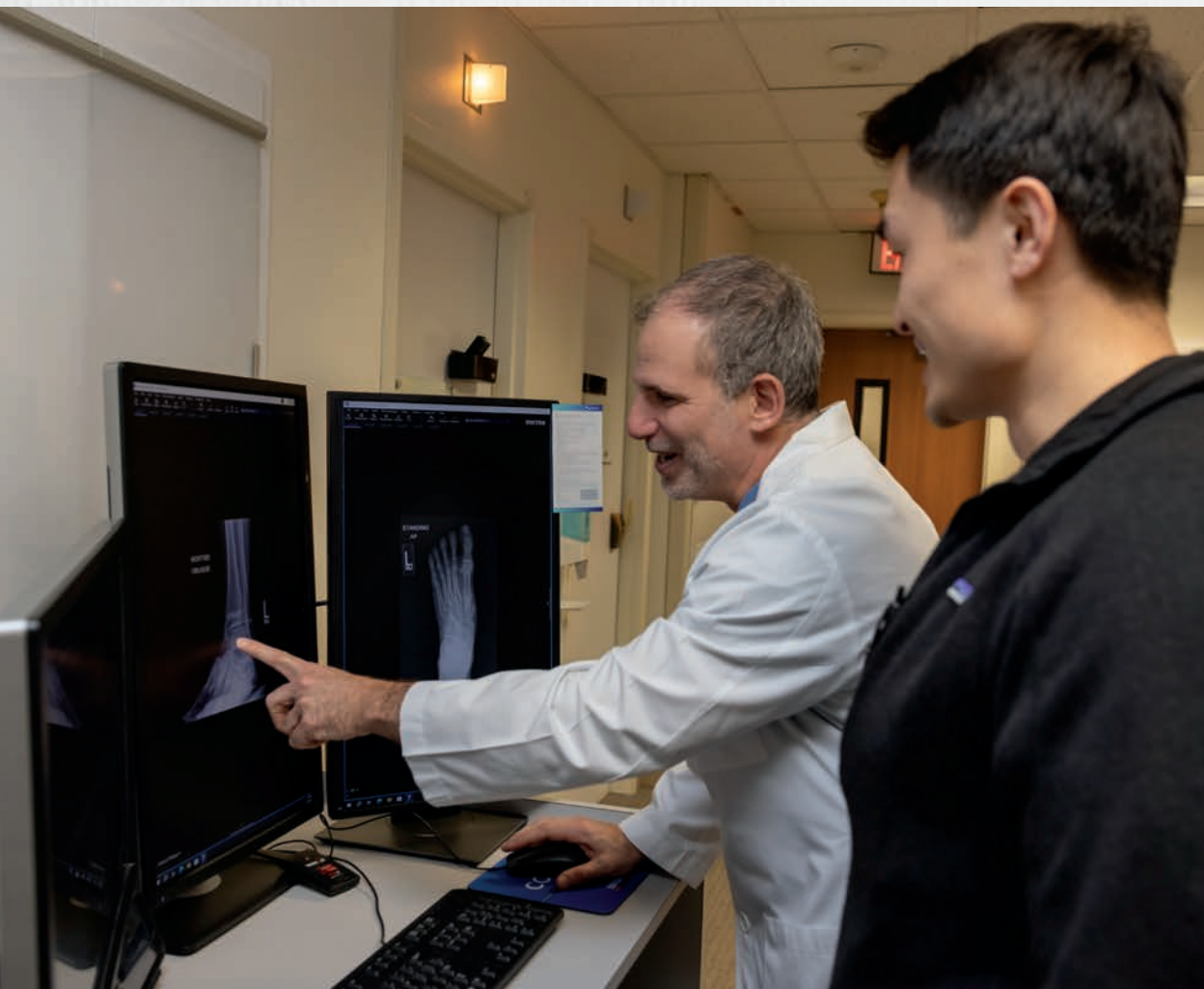
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**Local Hosts:** Matthew Oetgen, MD, MBA & Megan Young, MD

**EPOS President:** Hakan Ömeroğlu, MD, AAS

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To advance the musculoskeletal care of children worldwide through the discussion and dissemination of pediatric orthopaedic research.

### EPOSNA VISION

To be the preeminent international platform for the exchange of research and ideas related to the orthopaedic care of children.

# THANK YOU REVIEWERS

The Program Committee would like to acknowledge and thank the many EPOS and POSNA volunteer abstract reviewers for their hard work and dedication.

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## DATES TO REMEMBER

### 2024 COMBINED EPOSNA MEETING

Pre-Registration Deadline ..... May 5, 2024

On-Site Registration ..... May 6, 2024

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# LOCAL HOST LETTER

We are excited to welcome you all to the 2024 Combined EPOSNA Meeting in National Harbor, Maryland. It has been seven years since the inaugural 2017 EPOSNA Meeting in Barcelona, and the second edition of this combined meeting of both POSNA and EPOS promises to continue the tradition of outstanding academics, exciting new research, and developing new friendships within our worldwide community of pediatric orthopaedic surgery.

The program chairs, David Farrington, MD, and Anthony Riccio, MD, along with their combined program committees, society presidents Hakan Ömeroğlu, MD, AAS, and Daniel Sucato, MD, MS, and the combined EPOS and POSNA leadership, have worked together to develop an exceptionally engaging program highlighting the research being performed across both societies. The meeting will feature a variety of sessions covering all of the subspecialties of pediatric orthopaedics, each moderated by a combined EPOS/POSNA team to ensure the global perspective of the meeting is maintained.

Along with a wonderful academic agenda, the location at National Harbor, just outside of Washington, DC, offers a great opportunity to visit our Nation's Capital. Washington, DC is easily accessible via taxi, Uber/Lyft, or water taxi from the conference hotel at National Harbor. There are plenty of wonderful restaurants, cultural exhibits, and historic places to see and experience. From a tour of the Capitol building, a trip up the Washington Monument, or a walking trip around the sites lining the National Mall, Washington, DC has something for everyone. Historic Mount Vernon, the estate of founding father George Washington, is an easy trip from National Harbor, and the city has plenty of outdoor activities and sporting events for visitors to enjoy. The weather in early May in Washington, DC is delightful, contributing to the vibrant and uplifting late spring energy of the city.

As your local hosts, we are so pleased to welcome you to our city and hope you have a wonderful meeting full of education, experience, and fellowship!

Megan Young, MD

Matthew Oetgen, MD, MBA

## National Harbor, MD





# EPOS ACKNOWLEDGEMENTS

The European Paediatric Orthopaedic Society gratefully acknowledges the following for their generous financial support in 2024.

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Front row from left to right:

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# GENERAL MEETING INFORMATION



# WOMEN'S NETWORKING Night

**THURSDAY, May 9<sup>th</sup> | 5:00 PM - 6:30 PM**

**PROMOTIONS, PREGNANCY, PUBLICATIONS, PROSECCO & PINTS**

Please join us for a lively (and educational!) event with your fellow women pediatric orthopaedic colleagues. Grab a cocktail and some apps, and float between multiple themed tables. Each table will have content experts focusing on different topics such as contract negotiation, advancement/promotion, getting your papers published and pregnancy/fertility struggles facing orthopaedic surgeons.

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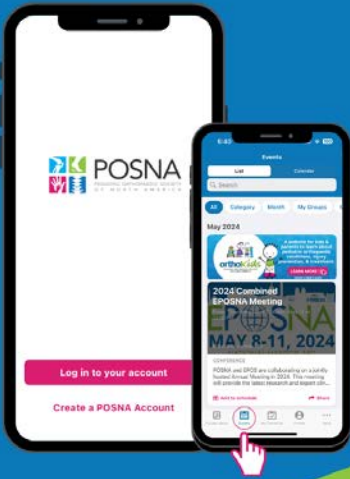
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# PRESIDENT WELCOME LETTER

Dear Friends and Colleagues,

On behalf of our local hosts, Megan Young, MD, and Matthew Oetgen, MD, our Program Chairs, David Farrington, MD, and Anthony Riccio, MD, and the staff and volunteers at EPOS and POSNA who worked to make this historic meeting a success, we welcome you to National Harbor, Maryland, for the 2024 Combined EPOSNA Meeting. This is the second combined meeting. After the first one in Barcelona, it was clear we needed another Annual Scientific Meeting of EPOS and POSNA in North America. We thank the Long-Range Planning Committee of Jaroslaw Czubak, MD; Dror Ovadia, MD; Hakan Ömeroğlu, MD; Thomas Wirth, MD, PhD; Stephen Albanese, MD; Steven Frick, MD; Anthony Stans, MD; Teri Stech, and Tara Long for their hard work and vision in identifying the timeline and location for this exciting meeting.

We are very excited about the format of the meeting, which will feature 250 podium presentations and 200 ePosters carefully selected from over 1300 submitted abstracts. This is the most pediatric orthopaedic science ever presented at the podium and will provide all of us with an opportunity to learn ways to better care for our patients.

In addition to a phenomenal scientific session, some of the daytime highlights include Wednesday's POSNA presidential speaker, Lawrence Lenke, MD, and Thursday's second Lead Like Lori Lecture, in honor of POSNA Past President Lori Karol, MD. Captain Tammie Jo Shults, a former F/A-18 Navy pilot who later successfully landed a Southwest Boeing 737 following an engine explosion, is the featured speaker. On Friday, we will hear from the EPOS presidential speaker, Manuel Cassiano Neves, MD, and we will honor Deborah Eastwood, MD, with the EPOS Pro Maximis Meritis Award and Charlie Johnston, MD, with the POSNA Distinguished Achievement Award. On Saturday, Drs. Farrington and Riccio will present the Scientific Awards followed by the Presidential Transfers for EPOS and POSNA.

The great science will be balanced with plenty of time for fun and fellowship with our colleagues throughout the world. This begins with the Opening Ceremony on Wednesday evening, which will feature Rajiv J. Shah, MD, president of The Rockefeller Foundation who has recently published the book *Big Bets: How Large-Scale Change Really Happens*. Thursday afternoon and evening are open to allow you to get together with old friends and provide an opportunity to meet new ones. Friday's closing event will be an amazing one at the Smithsonian National Museum of Natural History in the heart of Washington, DC.

We welcome you to this extraordinary meeting that will bring together world experts and old friends in a truly spectacular setting.

Hakan Ömeroğlu, MD, AAS President of EPOS and  
Daniel Sucato, MD, MS, President of POSNA



## HAKAN ÖMEROĞLU, MD, AAS

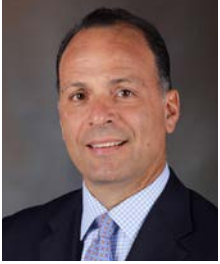
Hakan Ömeroğlu, MD, AAS, grew up in Ankara, Turkey, graduated from Hacettepe University Faculty of Medicine in 1987, and completed his Orthopaedics and Traumatology residency training at the Ankara University İbni Sina Hospital in 1992. He received a Professor of Orthopaedics and Traumatology degree in 2003. He worked at the Orthopaedics and Traumatology Department of the Eskisehir Osmangazi University Hospital between 1998 and 2016 and founded the Pediatric

Orthopaedics Section and newborn hip screening unit. He then moved to Ankara and was recruited at the TOBB University of Economics and Technology in 2017. He has been in academic practice at Ufuk University since 2022. He served the Turkish Society of Children's Orthopaedics and the Turkish Board of Orthopaedics and Traumatology (TOTTEK) as the "president" in 2004-2006 and in 2005-2007, respectively. He received the "Prof. Ridvan Ege Scientific Award" in 2005. He contributed to the development of the nationwide newborn hip screening program in Turkey which was officially initiated in 2013. He also has an associate of applied science (AAS) degree in Culinary Arts.

Dr. Ömeroğlu's primary interest areas include the management of pediatric hip and foot disorders, neuromuscular problems, and pediatric skeletal trauma. He has significant experience in the prevention and treatment of DDH. He has authored 145 peer-reviewed scientific articles and numerous book chapters and has edited national and international books. He has also made more than 400 presentations at national and international meetings, including EPOS and POSNA Annual Meetings and EPOS courses.

Dr. Ömeroğlu has been an EPOS active member since 2000. He was one of the first traveling fellows of EPOS in 2001. He has served EPOS as a member of the reading, website, and education committees, board member of the EPOS Foundation, chairman of the education committee (2014-2018), and member of the executive committee (2016-2019). He was elected as the "second vice president" at the EPOS General Assembly in 2021. He has been serving EPOS as the "president" since 1 April 2023.

Dr. Ömeroğlu has been married to Suna Ömeroğlu since 1991, and they have two daughters: Zeynep and İpek.



## DANIEL J. SUCATO, MD, MS

Daniel J. Sucato, MD, MS, is the Chief of Staff at Scottish Rite for Children and Professor of Orthopaedic Surgery at The University of Texas Southwestern Medical Center in Dallas, TX.

He was born and raised in Buffalo, NY, where he graduated magna cum laude from Canisius College. He continued his education at the State University of New York School of Medicine at Buffalo, receiving his medical degree and later a Master's in Biophysics. Remaining in Buffalo at the School of Medicine, he completed his general surgery internship, orthopaedic residency, and basic science research fellowship. During residency, he was strongly influenced by Bob Gillespie, MBChB, who inspired him to continue on into pediatric orthopaedics. He completed the Dorothy and Bryant Edwards Fellowship in Pediatric Orthopaedics and Scoliosis at Scottish Rite for Children under Tony Herring, MD, and subsequently the Hip-Preservation Fellowship at the University of Bern, Switzerland, under Professor Reinhold Ganz. He stayed on at Scottish Rite following his fellowship, taking on his "dream job" as one of the staff orthopaedic surgeons in 1998. In 2003, he was selected as one of three International Traveling Fellows for the Scoliosis Research Society (SRS), traveling throughout Europe for 3 weeks.

Dr. Sucato's clinical practice focuses primarily on spinal deformity and hip conditions with an emphasis on complex cases and reconstructions. He has presented and written extensively on a number of these techniques in the form of invited lectures, review papers, and video supplements. He holds multiple patents for spinal implant devices.

He is involved in education at all levels of training, including medical school and residency and has served as the fellowship director at Scottish Rite for 10 years. He consistently participates as faculty at IPOS® and in webinars and ICLs associated with POSNA, SRS, and AAOS.

His research focuses on clinical studies primarily but also those involving improved operative techniques. Dr. Sucato has published over 220 scientific peer-reviewed articles, and 50 book chapters, given over 300 presentations at national/international meetings and 45 visiting professorships. He has been awarded the Angela S.M. Kuo Memorial Award, the Best Clinical Paper Award through POSNA, and both the Russell A. Hibbs and Louis A. Goldstein Award at the SRS meetings. He is a member of several research study groups, including ANCHOR (Academic Network of Conservational Hip Outcomes Research) and the Fox and Harms Study Groups. He chaired the Pediatric Section of the Spine Deformity Study Group (SDSG) during its last 3 years.

Within POSNA, Dr. Sucato has served on numerous committees, including chairing the Industry Relations, Program, and QSVI Education Committees and has been both a junior and senior member-at-large on the Board of Directors prior to joining the Presidential Line. At the SRS, he has chaired the Program and Website Committees and the Education Council for 3 years and has been an at-large member on the Board. He has also served on the Advisory Board of the United States Golf Association Resource Center for Individuals with Disabilities.

Personally, Dr. Sucato loves spending time with his wife, Lisa, and their three children: Emma, 21, Daniel, 19, and Matthew, 18. He enjoys any and all activities with the family, especially accompanying Emma on the piano when preparing for auditions and coaching the boys in their younger days on the soccer field and basketball court. His hobbies include golf, running, skiing, reading, piano playing, and anything Buffalo.

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## CAROL C. HASLER, MD

Carol C. Hasler, MD, was born in Basel/Switzerland, attended the Mathematical & Natural Science College, and graduated from the Medical School, University of Basel. After a winter as a private ski instructor for a New York family and 4 years of surgical training in the Alps, he completed his residency in orthopaedics at the University Hospital Basel and Orthopaedic Department, University Children's Hospital Basel, followed by a fellowship at the Children's Hospital Adelaide/Australia and later a 6-month visiting-professorship in spine surgery at the Hospital for Sick Kids in Toronto.

Dr. Hasler is an endowed professor for paediatric orthopaedics and head of the Orthopaedic Department, Children's Hospital University Basel; was president of the Swiss Society of Spinal Surgery; Swiss Orthopaedics board member; and head of expert groups paediatric orthopaedics and for professional affairs.

His clinical and research focus is spine pathologies and the construction of a robot for intraoperative assessment of spinal biomechanics. He has published more than 100 peer-reviewed articles, 30 book chapters (e.g., Lovell & Winter's Pediatric Orthopaedics), and has given over 400 oral presentations at national/international meetings.

Within EPOS, he has served on numerous committees/study groups, the foundation board, the board as a councillor, chaired the spine study group, organized several courses/workshops, and gave more than 50 presentations at courses and annual meetings. As a two-time host to POSNA traveling fellows, a former EPOS traveling fellow, and a member of IPOTT (International Paediatric Orthopaedic Think Tank), he has strong bridges to POSNA colleagues.

Dr. Hasler loves spending time with his wife, Jacqueline, his daughters, Valerie and Aline, and his granddaughter, Tjara, if possible at their second home in the mountains. He enjoys outdoor activities with family and friends, skiing, biking, running, and open-water swimming. He has been awarded multiple Swiss champion and vice world champion (Ibiza/Spain 2023) in duathlon (10k run-40k bike-5k run) in his age group.



## TODD A. MILBRANDT, MD

Todd A. Milbrandt, MD, is the Chair of the Pediatric Orthopedic Surgery Division at Mayo Clinic in Rochester, MN. He was born in Buffalo, NY, but lived in eight places before he finished high school in Montana. He graduated cum laude from the University of Puget Sound, where he studied the physiology of lobsters and bacterial mats in Yellowstone Park. He continued his education at the University of Virginia School of Medicine where he graduated and then stayed in Charlottesville for his orthopaedic surgery residency. During his residency, he spent a year out of training in the cartilage lab, earning a master's degree in Surgical Research. During residency, he was strongly influenced by John Blanco, who inspired him to pursue pediatric orthopaedics and the Dorothy and Bryant Edwards Fellowship at Scottish Rite Hospital for Children in Dallas, TX. There, he was awarded the inaugural T. Boone Pickens Spinal Research Award and met many mentors who continue to guide his career today.

In 2005, he began his academic life at the Shriners Hospital and the University of Kentucky Hospital in Lexington, KY. Through his mentors, he was provided the opportunity to pursue clinical and basic science research opportunities. In 2014, he made the move to Mayo Clinic to be named the Chair of the Pediatric Orthopedic Division. He enjoys all aspects of pediatric orthopaedic surgery and has written and published on those topics where he has over 170 publications. His basic science research has focused on the recapitulation of the growth plate and reversing avascular necrosis in a piglet model. He has presented his research findings throughout the country, including at POSNA, SRS, and the AAOS. He won the best clinical paper in 2012 and the best trauma paper in 2019 and was nominated for the best basic science paper at POSNA. He has received multiple POSNA research grants to fund these efforts. He holds patents for spinal implant devices. He consistently participates as faculty at IPOS® and in webinars and ICLs associated with POSNA and AAOS. His clinical practice focuses on spinal deformity, clubfoot, sports medicine, and trauma.

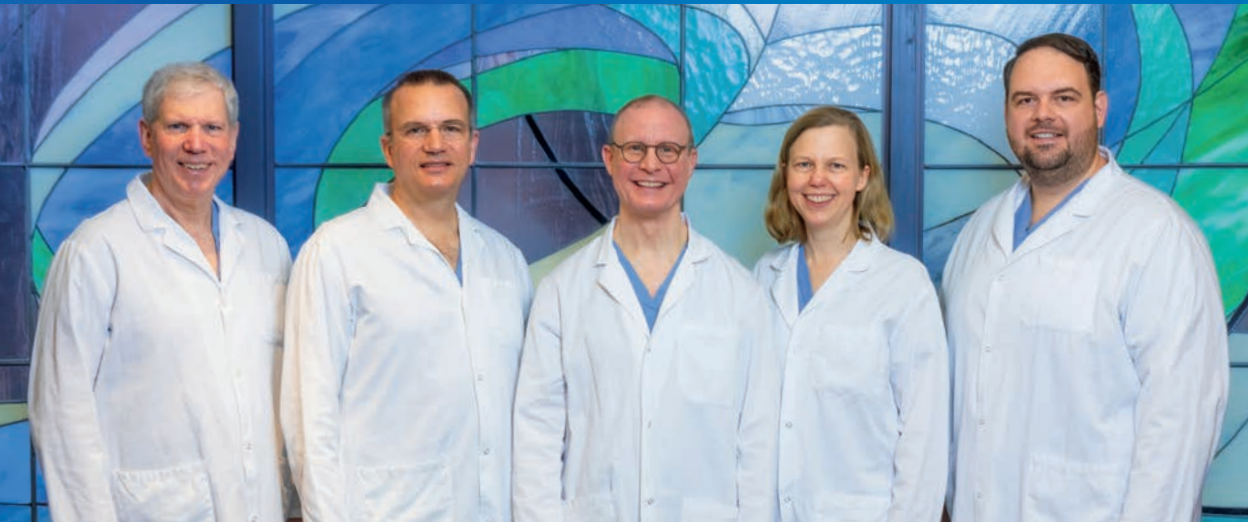
He has also enjoyed and has pursued ways to educate the next generation of surgeons. He has been involved in medical student, resident, and fellow education. He served as the orthopaedic residency program director at the University of Kentucky and currently sits on the education committee for the Mayo Clinic Orthopedic Residency.

POSNA has been a focus of his volunteer activity from the beginning of his career. He was named as the committee chair in 2007 for the website committee which revamped its structure. Because of this work, he was given the inaugural Special Effort and Excellence Award in 2011. He also was selected for the POSNA traveling fellowship in 2008 where he traveled throughout Europe with a previous POSNA president, Jeff Sawyer, MD. He was the Annual Meeting program chair in 2013. He also served on the board of directors in 2009 as a board member at large and as the Secretary from 2016 to 2019. He served as the director of IPOS® in 2020-2021. He has also served on two nominating committees. He finds meaning in his work at POSNA because of the friends he has made under the POSNA umbrella.

Personally, Dr. Milbrandt loves spending time with his wife, Mary Beth, who is a community-based artist as her assistant/art mover. They have been together for 28 years after meeting at a summer camp in Maine. They have two children, Charlie (23) and Helen (21). He rides his bicycle to work every day and anytime he can outside of work. Together, he and Mary Beth enjoy camping in their van somewhere close to a lake and taking care of their newest child, Luna the poodle.



# Continuing the tradition of excellence



L-R: William Shaughnessy, Anthony Stans, Todd Milbrandt, A. Noelle Larson, Emmanouil Grigoriou

Mayo Clinic celebrates the appointment of Todd Milbrandt, M.D., Chair of Pediatric Orthopedic Surgery at Mayo Clinic in Rochester, Minnesota to President of The Pediatric Orthopaedic Society of North America. We take pride in our leaders who provide world-class care to children from all over the world. Our Pediatric Orthopedic surgeons are using innovative surgical techniques to take healthcare to where it's never been before.

# GENERAL MEETING INFORMATION

## LEARNING OBJECTIVES

Objective 1: Analyze new research for its quality, safety, and value to the field of pediatric orthopaedics.

Objective 2: Discuss treatment strategies amongst peers and world-renowned thought leaders.

Objective 3: Identify and apply appropriate practice changes to optimize patient care.

## ACCREDITATION

In support of improving patient care, this activity has been planned and implemented by Amedco LLC and the Pediatric Orthopaedic Society of North America. Amedco LLC is jointly accredited by the Accreditation Council for Continuing Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

## ACCME CREDIT DESIGNATION

Amedco LLC designates this live and enduring material for **19 live AMA PRA Category 1 Credits™, and 5.75 enduring AMA PRA Category 1 Credits™**. This activity has a maximum of **24.75 AMA PRA Category 1 Credits™**. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

## AMA TO EACCME™ CONVERSION

Discover how to convert your American Medical Association (AMA) credits to the European Accreditation Council for Continuing Medical Education (EACCME™) system effortlessly. Stay informed about the recent agreement between the AMA and the Union of European Medical Specialties (UEMS) and its implications for medical professionals in Europe. Explore the international accreditation standards and streamline your accreditation process for a smoother transition. For detailed information, visit the page on [AMA to EACCME™ Conversion](https://www.ama-assn.org/education/ama-pra-credit-system/agreement-european-union-medical-specialties-uems).

<https://www.ama-assn.org/education/ama-pra-credit-system/agreement-european-union-medical-specialties-uems>

## PRIVACY POLICY – USE OF PERSONAL INFORMATION

2024 Combined EPOSNA Meeting registration lists, including the registrant's name and postal mailing address are used to process your meeting registration and to provide you with information and materials related to EPOSNA. EPOS/POSNA shares your personal data with its sponsors, exhibitors, and other vendors related to the meeting in order to notify you of products and services that may be of interest to you. No financial or other personal identifying information is disclosed. EPOS/POSNA takes reasonable steps to ensure that our sponsors protect your information on EPOS/POSNA's behalf. Please [click here](#) for additional information on POSNA's Privacy Policy.

## DISCLOSURE OF PERSONAL INFORMATION

When registering for the 2024 Combined EPOSNA Meeting, your personal identifying information is retained by POSNA. You understand and agree that POSNA may disclose your name, address, and contact information to the hotel and other service providers.





# A Growing Program for Growing Bones

- A record number of POSNA presentations and posters for our program
- POSNA leadership positions for several faculty:

**Kevin Shea, MD**, vice president

**Meghan Imrie, MD**, leads the POSNA Pediatric Orthopaedic Fellowship Committee

**Kali Tileston, MD**, leads the POSNA Pediatric Safe Surgery Program and serves on the Pediatric Device Committee

**John Vorhies, MD**, is on the annual meeting program committee

- In 2023, a record number of surgical cases, outpatient visits, and articles in peer-reviewed journals.



Learn more at [ortho.stanfordchildrens.org](https://ortho.stanfordchildrens.org)  
or by calling **(844) 41-ORTHO**.

# GENERAL MEETING INFORMATION

## DISCLOSURE

Each meeting presenter has been asked to disclose if he or she has received something of value from a commercial company or institution, which relates directly or indirectly to the subject of their presentation. In the online posted disclosure report, an indication of the participant's disclosure appears after his or her name as well as the commercial company or institution that provided the support. EPOS and POSNA do not view the existence of these disclosed interests or commitments as necessarily implying bias or decreasing the value of the author's participation in the meeting.

## FDA STATEMENT (UNITED STATES)

Some drugs or medical devices demonstrated at the Annual Meeting may not have been cleared by the FDA or have been cleared by the FDA for specific purposes only. The FDA has stated that it is the responsibility of the physician to determine the FDA clearance status of each drug or medical device he or she wishes to use in clinical practice. Any drug or medical device is being used "off label" if the described use is not set forth on the product's approval label.

\* Indicates a presentation in which the FDA has not cleared the drug and/or medical device for the use described (i.e., the drug or medical device is being discussed for an "off-label" use).

## POSNA MEMBERSHIP REQUIREMENT

Full meeting attendance at the 2024 Combined EPOSNA Meeting fulfills your POSNA membership meeting attendance requirement.

## CANCELLATION POLICY

Full refunds will be provided less a processing fee if received in writing to [respeto@posna.org](mailto:respeto@posna.org) by the date listed below. No refunds will be granted after April 30, 2024. Registrants will receive confirmation and a refund within 14 days of receipt of their cancellation notice.

April 10–April 30, 2024	less a 50% processing fee
May 1, 2024	No refunds

Full meeting registration from Wednesday, May 8, 2024, through Saturday, May 11, 2024, includes all sessions, Opening Reception, coffee breaks, breakfast, and Industry Symposia each day.

# REGISTRATION INFORMATION

Sponsored by Stryker

## REGISTRATION HOURS

Tuesday, May 7	3:00 PM–6:00 PM
Wednesday, May 8	7:00 AM–5:00 PM
Thursday, May 9	7:00 AM–12:00 PM
Friday, May 10	7:00 AM–4:00 PM
Saturday, May 11	7:00 AM–11:00 AM

## EXHIBIT HOURS

WEDNESDAY, MAY 8	
Exhibits	7:00 AM–4:00 PM
Breakfast	7:00 AM–8:00 AM
Morning Break	9:48 AM–10:08 AM
Afternoon Break	3:45 PM–4:05 PM
THURSDAY, MAY 9	
Exhibits	6:30 AM–12:00 PM
Breakfast	6:30 AM–8:00 AM
Morning Break	11:33 AM–11:53 AM
FRIDAY, MAY 10	
Exhibits	7:00 AM–4:05 PM
Breakfast	7:00 AM–8:00 AM
Morning Break	9:30 AM–9:50 AM
Afternoon Break	3:45 PM–4:05 PM
SATURDAY, MAY 11	
Breakfast	7:00 AM–8:00 AM
Morning Break	9:50 AM–10:10 AM

## SPEAKER READY ROOM HOURS

Room: Chesapeake 1-3

Tuesday, May 7	3:00 PM–6:00 PM
Wednesday, May 8	7:00 AM–6:30 PM
Thursday, May 9	7:00 AM–12:00 PM
Friday, May 10	7:00 AM–5:00 PM
Saturday, May 11	7:00 AM–11:00 AM

## PRE-REGISTRATION FEES

(U.S. DOLLARS)

EPOS/POSNA Member	\$850
EPOS/POSNA Emeritus Members	\$650
Non-Member	\$1650
Resident/Fellow*	\$650
Medical Student*	\$650
Allied Health*	\$650
Active Military	\$600
Delegates from Reduced Rate Countries: Low Income	\$ 350
Accompanying Person	\$250
Children 6-12, per child	\$0
Children 13-17, per child	\$0

**Pre-Registration deadline May 5, 2024**

**\*An additional \$50 will apply to the above fees starting May 6, 2024.**

### Please Note:

The Closing Event at the Smithsonian National Museum of Natural History is \$125 per person (ages 16+), \$62.50 (ages 11-15), and no charge for children under the age of 11.

The accompanying person fee includes breakfast Wednesday-Saturday and the Welcome Reception on Wednesday evening. Accompanying persons must be registered in order to attend. You must purchase a separate ticket to attend the Closing Event on Friday evening.

FRIDAY, MAY 10

Delve into the fascinating story of our planet, from its fiery beginnings through billions of years of transformation, and explore life on Earth through exhibitions and activities, collection objects, and research that happens in the lab and in the field.

## SMITHSONIAN NATIONAL MUSEUM OF NATURAL HISTORY

10th St. & Constitution Ave. NW • Washington, DC 20560



FRIDAY, MAY 10, 2024

7:30 PM	Doors Open
7:30 PM–8:00 PM	Cocktails
8:00 PM–11:00 PM	Dinner and DJ

### TICKET PRICES:

10 and Under:	Free
11 to 15 Years Old	\$62.50
16 Years and Older	\$125

Ticket price includes dinner, drinks, entertainment, transportation, and exclusive museum access to the Rotunda, Mammal, Fossil, Ocean, and Gem Halls. Casual attire.

Sponsored by





# PROGRAM AT A GLANCE

## TUESDAY, MAY 7

Registration	3:00 PM–6:00 PM	Potomac Foyer
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## WEDNESDAY, MAY 8

Registration	7:00 AM–5:00 PM	Potomac Foyer
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Breakfast/Exhibits	7:00 AM–8:00 AM	Maryland Ballroom
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<b>Session 1: Trauma</b>	8:00 AM–9:41 AM	Potomac Ballroom
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AM Break/Exhibits	9:48 AM–10:08 AM	Maryland Ballroom
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POSNA Presidential Speaker	10:15 AM–10:40 AM	Potomac Ballroom
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<b>Session 2: Best of Spine</b>	10:41 AM–11:55 AM	Potomac Ballroom
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OrthoPediatrics Symposium	12:15 PM–1:15 PM	Cherry Blossom Ballroom
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Medtronic Symposium	12:15 PM–1:15 PM	National Harbor 2-3
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Globus Medical Symposium	12:15 PM–1:15 PM	National Harbor 4-5
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PediTST Symposium	12:15 PM–1:15 PM	National Harbor 10-11
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<b>Session 3 (Concurrent)</b> AIS Neuromuscular & CP Infections & Tumors Foot/Ankle	2:00 PM–3:38 PM	Potomac Ballroom Cherry Blossom Ballroom National Harbor 2-3 Woodrow Wilson Ballroom
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PM Break/Exhibits	3:45 PM–4:05 PM	Maryland Ballroom
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<b>Session 4 (Concurrent)</b> Slipped Capital Femoral Epiphysis Congenital, Syndromic & Dysplasias Hand & Upper Extremity Neuromuscular	4:10 PM–5:30 PM	Potomac Ballroom Cherry Blossom Ballroom  National Harbor 2-3 Woodrow Wilson Ballroom
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Opening Ceremony	6:30 PM–8:00 PM	Potomac Ballroom
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Welcome Reception	8:00 PM–10:00 PM	Lower Atrium/Lower Level/Ballroom Level
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## Next-level care for the next generations.

Kids are constantly growing, learning, adapting and exploring. At Akron Children's, we think that's a good example for our Department of Orthopedics to follow. That's why we have:

- **A state-of-the-art operating room** specifically for pediatric spine surgeries, utilizing low-dose 3D navigation systems and intraoperative technology
- **Three adolescent/young adult sports CAQ surgeons** and **10 primary care sports medicine physicians** treating athletes from NCAA Division I programs and 28 high schools
- **Twelve multidisciplinary subspecialty programs**, including Hand and Upper Extremity (UE), Trauma/Deformity, and Complex Foot Clinics
- **Leading-edge Spine Center diagnostics and techniques** like growth-friendly instrumentation, preoperative halo-gravity traction, vertebral body tethering, and Spine Center PTs trained in the Schroth method
- The region's only pediatric hospital with **two dedicated hand surgeons and a UE motion analysis lab**

**3,000 procedures. 50,000 outpatients.** All benefiting from a whole-patient, compassionate approach to care combined with the latest in medical innovation.



Learn more at [akronchildrens.org/orthopedics](https://akronchildrens.org/orthopedics)

# PROGRAM AT A GLANCE

## THURSDAY, MAY 9

Registration	7:00 AM–12:00 PM	Potomac Foyer
Breakfast/Exhibits	6:30 AM–8:00 AM	Maryland Ballroom
EPOS General Assembly	7:00 AM–9:30 AM	Cherry Blossom Ballroom
POSNA Business Meeting	8:00 AM–9:30 AM	Woodrow Wilson Ballroom
<b>Session 5: Bag O' Bones</b>	9:45 AM–11:26 AM	Potomac Ballroom
AM Break/Exhibits Sponsored By Children's Mercy	11:38 AM–12:05 PM	Maryland Ballroom
Lead Like Lori Lecture	12:10 PM–1:20 PM	Potomac Ballroom
Women's Networking Night	5:00 PM–6:30 PM	Potomac 1-4

## FRIDAY, MAY 10

Registration	7:00 AM–4:00 PM	Potomac Foyer
Breakfast/Exhibits	7:00 AM–8:00 AM	Maryland Ballroom
<b>Session 6: Award-Nominated Papers Part I</b>	8:00 AM–8:59 AM	Potomac Ballroom
EPOS Presidential Speaker	9:00 AM–9:25 AM	Potomac Ballroom
AM Break/Exhibits	9:30 AM–9:50 AM	Maryland Ballroom
<b>Session 7: Award-Nominated Papers Part II</b>	9:55 AM–11:24 AM	Potomac Ballroom
Pro Maximis Meritis Award	11:25 AM–11:41 AM	Potomac Ballroom
Distinguished Achievement Award	11:44 AM–12:00 PM	Potomac Ballroom
Orthofix Symposium	12:20 PM–1:20 PM	Cherry Blossom Ballroom
Highridge Medical Symposium	12:20 PM–1:20 PM	National Harbor 2-3
nView medical Symposium	12:20 PM–1:20 PM	National Harbor 10-11
<b>Session 8 (Concurrent)</b> VBT & Sagittal Profile Sports Lower Extremity & Deformity DDH	2:00 PM–3:38 PM	Potomac Ballroom Cherry Blossom Ballroom National Harbor 2-3 Woodrow Wilson Ballroom
PM Break/Exhibits	3:45 PM–4:05 PM	Maryland Ballroom
<b>Session 9 (Concurrent)</b> EOS & Misc. Spine Trauma ACL & Misc. Sports Hip	4:10 PM–5:48 PM	Potomac Ballroom Cherry Blossom Ballroom National Harbor 2-3 Woodrow Wilson Ballroom
Closing Event *Additional fee Sponsored By OrthoPediatrics	7:30 PM–11:00 PM	Smithsonian National Museum of Natural History



# A TRADITION OF PEDIATRIC ORTHOPEDIC CARE

**Central Texas Pediatric Orthopedics** has served the Austin community with comprehensive orthopedic care for pediatric and adolescent patients for more than 30 years.



[CTPOMD.COM](http://CTPOMD.COM)



**Hilton Gottschalk, MD** (Hand & Upper Extremity), **Catherine Sargent, MD** (Sports Medicine), **Brian Kaufman, MD** (Spine & Neuromuscular), **Matt Ellington, MD** (Sports Medicine), **Kirsten Ross, MD** (Spine & Neuromuscular), **John Heydemann, MD** (Neuromuscular, Foot & Ankle), **Kathleen Rickert, MD** (Limb Lengthening, Foot & Ankle), **Jay Shapiro, MD** (Spine), **Robert Dehne, MD** (Foot & Ankle), **John Williams, MD** (Spine)

# PROGRAM AT A GLANCE AND SAFETY INFORMATION

SATURDAY, MAY 11		
Registration	7:00 AM–11:00 AM	Potomac Foyer
Breakfast	7:00 AM–8:00 AM	Maryland Ballroom
<b>Session 10: Perthes &amp; Misc.</b>	8:00 AM–9:18 AM	Potomac Ballroom
Award Announcements	9:19 AM–9:24 AM	Potomac Ballroom
EPOS Presidential Transfer	9:25 AM–9:35 AM	Potomac Ballroom
POSNA Presidential Transfer	9:36 AM–9:46 AM	Potomac Ballroom
Coffee Break	9:50 AM–10:10 AM	Maryland Ballroom
<b>Session 11: Trauma</b>	10:15 AM–12:00 PM	Potomac Ballroom

\*Program subject to change

## SAFETY INFORMATION

### POLICE STATION

#### Prince George's Police Department

5135 Indian Head Highway, Oxon Hill,  
Maryland 20745  
(301) 749-4900  
Distance Away: 2.54 miles

### FIRE DEPARTMENT

#### Station #21

7600 Livingston Road, Oxon Hill,  
Maryland 20745  
(301) 567-6333  
Distance Away: 2.21 miles

### MEDICAL EMERGENCY

The Gaylord National Resort & Convention Center maintains a 24/7 on-property security staff that is trained in basic first aid, CPR, and the use of automated external defibrillators. Please contact Gaylord National's Safety Services Department at (301) 965-4500 or extension 333 on any hotel phone for assistance.

### EMERGENCY NUMBERS

#### City Police: #911

City Non-Emergency: (301) 352-1200  
Poison Control: (800) 222-1222 (Nationwide)

### NEAREST HOSPITAL

#### Fort Washington Medical Center

11711 Livingston Road, Fort Washington,  
Maryland 20744  
(301) 292-7000  
Distance Away: 5.49 miles

### PHARMACY

#### CVS

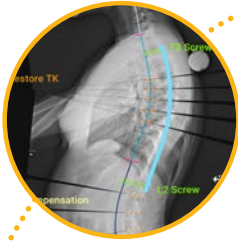
162 Fleet Street, National Harbor,  
Maryland 20745  
(301) 686-0248  
Distance Away: 0.2 miles

### LOST & FOUND

#### Registration Desk



## Leading the way in pediatric patient-specific spine solutions



**UNiD™ ASI** leverages predictive models for pediatric deformity to provide compensatory measurements of lumbar lordosis and pelvic tilt aiding in pre-operative planning, intra-operative alignment execution, and longitudinal data collection for patients.



**LigaPASS™ 2.0 system** is designed to help achieve a well-balanced spine in both coronal and sagittal planes when screws, hooks, or wires cannot be placed and axial derotation and reduction are both desired.



**Mazor™ robotic guidance platform** is a powerful minimally invasive solution featuring planning tools that enable 3-D construct design and robotic surgical execution for a seamless OR experience.



**Josephine™ the giraffe** is our ambassador for education to children with early onset scoliosis and their families.



## MANUEL CASSIANO NEVES, MD

Manuel Cassiano Neves, MD, is a pediatric orthopaedic surgeon who specializes in pediatric trauma, foot, and hip problems. After completing orthopaedic residency at the University of Lisbon, he was a research fellow at the Hospital for Special Surgery in New York, pursuing his training in other prestigious hospitals in France and Austria later on.

He worked as assistant professor of orthopedics at the Orthopedic Department of the Medical School in Lisbon until his nomination as Medical Director of the Orthopedic Department in Children's Hospital Dona Estefânia, Lisbon. He is currently the Honorary Chair of the Pediatric Orthopedic Department at Hospital CUF Descobertas in Lisbon.

During his career, he manifested a special interest in graduate and postgraduate education and over the past 20 years, has been involved in the development of orthopedic education in Europe and, in particular, pediatric orthopedic conditions. He was appointed Chair of the EFORT Education Platform responsible for the uniformization of orthopaedic education in Europe and has been involved with the European Board of Orthopaedics and Traumatology since its foundation in 2001. His dedication to education in pediatric orthopaedics is best exemplified by his involvement in the development of BAT courses.

He has more than 40 publications in peer-reviewed journals, has given more than 250 presentations all over the world, and has received several awards for his outstanding work, including the Neer Award and the Jorge Mineiro Award.

Dr. Cassiano is the past president of the Portuguese Society of Orthopaedics and Traumatology (SPOT) and the European Federation of National Associations of Orthopaedics and Traumatology (EFORT).

For his contributions to European orthopaedics, Dr. Cassiano received several honorary memberships in National Orthopaedic Associations, including the Czech Republic, Portugal, Serbia, France, Spain, and Europe (EFORT).



## LAWRENCE G. LENKE, MD

Lawrence G. Lenke, MD, is currently Professor of Orthopedic Surgery (in Neurological Surgery) with tenure, Chief of Spinal Deformity Surgery, and co-Director of both the Pediatric and Adult Spine Surgery and Advanced Pediatric Spinal Deformity Surgery Fellowships at Columbia University Medical Center. He is also Co-Director of Och Spine, and Surgeon-in-Chief of the Och Spine Hospital at New York-Presbyterian/Allen Hospital.

His world-renowned clinical practice, now in its 33rd year, is devoted exclusively to spinal deformity surgery with an emphasis on complex reconstructive surgery in both children and adults. Recognized as one of the premier academic spinal deformity surgeons in the world with a current H-Index of 123, he spearheaded the development of the Lenke classification system for Adolescent Idiopathic Scoliosis (AIS) nearly 25 years ago which still remains the global gold standard.

Dr. Lenke was honored with the North American Spine Society's 2013 Leon Wiltse Award for excellence in leadership and/or clinical research in spine care. Also in 2013, Dr. Lenke was listed in *Orthopedics This Week* as one of "The Top 28 Spine Surgeons in North America." He proudly served as one of the youngest presidents of the Scoliosis Research Society in 2010-2011, and received the Humanitarian Award and gave the Harrington Guest Lecture at the 2022 SRS Annual Meeting in Stockholm, Sweden.

Dr. Lenke's prolific academic career includes publishing over 675 peer-reviewed manuscripts, editing five textbooks on Spinal Surgery, writing more than 150 textbook chapters, chairing over 140 Spinal Surgery meetings, and having been an invited Visiting Professor nationally and internationally more than 125 times. As a reflection of his preeminent surgical skills, he has personally hosted over 700 spinal surgeons from around the globe to observe his surgeries in the past 25 years.

# CARE THAT'S AHEAD OF THE CURVE

Here, we bring together pediatric surgery, sports medicine, rehabilitation and research all in one place. Our expertise draws patients from across the country and around the world. And with 10 subspecialties, we lead the nation in personalized orthopedic care just for kids.

**62,000+**

Patients in 2023

**4,500+**

Surgeries in 2023



Learn more about how we're advancing pediatric orthopedic care.



Children's Hospital Colorado  
Orthopedics Institute

6:30 PM–6:39 PM

### WELCOME

**EPOS President:** *Hakan Ömeroğlu, MD, AAS*

**POSNA President:** *Daniel Sucato, MD, MS*

**Local Hosts:** *Megan Young, MD; Matthew Oetgen, MD, MBA*

6:40 PM–6:48 PM

### RECOGNITION OF INDUSTRY SPONSORS

*Hakan Ömeroğlu, MD, AAS*

*Daniel Sucato, MD, MS*

6:49 PM–7:09 PM

### INTRODUCTION OF DISTINGUISHED GUESTS

- EPOS Board of Directors
- Pro Maximis Meritis Award Recipient
- EPOS Presidential Speaker
- POSNA Board of Directors
- Distinguished Achievement Award Recipient
- POSNA Presidential Speaker
- International Presidents
- EPOS and POSNA New Members
- POSNA Hall of Fame Recipients
- POSNA Fellows
- POGO Visiting Scholars

7:10 PM–7:30 PM

### PRESENTATION OF EPOS AWARDS

**EPOS Humanitarian Award:** *Hakan Ömeroğlu, MD, AAS*

**EPOS Young Researcher Awards:** *Hakan Ömeroğlu, MD, AAS*

### PRESENTATION OF POSNA AWARDS

**Angela S.M. Kuo Memorial Award:** *Ken Kuo, MD*

**St. Giles Young Investigator Award:** *Daniel Sucato, MD, MS*

**Arthur H. Huene Memorial Award:** *Daniel Sucato, MD, MS*

**POSNA Special Effort and Excellence Award:** *Daniel Sucato, MD, MS*

**POSNA Humanitarian Award:** *Daniel Sucato, MD, MS*

7:31 PM–7:35 PM

### INTRODUCTION OF STEEL LECTURER

*Matthew Oetgen, MD, MBA*

7:36 PM–7:56 PM

### STEEL LECTURE

*Rajiv J. Shah, MD*

**Big Bets: A Playbook for Large-Scale Change**

8:00 PM–10:00 PM

### WELCOME RECEPTION





## EPOS PRO MAXIMIS MERITIS AWARD DEBORAH EASTWOOD, FRCS

I became fascinated by growth and function during my medical student days and have had the privilege of pursuing these interests throughout my career. I work at two Institutions: one centred on the care of the child and the other, on the care of patients with musculoskeletal problems: a split lifestyle that gives me an added understanding of the challenges faced by different hospitals within our single national health service (NHS).

I juggle the three facets of UK consultant practice, namely clinical work, research, and teaching with some medical management and national/international commitments thrown into the mix. I am currently Clinical Lead and 'Head of Research' for our department at the RNOH. I am an Associate Professor at University College London and honoured to have been recognized by trainees for my commitment to training.

I am a proud past president of EPOS, the organization that has supported me throughout my career, and I am delighted to have played my role in helping the society grow.

I am the immediate past president of the British Orthopaedic Association (BOA), delivering our agenda of developing and maintaining innovative and sustainable solutions for training, research, and clinical care with diversity, inclusion, and engagement at the forefront of our plans. An agenda that emphasizes our commitment to '*Care for patients and Support surgeons.*'

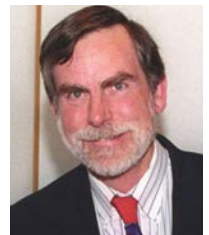
I am the vice president-elect for the International Orthopaedic Diversity Alliance (IODA) and look forward to continuing to support all aspects of diversity and inclusion and equity of access.

In my spare time, I enjoy London life and catching up with international friends and colleagues at meetings such as EPOSNA 2024.

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## POSNA DISTINGUISHED ACHIEVEMENT AWARD CHARLES E. JOHNSTON, MD

Charles ("Charlie") E. Johnston, MD, is assistant chief of staff emeritus at Texas Scottish Rite Hospital for Children, where he practiced continuously since 1985, until his retirement from direct patient care in 2021. A native of Los Angeles, with family ties to south Texas, he graduated from Yale University and Columbia University College of Physicians and Surgeons, completed a surgical internship in San Antonio, and an orthopaedic surgery residency at the University of Virginia Medical Center in Charlottesville. He returned to Texas as a Harrington Fellow in Pediatric Orthopaedics and Scoliosis at TSRH in Dallas in 1981-1982 (the fellowship had no relationship to Dr. Paul R. Harrington).



Dr. Johnston is currently Professor in the Department of Orthopaedic Surgery at the University of Texas Southwestern Medical Center at Dallas and continues as a volunteer orthopaedic staff and researcher at TSRH. He is an elite reviewer for the *Journal of Bone and Joint Surgery* and the *Journal of Children's Orthopaedics*. He is a fellow in the American Academy of Orthopaedic Surgeons and serves on two committees and is a former member of the executive committee of the Pediatric Spine Study Group and Foundation.

Currently, in emeritus status, he has been a member of the Scoliosis Research Society since 1987 and delivered the 2021 Harrington lecture on “The Search for Biologic Treatments Addressing **Etiology** of Scoliosis.”

As a member of the Pediatric Orthopaedic Society of North America since 1986, he has served on multiple committees and received its Humanitarian Award in 2020, based on his multiple medical mission/teaching trips to Palestine, Jordan, Honduras, and Guatemala beginning in the 1990s. He was elected to the POSNA Hall of Fame in 2022. He also is a member of the European Paediatric Orthopaedic Society and the Texas Orthopaedic Association.

Dr. Johnston has published over 160 papers in peer-reviewed journals and authored approximately 30 book chapters. He has been an invited faculty or visiting professor at national and international institutions on over 60 occasions.



## EPOS HUMANITARIAN AWARD ELHANAN BAR-ON, MD, MPH

Elhanan Bar-On, MD, MPH, grew up in Tel Aviv, Israel. Following his military service as a pilot in The Israel Air Force, he studied medicine at Tel Aviv University and completed his orthopaedic residency at Kaplan Medical Center. He trained in pediatric orthopaedics at Denver Children's Hospital in Colorado and Newington Children's Hospital in Connecticut. Upon returning to Israel, he worked at Hadassah Medical Center and then at Schneider Children's Medical

Center, serving as head of pediatric orthopaedics from 1996 to 2017,

Alongside his career in pediatric orthopaedics and being active in both EPOS and POSNA, his passion has been in emergency missions to disaster areas and humanitarian aid in underserved regions worldwide. He has deployed in multiple field hospital missions with the Israel Defense Forces Medical Corps, as well as with other governmental and non-governmental organizations, and is active in the WHO Emergency Medical Team initiative. His deployments to disaster zones include earthquakes in Turkey, India, Haiti, and Nepal, tropical storms in The Philippines and Mozambique, a volcanic eruption in Guatemala, an explosion in Equatorial Guinea, a refugee crisis in Greece, infectious outbreaks in Zambia and Italy, and recently, leading a field hospital deployment to Ukraine. In addition, he has participated in multiple non-emergency humanitarian missions worldwide, treating patients, training local medical teams, and mentoring in Israel to fellows from developing countries. He was one of the leaders of the EPOS Regional Core Curriculum Courses, teaching pediatric orthopaedics in countries on the periphery of Europe as well as in Nepal, Morocco, and most recently, Ethiopia. Closer to home, he has been active in various programs promoting collaboration between Israeli and Palestinian medical teams from the West Bank and Gaza.

In 2017, he established The Humanitarian and Disaster Response Center at Sheba Medical Center which he heads today.



## POSNA HUMANITARIAN AWARD COLEEN SABATINI, MD, MPH

Coleen Sabatini, MD, MPH, is a pediatric orthopaedic surgeon at the University of California San Francisco Benioff Children's Hospital Oakland, CA, with a practice emphasis on trauma and clubfoot/foot deformities. Dr. Sabatini's research and advocacy efforts focus on improving access to, and quality of, musculoskeletal care for children, particularly for those in lower-resource settings.

Although she has had the privilege to teach and/or work in different countries, including Nepal, India, the Philippines, and the Dominican Republic, her international work has primarily been based in Uganda, where she has been working since her first trip there (with Dr. Norgrove Penny) in 2013. In 2015, she started a research program to study neglected surgical conditions and to help build musculoskeletal research capacity in the country. One major focus of her research has been on musculoskeletal disabilities related to intramuscular injections (often for treatment of malaria) that affect thousands of children in Uganda. Recognizing that a few short trips a year were not sufficient to achieve meaningful collaboration and impact, in 2019, she began to spend approximately 4 months a year working in Uganda. Recently, with others from POSNA, Dr. Sabatini was a lead faculty for a COEDN-sponsored pediatric orthopaedic COSECSA fellowship based at CoRSU Hospital. She organized weekly online educational conferences during COVID restrictions. Currently, with colleagues in Uganda, she is doing sustainability planning to ensure an ongoing fellowship and expansion of pediatric orthopaedic education in the country while also continuing her long-standing research and advocacy work.

Dr. Sabatini previously served on the COUR (now POGO) Committee of POSNA, including 3 years as Chair. She is a Co-Director of the UCSF Institute of Global Orthopaedics and Traumatology (IGOT) and Associate Director of the UCSF Center for Health Equity in Surgery and Anesthesia (CHESA) and is involved in numerous education, advocacy, and research efforts focused on global surgery/health equity through these entities.

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## POSNA SPECIAL EFFORT AND EXCELLENCE AWARD CARTER CLEMENT, MD, MBA

Carter Clement, MD, MBA, is a pediatric orthopaedic surgeon at Children's Hospital of New Orleans and associate professor of orthopaedics at LSU. He trained at Penn, UNC, and Rady Children's Hospital before returning to his hometown to practice. He specializes in spine deformity, hip preservation, and complex foot deformity.



Dr. Clement has been a POSNA member for 5 years and is an enthusiastic member of the PEMR and POGO Committees. He is passionate about international medical work and has spent time abroad volunteering in numerous countries. He is also very engaged in education, including serving as associate program director for LSU's orthopaedic surgery residency and as chair of the Education Committee in the division of pediatric orthopaedics. He has won multiple teaching awards in these roles.

Whenever possible, he enjoys spending time with his three young children (especially practicing for Little League and watching Mardi Gras parades) and exploring the New Orleans restaurant scene with his wife, Meredith.

Until the 1960s, no orthopaedist limited their practice to children. The POSNA Hall of Fame provides an enduring history to honor those POSNA members who have displayed dedication to the Pediatric Orthopaedic Society of North America, teaching and mentoring, studying musculoskeletal conditions in children, and caring for children with musculoskeletal conditions. Nominations for members are accepted each fall and selected by the Awards Committee and members of the Hall of Fame.

**Eligibility:** POSNA member for at least 15 years, Minimum age of 60 years

## 2024 INDUCTEES



Alain Dimeglio, MD



John "Jack" M. Flynn, MD



Laura Lowe Tosi, MD



Richard H. Gross, MD



Scan the QR CODE to read more about  
the spectacular lives and careers of the  
2024 POSNA Hall of Fame inductees



## EPOS YOUNG RESEARCHER AWARDS MARCO TURATI, MD

Marco Turati, MD, married and father of four children is Assistant Professor at Milano-Bicocca University. He is a Consultant Orthopaedic Surgeon at San Gerardo Hospital, Italy, and at the Transalpine Center of Pediatric Sports Medicine and Surgery.

He participated in the development of the Transalpine Center of Pediatric Sports Medicine and Surgery, an International Pediatric Sports Medicine Center between the Grenoble Alps University Hospital, France, and the University of Milano-Bicocca.

His clinical and research interests are sports medicine, paediatric orthopaedics, and paediatric sports medicine. He was a member of the orthopaedic team of the medical service crew for the Youth Olympic Games 2020 in Lausanne (Swiss).

He participates actively in EPOS (European Paediatric Orthopaedic Society), BAT Educational Programme as chair of EPOS BAT Advanced Course Paediatric Sports Medicine & Arthroscopy - Cadaver Workshop in 2022 and chair of EPOS Sports Study Group Webinar: Pediatric Meniscal Injuries (2021) and faculty member of EPOS BAT Sport's Med Advanced Course: Cadaver Workshop Knee and Ankle Joints in Children and Adolescents (2018), EPOS Sports Study Group Webinar Osteochondritis Dissecans (2020) and 7th EPOS BAT Instructional Course Trilogy (Part II and III – 2023), and cochair of the EPOS Pre-meeting Course: The Paediatric Knee: Traumatic Injuries at the EPOS 40th Annual Meeting, Copenhagen (Denmark-2022).

In addition, he was the EPOS research grant winner in 2021 with the project: "EPOS Discoid Meniscus (DiMe) Project: a Prospective Multicentric Cohort Protocol."

He is currently the chair of the EPOS Sports Study Group and a member of the EPOS Scientific Committee.

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## EPOS YOUNG RESEARCHER AWARDS GIANLUCA TESTA, MD

Gianluca Testa, MD, was born in Catania, Italy, in 1986, where he grew up and obtained his educational qualifications. He is passionate about Pediatric Orthopaedics and began practicing it early during his residency in orthopaedics and traumatology, under the guidance of Professor Vito Pavone. He won his first scholarship, which allowed him to attend the BAT course and become a member of the European Paediatric Orthopaedic Society (EPOS).

In 2018, he obtained the EPOS to SLAOTI Traveling Fellowship and visited the main pediatric orthopaedic hospitals in Sao Paulo, Cordoba, and Bogota.

He has received numerous scientific prizes and recognitions, such as national qualifications as a first and second-level professor, national and international scholarships, and prizes for best communications. Today, he is a research professor at the University of Catania, teaching in all healthcare degree courses. At the age of 36, he was appointed an associate professor





in orthopaedics and traumatology. His surgical activity concerns pediatric orthopaedics and traumatology, adult traumatology, and correction of child and adult deformities with external fixation.

He participated in various national and international research projects with EPOS and the Italian Society of Traumatology and Pediatric Orthopedics. He carried out surveys on flat feet, supracondylar fractures of the humerus, and developmental dysplasia of the hip.

He has published over 100 scientific articles, with more than half in the pediatric orthopaedic and traumatology fields. His main research topics are foot and ankle, hip, basic science, traumatology, deformity correction, and neuroorthopaedics.



### STEEL LECTURE RAJIV SHAH, MD

President  
The Rockefeller Foundation

Rajiv J. Shah, MD, serves as president of the Rockefeller Foundation, a global institution committed to promoting the well-being of humanity around the world through data, science, and innovation. Under his leadership, the foundation raised and deployed more than \$1 billion to respond to the COVID pandemic at home and abroad, launched a \$10 billion Global Energy Alliance for People and Planet to help secure a just and green recovery, and is currently seeking to advance human opportunity, even while reversing the climate crisis. Dr. Shah serves on President Biden's Defense Policy Board and is a member of the American Academy of Arts and Sciences and the Council on Foreign Relations.

In October 2023, he published *Big Bets: How Large-Scale Change Really Happens*, sharing a dynamic new model for realizing transformative change, inspired by his own work and that of The Foundation, and changemakers from around the world. He is married to Shivam Mallick Shah, and they have three children.

## LEAD LIKE LORI LECTURE

Room: Potomac Ballroom

12:10 PM–1:20 PM



In 2022, we tragically lost one of the greats of the pediatric orthopaedic community. Dr. Lori Karol was a friend and mentor to many and an inspiration to all. Her distinguished career includes the devoted care of many children with complex issues, landmark research, and the training of countless young surgeons. She was not only a trailblazer but excelled at fostering conversations and connections among POSNA members. As the first female president of POSNA, she not only brought decades of experience but also diversity to the senior leadership and had a hand in welcoming many of us into this society.

In the hopes of filling some of the void that is left by her absence, we have instituted a 3-year leadership lecture series to be held at the Annual Meeting. Funded by donations in her honor, we look forward to hearing from inspiring and inciteful speakers who are trailblazers in their own right in the world outside of pediatric orthopaedics. We hope that you enjoy the unique perspectives that each will bring and the opportunity to continue building on the many leadership lessons she instilled in us.

## KEYNOTE: HABITS, HOPE, AND HEROES



Captain Tammie Jo Shults possessed an early interest in flying, but she faced various obstacles on her path to becoming a military pilot. Applying her lifelong trait of perseverance, she eventually became one of the first female F/A-18 Hornet pilots in the United States Navy.

After concluding her Navy career, she became a pilot for Southwest Airlines. Tammie Jo's incredible history and talent received wide acclaim on April 17, 2018, when she successfully landed a Southwest Boeing 737 after an engine exploded at high altitude, causing multiple system failures and a rapid depressurization. The successful landing of Flight 1380 in Philadelphia saved 148 total lives, including passengers and crew as detailed in her National Best Seller book, *Nerves of Steel*.

Tammie Jo and her husband Dean live in Texas, and Dean also enjoys flying for Southwest Airlines. The couple has two adult children and are committed to living out their faith and serving in their community. They are active in their church and volunteer at a school focusing on at-risk youth. While Tammie Joe retired from commercial flying in September 2020, she continues to dedicate herself to volunteer piloting and serves on various boards, including the first DOT Women's In Aviation Advisory Board to the FAA, Pearl Harbor Aviation Board, and the Naval Aviation Museum Foundation Board. In addition, she has received a number of aviation awards, the latest being inducted into the International Aviation Hall of Fame.

# Your partner in EXCELLENCE

In our relentless pursuit of improvement, we have partnered with many of you and we are **changing the outcome together.**

- Cincinnati Children's created Solutions for Patient Safety, now in over 140 children's hospitals, that has dramatically decreased patient harm.
- POSNA's QSVI program, setting the standard for quality in Pediatric Orthopedics.
- Cincinnati Children's is involved with dozens of research and study groups.



THANK YOU!

### SESSION 1 – TRAUMA

Room: Potomac Ballroom

**Moderators:** *Jonathan G. Schoenecker, MD, PhD and Melinda Witbreuk, MD, PhD*

**8:00 AM–9:41 AM**

8:00 AM–8:05 AM Welcome & Remarks

**1**

8:06 AM–8:10 AM

**Radiological, Clinical, and Functional Outcome of Children with Traumatic Hip Dislocation: Review of 66 Cases**

*Sara De Salvo; Shunyou Chen; Fabio Sammartino; Jeanne-Agathe Mujadiki Luesa; Yunan Lu; Wentao Wang; Liwei Shi; Lianyong Li; Vito Pavone; Federico Canavese, MD; France-China-Italy Traumatic Hip Dislocation Study Group  
CHU Lille, Lille, France*

**2**

8:11 AM–8:15 AM

**Diaphyseal Femur Fractures in Children Under the Age of 3 – Risk Factors for Non-Accidental Trauma: A CORTICES Multi-Center Study**

*Manya Bali; Patricia E. Miller, MS; Benjamin J. Shore, MD, MPH, FRCSC; Scott B. Rosenfeld, MD; CORTICES  
Boston Children's Hospital, Boston, MA, U.S.*

**3**

8:16 AM–8:20 AM

**Increased Odds of Non-Accidental Traumatic Fractures in Pediatric Patients with Intellectual Disability Disorder: A Stratified Analysis**

*Rishi Gonuguntla; David Momtaz; Mehul Mittal; Beltran Torres-Izquierdo; Pooya Hosseinzadeh, MD  
Washington University in St. Louis, St. Louis, MO, U.S.*

8:21 AM–8:29 AM Discussion

**4**

8:30 AM–8:34 AM

**Ischial Tuberosity Avulsion Fractures: Treatment and Return to Sport in Athletes with Displaced Fragments**

*Jayson Saleet; Eduardo Novais, MD; Yi-Meng Yen, MD; Mininder S. Kocher, MD, MPH; Lyle J. Micheli, MD; Benton E. Heyworth, MD  
Boston Children's Hospital, Boston, MA, U.S.*

**5**

8:35 AM–8:39 AM

**Pre-Existing Femoroacetabular Impingement is Associated with Pelvic Avulsion Fractures in Adolescents: A Matched Cohort Study**

*Miles Batty; Samantha L. Ferraro, BS; Munif Hatem; Patricia E. Miller, MS; Benton E. Heyworth, MD; Sarah D. Bixby; Eduardo Novais, MD  
Boston Children's Hospital, Boston, MA, U.S.*

**6**

8:40 AM–8:44 AM

**An Emerging Healthcare Crisis: Trends in Pediatric Firearm Injuries Over Time - Analysis of Over 1100 Cases**

*Claire Sentilles; Elizabeth Lane Whitman; Keith Jayson Orland; Abu Mohd. Naser; Jonathan Rowland; Jeffrey R. Sawyer, MD; Benjamin West Sheffer, MD; David D. Spence, MD; William C. Warner, MD; Derek M. Kelly, MD, FAAOS, FAOA  
Campbell Clinic, Germantown, TN, U.S.*

8:45 AM–8:53 AM Discussion

**7**

8:54 AM–8:58 AM

**Loss of Reduction in Pediatric Distal Radius Fractures: Risk Factors from a Prospective Multicenter Registry**

*Apurva S. Shah, MD, MBA; Zoe Elizabeth Belardo, BA; Mark Leland Miller, MD; Michael Willey; Susan T. Mahan, MD, MPH; Divya Talwar; Rebecca Aguiar; Sana Bouajaj; Aspen Miller; Joshua Marino; Donald S. Bae, MD; Pediatric Distal Radius Fracture Registry  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

**8**

8:59 AM–9:03 AM

**Modified Elastic Stable Intramedullary Nailing, a New Approach for Distal Metaphyso-Diaphyseal Junction of Forearm in Children.**

*Elie Georges Saliba; Pauline Savidan; Clement Munoz; Yan Lefèvre  
Hopital Des Enfants CHU de Bordeaux, Bordeaux, France*

**9**

9:04 AM–9:08 AM

**Take It or Leave It: Prevalence and Complications from Hardware Removal following Pediatric Fracture Fixation**

*Vineet Desai; Scott J. Mahon; Lucas Hauth; Amanda Pang; Apurva S. Shah, MD, MBA; Jason Anari, MD  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

9:09 AM–9:17 AM Discussion

**10**

9:18 AM–9:22 AM

**Use of the Bioabsorbable Activa IM-Nail™ in Pediatric Diaphyseal Forearm Fractures: A Prospective Cohort Study With At Least One Year Follow-Up ♦**

*David Goettsche; Morten Jon Andersen, MD  
Copenhagen University Hospital - Herlev and Gentofte, Copenhagen, Denmark*

**11**

9:23 AM–9:27 AM

**Biodegradable Magnesium Implants – a Game Changer in Pediatric Trauma Care**

*Romy Marek; Tavishi Singh; Nicole Gabriele Sommer; Annelie-Martina Weinberg, MD, PhD  
Medical University of Graz, Graz, Austria*

**12**

9:28 AM–9:32 AM

**Biodegradable Intramedullary Nailing of Severely Displaced Distal Paediatric Metaphyseal Radius Fractures**

*Marcell Benjamin Varga; Gergo Józsa; Zsófia Krupa; Tamás Kassai  
Manninger Jenő Baleseti Központ, Budapest, Hungary*

9:33 AM–9:41 AM Discussion

9:48 AM–10:08 AM AM Break/Exhibits

### POSNA PRESIDENTIAL SPEAKER

**Room: Potomac Ballroom**

**10:15 AM–10:40AM**

10:15 AM–10:19 AM Introduction  
10:20 AM–10:40 AM *Lawrence Lenke, MD*

### SESSION 2 – BEST OF SPINE

**Room: Potomac Ballroom**

*Moderators: Carol C. Hasler, MD and Peter O. Newton, MD*

**10:41 AM–11:53 AM**

10:41 AM–10:43 AM Welcome & Remarks

**13**

10:44 AM–10:48 AM

**Can Scoliosis-Specific Exercises be Performed with Wearing Brace in Treating Adolescent Idiopathic Scoliosis: an Alternative Use of Scoliosis-Specific Exercises without Sacrificing Bracing Hour**

*Charlene Fan; Michael To; Jason Cheung; Kenneth MC Cheung, MD  
The University of Hong Kong – Shenzhen Hospital, Shenzhen, People's Republic of China*

♦ Indicates a presentation in which the FDA has not cleared the drug and/or medical device for the use described (i.e., the drug or medical device is being discussed for an "off label" use)."



**14**

10:49 AM–10:53 AM

**Surgeon Contoured Versus Pre-Contoured Patient-Specific Rods in Adolescent Idiopathic Scoliosis: Assessing Global Sagittal Alignment**

*Sahir Jabbouri, MD; Peter Joo; Wyatt David; Seongho Jeong; Jay Moran; Anshu Jonnalagadda; Dominick A. Tuason, MD Yale School of Medicine, New Haven, CT, U.S.*

**15**

10:54 AM–10:58 AM

**Pulmonary Function at Minimum 10 Years After Segmental Pedicle Screw Instrumentation for Thoracic Adolescent Idiopathic Scoliosis**

*Linda Helenius; Matti Mikael Ahonen; Johanna Syvänen; Ilkka J. Helenius, MD Helsinki University Hospital, Helsinki, Finland*

10:59 AM–11:07 AM Discussion

**16**

11:08 AM–11:12 AM

**Osteotomies at The Time of Graduation Surgery: How Much Do We Get from Them?**

*Tyler A. Tetreault, MD; Tiffany Phan; Tishya A. L. Wren, PhD; Michael J. Heffernan, MD; John B. Emans, MD; Lawrence I. Karlin, MD; Amer F. Samdani, MD; Michael G. Vitale, MD, MPH; Ilkka J. Helenius, MD; Lindsay Andras, MD; Pediatric Spine Study Group Children's Hospital Los Angeles, Los Angeles, CA, U.S.*

**17**

11:13 AM–11:17 AM

**Is Bracing after Completion of Mehta Casting Worthwhile?**

*Tiffany Thompson; Carlos Monroig-Rivera; Mike M. O'Sullivan; Charles E. Johnston, MD Scottish Rite for Children, Dallas, TX, U.S.*

**18**

11:18 AM–11:22 AM

**Limited Fusion for Congenital Scoliosis: Is it Truly One and Done?**

*Brandon Yoshida; Tyler A. Tetreault, MD; Luke Christian Drake, MD; Tiffany Phan; Jacquelyn Nicole Valenzuela-Moss; Tishya A.L. Wren, PhD; Lindsay Andras, MD; Michael J. Heffernan, MD Children's Hospital Los Angeles, Los Angeles, CA, U.S.*

11:23 AM–11:31 AM Discussion

**19**

11:32 AM–11:36 AM

**Greater Implant Density Does Not Improve Pelvic Obliquity and Major Curve Correction in Neuromuscular Scoliosis**

*Patrick Thornley, MD; Arlene R. Maheu; Kenneth Rogers, PhD, ATC; Paul D. Sponseller, MD, MBA; Peter O. Newton, MD; A. Noelle Larson, MD; Joshua Pahys, MD; Peter G. Gabos, MD; M. Wade Shrader, MD; Tracey P. Bastrom, MA; Suken A. Shah, MD; Harms Study Group Nemours Children's Hospital, Wilmington, DE, U.S.*

**20**

11:37 AM–11:41 AM

**The Effect of Traction and Spinal Cord Morphology on Intraoperative Neuromonitoring Alerts**

*Evan Fene; Lydia Klinkerman, BS; Charles E. Johnston, MD; Jaysson T. Brooks, MD; Megan Johnson, MD Scottish Rite for Children, Dallas, TX, U.S.*

**21**

11:42 AM–11:46 AM

**What kind of Kyphosis? Stratifying Thoracolumbar Kyphosis in Achondroplasia**

*Luiz Carlos Almeida Da Silva; Yusuke Hori; Colleen P. Ditro, DNP, CPNP; Kenneth Rogers, PhD, ATC; J. Richard Bowen, MD; William G. Mackenzie, MD; Stuart Mackenzie, MD Nemours Children's Hospital, Wilmington, DE, U.S.*

11:47 AM–11:55 AM Discussion

12:15 PM–1:15 PM

**Room: Cherry Blossom Ballroom**  
**OrthoPediatrics****Decision-Making in the Orthopaedic Management of Neuromuscular Patients***Benjamin J. Shore, MD, MPH, FRCSC (Boston Children's); M. Wade Shrader, MD (Nemours Children's Health); Ana Presedo, MD (Hôpital Robert Debré)*

Patients with neuromuscular conditions comprise a large part of a pediatric orthopaedist's practice whether that surgeon focuses on hip preservation, deformity, motion analysis, or spine surgery. The management of these complex patients has become more specialized and involves true multi-disciplinary care even within the orthopaedic department itself. We intend to go through the orthopaedic issues patients and surgeons face throughout the pediatric lifespan, including hip subluxation and dislocation, deformity correction, and scoliosis with an emphasis on both non-operative and operative care, early intervention, pre-operative planning, and the multiple decision points that the surgeon will encounter. We anticipate a highly interactive session with some controversial discussion and a better understanding of the pros and cons of various treatment modalities.

**Room: National Harbor 10-11**  
**PediTST****Fragile and Congenital Long Bone Surgical Treatment***Muharrem Inan, MD (Istanbul Ortopediatri Pediatric Orthopedic Clinic); Nicholas Green, MD (Sheffield Children's Hospital)*

A session for those surgeons dealing with Deformity and Congenital Disorders, including Fragility who wish to utilize a system for acute and long-term stability and guidance in patients with an expectation of continual skeletal growth.

**Room: National Harbor 2-3**  
**Medtronic****The Evolving Role of AI and Modular Solutions in Pediatric Deformity***Grant Hogue, MD (Boston Children's); Nicholas Fletcher, MD (Children's Healthcare of Atlanta); Brice Ilharborde, MD (Hôpital Robert Debré)*

Medtronic is leading this revolution by integrating powerful complementary technologies: artificial intelligence-driven surgical planning, personalized spinal implants, and modular screw system, which together advance standardization and reduced variability. This workshop will provide a unique opportunity to discover how spine surgeons are incorporating these integrated solutions into their practice and how Medtronic is accelerating the transition to a new era of personalized medicine to deliver optimal patient care.

**Room: National Harbor 4-5**  
**Globus Medical****Building Stability: Emphasizing the Toolbox in Pediatric Spinal Deformity Care**  
*TBD*

Join our esteemed faculty for an immersive workshop designed to explore the cutting-edge advancements in pediatric deformity technology. This engaging session brings together industry leaders and experts to delve into the latest innovations from Globus Medical. Techniques and tools designed to help revolutionize the landscape of pediatric spinal care will be discussed.

### SESSION 3A – ADOLESCENT IDIOPATHIC SCOLIOSIS (AIS)

Room: Potomac Ballroom

**Moderators:** *Lindsay Andras, MD and Dror Ovadia, MD*

**2:00 PM–3:38 PM**

2:00 PM–2:02 PM Welcome & Remarks

**22**

2:03 PM–2:07 PM

#### **Distribution of Curve Flexibility in Idiopathic Scoliosis – A Descriptive Study**

*Simon Blanchard; Matan Malka; Ritt Givens; Michael G. Vitale, MD, MPH; Benjamin D. Roye, MD*

*Morgan Stanley Children's Hospital at New York-Presbyterian, New York, NY, U.S.*

**23**

2:08 PM–2:12 PM

#### **When is Growth Greatest? Spine and Total Body Growth in Idiopathic Scoliosis through Sanders Maturation Stages 2, 3A, 3B, and 4**

*Yusuke Hori; Bryan Menapace; Burak Kaymaz; Luiz Carlos Almeida Da Silva; Norihiro Isogai; Sadettin Ciftci; Kenneth Rogers, PhD, ATC; Petya Yorgova; Andrea Mary Elsby; Peter G. Gabos, MD; Suken A. Shah, MD*

*Nemours Children's Hospital, Wilmington, DE, U.S.*

**24**

2:13 PM–2:17 PM

#### **The True Cost of Late Referral in Adolescent Idiopathic Scoliosis: A 5-year Follow-up Study**

*Emma Nadler; Jennifer Dermott, PT, MSc, PhD Candidate; Dorothy Kim; David E. Lebel, MD, PhD*

*The Hospital for Sick Children (SickKids), Toronto, ON, Canada*

2:18 PM–2:26 PM Discussion

**25**

2:27 PM–2:31 PM

#### **Battle of the Braces: A Comparison of Brace Efficacy in Patients with Adolescent Idiopathic Scoliosis Treated with Providence, Boston-Style, and Rigo-Cheneau Braces**

*Leigh Davis; Amy Bridges; Julie Hantak; Hilary Harris; Sofie-Ellen Stroeve; Nikolay Braykov; Afrin Jahan; Nicholas D. Fletcher, MD*  
*Children's Healthcare of Atlanta, Atlanta, GA, U.S.*

**26**

2:32 PM–2:36 PM

#### **Improvement in Axial Rotation with Bracing Reduces Risk of Curve Progression in Patients with Adolescent Idiopathic Scoliosis**

*Michael Fields; Christina Carin Rymond; Matan Malka; Ritt Givens; Matthew E. Simhon; Hiroko Matsumoto, PhD; Gerard F. Marciano; Afrain Z. Boby; Benjamin D. Roye, MD; Michael G. Vitale, MD, MPH*

*Children's Hospital of New York, New York, NY, U.S.*

**27**

2:37 PM–2:41 PM

#### **PROMIS-Based Assessment of Brace Compliance**

*Carlos Monroig-Rivera; David C. Thornberg; Chan-Hee Jo, PhD; Megan Johnson, MD*  
*Scottish Rite for Children, Dallas, TX, U.S.*

2:42 PM–2:50 PM Discussion

**28**

2:51 PM–2:55 PM

#### **Can Surgery be Proposed to Adolescent Idiopathic Scoliosis Patients with Structural Lumbar Curves Associated with Non-Reducible Iliolumbar Angle?**

*Laurentiu-Cosmin Focsa; Louise Ponchelet; Mikael Finoco; Anne-Laure Simon, MD, PhD; Brice Ilharreborde, MD*

*CHU Robert Debré, AP-HP, Paris Cité University, Paris, France*

**29**

2:56 PM–3:00 PM

### Utility of Routine Postoperative Laboratory Testing after Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis

*David Liu; Alexander Farid; Gabriel S. Linden; Danielle Cook; Craig Munro Birch, MD; Michael T. Hresko, MD; Daniel Hedequist, MD; Grant Douglas Hogue, MD*  
Boston Children's Hospital, Boston, MA, U.S.

**30**

3:01 PM–3:05 PM

### A Comparison of Opioid-Sparing Versus Opioid-Containing Postoperative Pain Management for Idiopathic Scoliosis

*Michael Schallmo; Kayla Hietpas; Michael Paloski, DO, MBA*  
Carolinas Medical Center/OrthoCarolina, Charlotte, NC, U.S.

3:06 PM–3:14 PM

Discussion

**31**

3:15 PM–3:19 PM

### An Accelerated Postoperative Protocol for Discharging Posterior Spinal Fusions Home in Less than Two days: Comparison of Two Matched Cohorts

*Chase Bauer; Jeffrey Kessler, MD*  
Kaiser Permanente, Los Angeles, CA, U.S.

**32**

3:20 PM–3:24 PM

### Can Surgery Improve Painful Adolescent Idiopathic Scoliosis Patients?

*Arthur Poiri; Louise Ponchelet; Anne-Laure Simon, MD, PhD; Florence Julien-Marsollier; Mikael Finoco; Brice Ilharreborde, MD*  
CHU Robert Debré University Hospital, AP-HP, Paris, France

**33**

3:25 PM–3:29 PM

### The Postoperative Decline in Health Related Quality of Life for Adolescents with Idiopathic Scoliosis Undergoing Spinal Fusion

*Adam A. Jamnik; Emily E. Lachmann; Anne-Marie D. Datcu; David C. Thornberg; Chan-Hee Jo, PhD; Karl E. Rathjen, MD; Megan Johnson, MD; Brandon A. Ramo, MD*  
Scottish Rite for Children, Dallas, TX, U.S.

3:30 PM–3:38 PM

Discussion

3:45 PM–4:05 PM

PM Break/Exhibits

## SESSION 3B – FOOT & ANKLE

**Room: Woodrow Wilson Ballroom**

**Moderators: Deborah Eastwood, MD, FRCS and Steven Frick, MD**

**2:00 PM–3:38 PM**

2:00 PM–2:02 PM

Welcome & Remarks

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2:03 PM–2:07 PM

### The CoCo (Core Outcome Clubfoot) Study. Recurrence, with Poorer Clinical and Quality of Life Outcomes, Affects 37% Patients: an International Multicentre Observational Study

*Yael Gelfer, MD, PhD; Sean Cavanagh; Anna Bridgens; Maryse Bouchard, MD, MSc, FRCSC; Elizabeth Ashby; Deborah Eastwood, MD*  
St George's Hospital, London, United Kingdom

**35**

2:08 PM–2:12 PM

### Comparison of Clinical Outcomes, Parental Anxiety and Surgeon Satisfaction During Outpatient Clinic Versus Operating Room Setting for Achilles Tenotomy During Ponseti Method of Clubfoot Correction - A Randomized Control Trial

*Karthick Sengoda Gounder Rangasamy; Premkumar Rajakumar; Nirmal Raj Gopinathan, MD*  
Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh, India

**36**

2:13 PM–2:17 PM

**Effect of the Abduction Bracing on the Contralateral Foot in Patients with Unilateral Clubfoot Deformity: A Longitudinal Study**

*Kelly Jeans; Victoria Blackwood; Anthony Riccio, MD*

*Scottish Rite for Children, Dallas, TX, U.S.*

2:18 PM–2:26 PM

Discussion

**37**

2:27 PM–2:31 PM

**Clubfoot Relapse Rates in Idiopathic Clubfoot using the Ponseti Method: 65 Years of Data from a Single Institution**

*Jose A. Morcuende, MD; Arianna Dalamaggas; Malynda Wynn*

*University of Iowa, Iowa City, IA, U.S.*

**38**

2:32 PM–2:36 PM

**Comparative Analysis of Three Anterior Tibialis Tendon Transfer Techniques In Idiopathic Clubfoot**

*Gregory Firth, MD; Javier Masquijo, MD; Alexandre Arkader, MD; Victoria Allende Nores, MD; Manoj Ramachandran, FRCS*  
*Royal London Hospital, London, United Kingdom*

**39**

2:37 PM–2:41 PM

**Rebound of the Radiological Effect of Anterior Distal Tibia Epiphysiodesis in Relapsed Ponseti Treated Clubfoot Patients after Implant Removal**

*Arnold T. Besselaar; Maria Christine Van Der Steen; Isabelle Van Tilburg*  
*Máxima Medisch Centrum, Veldhoven, Netherlands*

2:42 PM–2:50 PM

Discussion

**40**

2:51 PM–2:55 PM

**Is There a Benefit to Rigid Fixation in Calcaneal Lengthening Osteotomy in Painful Pediatric Idiopathic Flatfoot Deformity? Comparing Results of Kirschner Wire versus Plate Fixation**

*Abhishek Tippabhatla; Beltran Torres-Izquierdo; Daniel Pereira; Zachary Meyer; Pooya Hosseinzadeh, MD*

*Washington University in St. Louis, St. Louis, MO, U.S.*

**41**

2:56 PM–3:00 PM

**Nonunion Rate of Evans Osteotomy Without Fixation in Pediatric Flatfoot**

*Smitha Mathew; Brian Gallagher; Megan Miles; Gregory Paul Guyton*

*MedStar Union Memorial Hospital, Baltimore, MD, U.S.*

**42**

3:01 PM–3:05 PM

**Improving Detection of Underlying Neurologic Etiology for Pediatric Cavovarus Foot Deformity: We Can Do Better**

*Mike O'Sullivan; Michelle Christie; Rusty Lynn Hartman; Jacob Zide, MD; Anthony Riccio, MD*  
*Scottish Rite for Children, Dallas, TX, U.S.*

3:06 PM–3:14 PM

Discussion

**43**

3:15 PM–3:19 PM

**Efficacy of Ponseti Casting in Arthrogyposis**

*Theresa A. Hennessey, MD; Ferran Romero; Amanda Purcell, MD; Angielyn San Juan; Bruce MacWilliams*  
*Shriners Children's™ Salt Lake City, Salt Lake City, UT, U.S.*



**44**

3:20 PM–3:24 PM

### Is the Proximal Lateral Epiphysiodesis of the 1st Metatarsal Effective in the Correction of Hallux Valgus in the Pediatric Population?

*Emanuel Seíça; Teresa Clode Araújo; Afonso Cardoso; Susana Norte; Monika Thüsing, MD; Manuel Cassiano Neves  
Hospital CUF Descobertas, Lisbon, Portugal*

**45**

3:25 PM–3:29 PM

### The Creation and Validation of an Ankle Bone Age Atlas and Data Predicting Remaining Ankle Growth

*Andrew Pennock, MD; James David Bomar, MPH; Jason Pedowitz; Stephen Carveth, MD  
Rady Children's Hospital, San Diego, San Diego, CA, U.S.*

3:30 PM–3:38 PM

Discussion

3:45 PM–4:05 PM

PM Break/Exhibits

## SESSION 3C – NEUROMUSCULAR & CEREBRAL PALSY

**Room: Cherry Blossom Ballroom**

**Moderators: Jon Davids, MD and Elke Viehweger, MD, PhD**

**2:00 PM–3:38 PM**

2:00 PM–2:02 PM

Welcome & Remarks

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2:03 PM–2:07 PM

### Hip Progression after Triradiate Cartilage Closure in Ambulatory Cerebral Palsy: Who Needs Continued Surveillance?

*Amelia M. Lindgren, MD; Ali Asma; Kenneth Rogers, PhD, ATC; Freeman Miller, MD; M. Wade Shrader, MD; Jason Howard, MD  
Nemours Children's Hospital, Wilmington, DE, U.S.*

**47**

2:08 PM–2:12 PM

### How well does Physical Examination Predict Radiographic Hip Displacement in Children with Cerebral Palsy?

*Unni G. Narayanan, MD, FRCSC; N. Susan Stott, MD; Darcy Fehlings; H. Graham, MD, FRCS; Kishore Mulpuri, MBBS, MHSc, FRCSC; Benjamin J. Shore, MD, MPH, FRCSC; M. Wade Shrader, MD; Moon Seok Park; Tim Theologis, MSc, PhD; Marek Jozwiak; Jon R. Davids, MD; Eva M. Ponten, MD, PhD; Gunnar Hagglund; Bjarne Moeller-Madsen, MD, PhD; Uri Givon, MD; Deborah Eastwood, MD; Tom F. Novacheck, MD; Cerebral Palsy Hip Outcomes Project (CHOP)  
The Hospital for Sick Children (SickKids), Toronto, ON, Canada*

**48**

2:13 PM–2:17 PM

### Femoral Head Shaft Angle Changes Based on Severity of Neurologic Impairment in Children with Cerebral Palsy and Spinal Muscle Atrophy

*Luiz Carlos Almeida Da Silva; Yusuke Hori; Burak Kaymaz; Kenneth Rogers, PhD, ATC; Arianna Trionfo, MD; Jason Howard, MD; J. Richard Bowen, MD; M. Wade Shrader, MD; Freeman Miller, MD  
Nemours Children's Hospital, Wilmington, DE, U.S.*

2:18 PM–2:26 PM

Discussion

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2:27 PM–2:31 PM

### Proximal Femur Guided Growth for Spastic Hip Displacement in Cerebral Palsy Children - Long-term Follow-up

*Wei-Chun Lee, MD, PhD; Szu-Yao Wang; Hsuan Kai Kao, MD; Wen-E Yang, MD; Chia-Hsieh Chang, MD, PhD  
Chang Gung Memorial Hospital, Taipei, Taiwan*

**50**

2:32 PM–2:36 PM

**Does the Addition of Proximal Femoral Epiphysiodesis in Neuromuscular Hips Improve Caput Valgum?**

*M. Bryant Transtrum; Katelyn S. Rourk; Julia Todderud; Christina Regan; Anthony A. Stans, MD; William J. Shaughnessy, MD; A. Noelle Larson, MD; Todd A. Milbrandt, MD; Emmanouil (Manos) Grigoriou, MD*  
 Mayo Clinic, Rochester, MN, U.S.

**51**

2:37 PM–2:41 PM

**Medialization at The Osteotomy Site May Reduce Relapse after Varus De-Rotational Osteotomy (VDRO) of the Proximal Femur in Cerebral Palsy**

*Frederico Vallim; Eduardo Duarte Pinto Godoy; Juliana Lyra; Joao Antonio Matheus Guimaraes; Marcello Henrique Nogueira-Barbosa; H. Graham, MD, FRCS*  
 Hospital Estadual da Criança, Rio de Janeiro, Brazil

2:42 PM–2:50 PM

Discussion

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2:51 PM–2:55 PM

**Combined Pelvic Osteotomy and Proximal Femur Guided Growth for Serious Hip Subluxation in Cerebral Palsy Children**

*Kuan-wen Wu, MD; Hsiang Chieh Hsieh; Chia-Che Lee; Ting-ming Wang, MD; Ken N. Kuo, MD*  
 National Taiwan University Hospital, Taipei, Taiwan

**53**

2:56 PM–3:00 PM

**Medium Term Results after Femoral Head Resection and Subtrochanteric Valgus Osteotomy in Children and Adolescents with Cerebral Palsy**

*Ralf D. Stuecker, MD; Madeleine Marowsky; Oliver Jungesblut; André Strahl; Martin Rupprecht*  
 Childrens Hospital Hamburg-Altona, Hamburg, Germany

**54**

3:01 PM–3:05 PM

**The Association Between Hip Displacement, Scoliosis and Pelvic Obliquity in 106 Nonambulatory Patients with Cerebral Palsy: A Longitudinal, Population-Based Study**

*Terje Terjesen; Svend Vinje; Thomas Kibsgård*  
 Oslo University Hospital, Rikshospitalet, Oslo, Norway

3:06 PM–3:14 PM

Discussion

**55**

3:15 PM–3:19 PM

**The Evaluation of Total Hip Replacement in Management of Spastic Painful Hip Dislocation in Cerebral Palsy**

*Andrzej Sionek; Bartosz Babik; Jaroslaw Czubak*  
 Gruca Teaching Hospital CMKP, Warsaw-Otwock, Poland

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3:20 PM–3:24 PM

**Inter Rater Reliability of a Photo-Based Modified Foot Posture Index (MFPI) in Identifying Severity of Foot Deformity in Children with Cerebral Palsy**

*Beltran Torres-Izquierdo; Jason Howard, MD; Sean Tabaie, MD; Mara S. Karamitopoulos, MD; Benjamin J. Shore, MD, MPH, FRCSC; Monica Payares-Lizano, MD; Robert Lane Wimberly, MD; M. Wade Shrader, MD; Kristan A. Pierz, MD; Andrew Gregory Georgiadis, MD; Jason Rhodes, MD; Jon R. Davids, MD; Rachel Mednick Thompson, MD; Pooya Hosseinzadeh, MD*  
 Washington University in St. Louis, St. Louis, MO, U.S.

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3:25 PM–3:29 PM

**Impact of Femoral Derotation Osteotomy and Equinus Varus Foot Correction on Transverse Plane Asymmetry in Patients with Hemiplegic Cerebral Palsy**

*Mauro Cesar Moraes Filho, MD; Marcelo Hideki Fujino; Catia Miyuki Kawamura; Jose Augusto Fernandes Lopes; Fernanda Piumbini Azevedo*  
 AACD, São Paulo, Brazil

3:30 PM–3:38 PM Discussion

3:45 PM–4:05 PM PM Break/Exhibits

### SESSION 3D – INFECTIONS & TUMORS

**Room: National Harbor 2-3**

**Moderators: James McCarthy, MD, MHCM and Marta Salom, MD, PhD**

**2:00 PM–3:38 PM**

2:00 PM–2:02 PM Welcome & Remarks

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2:03 PM–2:07 PM

**Aspirations Dashed: Serum Neutrophil-to-Lymphocyte Ratio is Not a Good Predictor of Septic Arthritis of the Hip and Knee in Pediatric Patients**

*Christopher John DeFrancesco, MD; David Peter VanEenaam; Carter Hall; Vineet Desai; Kevin Jossue Orellana; Wudbhav N. Sankar, MD Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

**59**

2:08 PM–2:12 PM

**Severity of Osteomyelitis - the Bug is the Problem**

*Haemish A. Crawford, MD; Anna McDonald; Simon Swift; Jillian Cornish; Reece Joseph; Sophia Huiyao Hamada-Zhu; Christina Straub; Brya Matthews Starship Children's Hospital, Auckland, New Zealand*

**60**

2:13 PM–2:17 PM

**Featherweight versus Heavyweight of Pediatric Musculoskeletal Infections: Kingella vs. the Titans of Staphylococcus and Streptococcus**

*Brian Quincey Hou; Malini Anand; William Franklin Hefley; Katherine Sara Hajdu; Stephen Chenard; Anoop Chandrashekar; Naadir Jamal; Michael Joseph Greenberg; Courtney Baker, MD; Stephanie N. Moore-Lotridge, PhD; Jonathan G. Schoenecker, MD, PhD*

*Vanderbilt University Medical Center, Nashville, TN, U.S.*

2:18 PM–2:26 PM Discussion

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2:27 PM–2:31 PM

**Low Prevalence of Anaerobic Bacteria in Pediatric Septic Arthritis Makes Obtaining Anaerobic Cultures of Questionable Value**

*Maia Regan; David A. Spiegel, MD; Kenneth Smith; Keith D. Baldwin, MD Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

**62**

2:32 PM–2:36 PM

**Tiny Humans vs. a Deadly Disease: An Epidemiologic Review of Necrotizing Fasciitis in Pediatric Patients**

*Stephanie N. Moore-Lotridge, PhD; Samuel Johnson; Wendy Ramalingam, BS, MD; Jonathan G. Schoenecker, MD, PhD Vanderbilt University Medical Center, Nashville, TN, U.S.*

**63**

2:37 PM–2:41 PM

**Awake Biopsy in Paediatric Patients with Suspected Musculoskeletal Malignancy is Safe, Feasible, Cost-Effective and Reduces Time to Tissue Diagnosis**

*Huw RF Walters; Alpesh Kothari, MA, BM, BCh, AFHEA, MSc, DPhil, FRCS; Max Mifsud; Andrew Wainwright; Karen Partington Oxford University Hospitals NHS Foundation Trust, Oxford, United Kingdom*

2:42 PM–2:50 PM Discussion

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2:51 PM–2:55 PM

**Comparison of Diaphyseal Reconstruction Techniques of the Lower Limbs in Childhood Malignant Tumors: Long Term Results**

*Edouard Haumont; Lys Budiarta; Manon Pigeolet; Marine De Tienda; Frank Fitoussi; Stephanie Pannier, MD, PhD; Eric Mascard Necker - Enfants Malades, Paris, France*

**65**

2:56 PM–3:00 PM

### Survivorship of Custom-Made Non-Invasive Extendable Implants in Paediatric Sarcoma Patients

*Max Mifsud; Ruben Thumbadoo;*

*Tim Theologis, MSc, PhD*

*Oxford University Hospitals NHS Foundation Trust, Oxford, United Kingdom*

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3:01 PM–3:05 PM

### Sufficiency of Isolated Vascularised Fibula for Intercalary Reconstruction

*Laura Saenz; Sevan Hopyan, MD*

*The Hospital for Sick Children (SickKids), Toronto, ON, Canada*

3:06 PM–3:14 PM

Discussion

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3:15 PM–3:19 PM

### Femoral Head Cartilage Window Approach Combined with Artificial Bone Implantation for Treatment of Epiphyseal Chondroblastoma in Children

*Xuemin Lyu, MD, PhD; Zheng Yang*

*Beijing Jishuitan Hospital, Beijing, People's Republic of China*

**68**

3:20 PM–3:24 PM

### Evidence Based Recommendations for Treating Pediatric Desmoid Tumors: Consensus of the Desmoid Tumor Working Group ♦

*Benjamin A. Alman, MD, FRCSC;*

*The Desmoid Tumor Working Group  
Duke University, Durham, NC, U.S.*

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3:25 PM–3:29 PM

### Retrospective Analysis and Characterization of Avascular Necrosis in Pediatric Leukemia/Lymphoma Patients Using BLAST Classification

*Amin Alayleh; Hiba Naz; Vanessa Taylor; Taylor*

*Renee Johnson; Saima Farook; Grady Harrison Hofmann; Chiamaka Nneka Obilo; Katie*

*Harbacheck; Tara Anne Laureano; Stephanie*

*M. Smith; Karen Chao; Stuart B. Goodman;*

*Kevin G. Shea, MD*

*Stanford University, Palo Alto, CA, U.S.*

3:30 PM–3:38 PM

Discussion

3:45 PM–4:05 PM

PM Break/Exhibits

## SESSION 4A – CONGENITAL, SYNDROMIC, & DYSPLASIAS

**Room: Cherry Blossom Ballroom**

**Moderators: Stephanie Boehm, MD and Klane White, MD, MSc**

**4:10 PM–5:26 PM**

4:10 PM–4:14 PM

Welcome & Remarks

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4:15 PM–4:19 PM

### Survival of Telescoping Rods Decreases with Successive Surgeries in Patients With Osteogenesis Imperfecta

*Cynthia Nguyen, MD; Chris Makarewich,*

*MD; Selina Poon, MD; Robert Hyun Cho, MD;*

*Theresa A. Hennessey, MD*

*Shriners Children's™ Southern California, Pasadena, CA, U.S.*

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4:20 PM–4:24 PM

### Augmentation of Submuscular Plates in Addition to Telescopic Rodding in the Management of Long Bone Fractures in Patients with Osteogenesis Imperfecta

*Baris Gorgun; Onur Oto; Sema Ertan Birsel;*

*Ozan Ali Erdal; Muharrem Inan, MD*

*Ortopediatri Istanbul, Academy of Pediatric Orthopaedics, Istanbul, Turkey*

♦ Indicates a presentation in which the FDA has not cleared the drug and/or medical device for the use described (i.e., the drug or medical device is being discussed for an "off label" use.)

**72**

4:25 PM–4:29 PM

**Long Term Outcomes of Intramedullary Nails in Osteogenesis Imperfecta: Fewer Surgeries and Longer Survival Times with Telescoping Rods in Patients with Over Ten Years Follow Up**

*Cynthia Nguyen, MD; Chris Makarewich, MD; Selina Poon, MD; Robert Hyun Cho, MD; Theresa A. Hennessey, MD  
Shriners Children's™ Southern California, Pasadena, CA, U.S.*

4:30 PM–4:38 PM

Discussion

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4:39 PM–4:43 PM

**Prophylactic Intramedullary Rodding Following Femoral Lengthening in Patients with Achondroplasia and Hypochondroplasia**

*Cesar G. Fontecha; Pilar Rovira Martí  
Sant Joan de Déu Children Hospital Barcelona, Barcelona, Spain*

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4:44 PM–4:48 PM

**Spinal Surgery in Achondroplasia: Causes of Reoperation and Reduction of Risks**

*Arun R. Hariharan, MD, MS; Hans K. Nugraha; Aaron Huser, DO; David S. Feldman, MD  
Paley Orthopedic & Spine Institute, West Palm Beach, FL, U.S.*

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4:49 PM–4:53 PM

**Collagen-Type 2 Skeletal Dysplasias: Key Clinical, Radiographic, and MRI Findings Guide Cervical Stabilization Decision-Making**

*Bryan Menapace, MD, MBA; Colleen P. Ditro, DNP, CPNP; Kenneth Rogers, PhD, ATC; Jeffrey Campbell; William G. Mackenzie, MD; Stuart Mackenzie, MD  
Nemours Children's Hospital, Wilmington, DE, U.S.*

4:54 PM–5:02 PM

Discussion

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5:03 PM–5:07 PM

**Screening and Early Management of Hips in Children with Spina Bifida Following Prenatal Surgical Closure**

*Domenic Grisch, MD; Aurelia Hof; Britta Krautwurst; Thomas Dreher, MD  
University Children's Hospital Zurich, Zurich, Switzerland*

**77**

5:08 PM–5:12 PM

**Does Open Reduction of Arthrogryptic Hips Cause Stiffness?**

*Harold J.P. Van Bosse, MD; David Teytelbaum; Solomon Samuel; Vinieth Bijanki; Stephen Silva  
St. Louis University, St. Louis, MO, U.S.*

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5:13 PM–5:17 PM

**Burosomab Reduces the Need for Hemiepiphysiodesis in Hypophosphataemic Rickets**

*Christopher James Marusza; Zakir Haider; Kelvin Miu; Daniel Thomas Fontannaz; Deborah Eastwood, MD  
Great Ormond Street Hospital for Children, London, United Kingdom*

5:18 PM–5:26 PM

Discussion

**SESSION 4B – HAND & UPPER EXTREMITY**

**Room: National Harbor 2-3**

**Moderators: Sebastian Farr, MD and Julie Samora, MD, PhD**

**4:10 PM–5:26 PM**

4:10 PM–4:14 PM

Welcome & Remarks

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4:15 PM–4:19 PM

**Ethnicity is A Risk Factor for Permanent Brachial Plexus Birth Injury**

*Petra Grahn, MD; Aarno Yrjana Nietosvaara, MD, PhD; Mika Gissler; Marja Kaijomaa  
Helsinki University Hospital, New Children's Hospital, Helsinki, Finland*



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4:20 PM–4:24 PM

**Sprengel Deformity: What is the Functional Outcome and Quality of Life after Surgery According to the EQ-5D-Y and the Short Version of Disabilities of the Arm, Shoulder and Hand Questionnaire (quickDASH)?**

*Carina Antfang; Adrien Frommer; Georg Gosheger; Robert Roedl; Andrea Marira Laufer; Gregor Toporowski; Henning Tretow; Jan Duedal Rölfing; Bjoern Vogt, MD Uniklinik Münster, Muenster, Germany*

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4:25 PM–4:29 PM

**Medium- and Long-Term Clinical and Functional Outcomes of Modified Green's Procedure for Sprengel Shoulder in Children**

*Giovanni Trisolino; Marco Todisco; Paola Zarantonello; Giovanni Di Gennaro; Alessandro Depaoli; Gino Rocca IRCCS Istituto Ortopedico Rizzoli, Bologna, Italy*

4:30 PM–4:38 PM Discussion

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4:39 PM–4:43 PM

**Osteot-OH MY! Contemporary Surgical Techniques May Reduce Revision Rates following Preaxial Polydactyly Reconstruction**

*Eliza Buttrick, BA; Sarah L. Struble; Shaun Mendenhall; Benjamin Chang; Sulagna Sarkar; Apurva S. Shah, MD, MBA Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

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4:44 PM–4:48 PM

**Surgical vs. Nonsurgical Management of Pediatric Ganglia - A Cost and Outcomes Analysis**

*Bryce Bell; Umar Ghilzai; Zuhair Jameel Mohammed; Christine Yin; Abdullah Ghali; Qianzi Zhang Baylor College of Medicine, Houston, TX, U.S.*

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4:49 PM–4:53 PM

**Tendon Transfer in Spastic Cerebral Palsy Upper Limb**

*Mahzad Javid, MD; G. Hossain Shahcheraghi, MD; Hadi Gerami, MD Shiraz Medical University, Shiraz, Iran*

4:54 PM–5:02 PM Discussion

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5:03 PM–5:07 PM

**Factors Influencing Return of Elbow Motion Following Pinning of Displaced Supracondylar Humeral Fractures**

*Akbar Nawaz Syed; Pooja Nilesh Balar; Margaret Bowen; J. Todd Lawrence, MD, PhD Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

**86**

5:08 PM–5:12 PM

**Development of a New Classification for Forearm Involvement in Patients with Multiple Hereditary Exostosis (MHE) Using the Delphi Process**

*Carley Vuillermin, FRACS, MBBS, MPH; Maria F. Canizares MD MPH; CoULD Study Group Boston Children's Hospital, Boston, MA, U.S.*

**87**

5:13 PM–5:17 PM

**Flippin' Out Over Gymnast Wrist: Presentation and Treatment of Distal Radial Physeal Stress Syndrome in Young Gymnasts**

*David Peter VanEenenaam; Scott J. Mahon; Naomi Brown; Joseph Yellin, MD; Apurva S. Shah, MD, MBA Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

5:18 PM–5:26 PM Discussion

#### SESSION 4C – NEUROMUSCULAR

Room: Woodrow Wilson Ballroom

*Moderators: Unni Narayanan, MD, FRCSC and Ana Presedo, MD, MSc*

**4:10 PM–5:26 PM**

4:10 PM–4:14 PM Welcome & Remarks

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4:15 PM–4:19 PM

#### **Cerebral Palsy in the British Orthopaedic Surgery Surveillance Study (CPinBOSS)**

*Marie-Caroline Nogaro; Julie Stebbins; Daniel Christopher Perry, FRCS (ORTH); Tim Theologis, MSc, PhD  
University of Oxford, Oxford, United Kingdom*

**89**

4:20 PM–4:24 PM

#### **Health-Related Quality of Life in Ambulatory Children with Physical Disabilities**

*Chris Church; Sana Patil; Stephanie Butler; Freeman Miller, MD; Jose De Jesus Salazar-Torres; Nancy Lennon, MS, PT, DPT; M. Wade Shrader, MD; Maureen Donohoe; Faithe Rassias Kalisperis; Stuart Mackenzie, MD; L. Reid Boyce Nichols, MD; Nemours Gait Lab Nemours Children's Hospital, Wilmington, DE, U.S.*

**90**

4:25 PM–4:29 PM

#### **What is the Prevalence of Depressive Symptoms and Antidepressant Use Among Adult Patients with Cerebral Palsy?**

*Michael G. Vitale, MD, MPH; Chun Wai Hung; Daniel Linhares; Afrain Z. Bobby; Hiroko Matsumoto, PhD; Joshua E. Hyman, MD; David P. Roye, MD  
Columbia University, New York, NY, U.S.*

4:30 PM–4:38 PM Discussion

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4:39 PM–4:43 PM

#### **Accuracy and Reliability of Mobile App Enhanced Observational Gait Analysis in Children with Cerebral Palsy**

*Donald T. Kephart; Jon R. Davids, MD; Vedant A. Kulkarni, MD  
Shriners Children's™ Northern California, Sacramento, CA, U.S.*

**92**

4:44 PM–4:48 PM

#### **The Risk Factors Associated with Increased Anterior Pelvic Tilt in Ambulatory Children with Cerebral Palsy**

*Chris Church; Jose De Jesus Salazar-Torres; Tanmayee Joshi; Nancy Lennon, MS, PT, DPT; Thomas Shields; John Henley; Freeman Miller, MD; M. Wade Shrader, MD; Jason Howard, MD  
Nemours Children's Hospital, Wilmington, DE, U.S.*

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4:49 PM–4:53 PM

#### **The Association Between Increase in Knee Range of Motion and Patient Satisfaction After Rectus Femoris Transfer in Cerebral Palsy**

*Mauro Cesar Morais Filho, MD; Marcelo Hideki Fujino; Catia Miyuki Kawamura; Jose Augusto Fernandes Lopes; Ageu Saraiva AACD, São Paulo, Brazil*

4:54 PM–5:02 PM Discussion

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5:03 PM–5:07 PM

#### **Is the CPCHILD Questionnaire Responsive - Assessing HRQoL Changes and Performance of the CPCHILD after Hip and Spine Surgery in Children with Severe Cerebral Palsy**

*Lennert Plasschaert, MD; Patricia E. Miller, MS; Rachel DiFazio, PhD, RN; Brian D. Snyder, MD; Colyn Watkins, MD; Travis Matheney, MD; Benjamin J. Shore, MD, MPH, FRCSC  
Boston Children's Hospital, Boston, MA, U.S.*

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5:08 PM–5:12 PM

**Disease-Modifying Therapy Changed the Natural Course of Spinal Muscular Atrophy Type 1: What About Spine and Hip?**

*Niyazi Erdem Yasar; Guzelali Ozdemir; Elif Uzun Ata; Naim Ata; Mahir Mustafa Ülgü; Ebru Dumlupinar; Suayip Birinci; Izzet Bingöl; Senol Bekmez, MD*  
Ankara Bilkent Children's Hospital, Ankara, Turkey

**96**

5:13 PM–5:17 PM

**Increased Knee Range of Motion in Patients with Arthrogyrosis: Minimum 2-year Follow-up**

*Aaron Huser, DO; Michael William Brown; Arun R. Hariharan, MD, MS; Hans K. Nugraha; David S. Feldman, MD*  
Paley Orthopedic & Spine Institute, West Palm Beach, FL, U.S.

5:18 PM–5:26 PM

Discussion

**SESSION 4D – SLIPPED CAPITAL FEMORAL EPIPHYSIS**

**Room: Potomac Ballroom**

**Moderators: Catharina Chiari, MD, MSc and Wudbhav N. Sankar, MD**

**4:10 PM–5:26 PM**

4:10 PM–4:14 PM

Welcome & Remarks

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4:15 PM–4:19 PM

**Obesity-Related Alterations in Capital Femoral Epiphysis Morphology: An Extensive Analysis of 8717 Hips Utilizing Automated 3D-CT Imaging**

*Eduardo Novais, MD; Mohammadreza Movahhedi; Mallika Singh; Nazgol Tavabi; Shanika De Silva; Sarah D. Bixby; Ata M. Kiapour, PhD, MMSc*  
Boston Children's Hospital, Boston, MA, U.S.

**98**

4:20 PM–4:24 PM

**Intraoperative Perfusion Monitoring does not Reliably Predict Osteonecrosis following Treatment of Unstable SCFE**

*Bridget Ellsworth, MD; Julianna Lee; Wudbhav N. Sankar, MD*  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.

**99**

4:25 PM–4:29 PM

**Bone Scintigraphy Can Predict Post-Operative Femoral Head Avascular Necrosis in Children with Hip Trauma and Slipped Capital Femoral Epiphysis**

*Patrick Curran, MD; Katharine Hollnagel; James David Bomar, MPH; V. Salil Upasani, MD*  
Rady Children's Hospital, San Diego, San Diego, CA, U.S.

4:30 PM–4:38 PM

Discussion

**100**

4:39 PM–4:43 PM

**Epiphyseal Stability Increases Specificity of the Loder Classification System in Prognosticating AVN after Slipped Capital Femoral Epiphysis**

*Katherine Sara Hajdu; Emilie Amaro Zoldos; Courtney Baker, MD; Simone Herzberg; Benjamin Asbury; Stephanie N. Moore-Lotridge, PhD; Kevin Michael Dale, MD; David Ebenezer, MD; Nathaniel Lempert, MD; Craig R. Louer, MD; Jeffrey E. Martus, MD; Gregory A. Mencio, MD; Jonathan G. Schoenecker, MD, PhD; Vanderbilt SCFE Study Group*  
Vanderbilt University Medical Center, Nashville, TN, U.S.

#### 101

4:44 PM–4:48 PM

#### **Rate and Risk Factors for Contralateral Slippage in Adolescents Treated for Slipped Capital Femoral Epiphysis: A Comprehensive Analysis of 3,528 Cases**

*David Momtaz; Rishi Gonuguntla; Aaron Singh; Mehul Mittal; Beltran Torres-Izquierdo; Pooya Hosseinzadeh, MD*

*Washington University in St. Louis, St. Louis, MO, U.S.*

#### 102

4:49 PM–4:53 PM

#### **Temporary In Situ Pinning with Subsequent Modified Dunn is a Safe Alternative to Primary Modified Dunn**

*Jordyn Adams, BA; Graham Whiting; Jordan Archer; Courtney Selberg, MD*

*Children's Hospital Colorado, Aurora, CO, U.S.*

4:54 PM–5:02 PM

Discussion

#### 103

5:03 PM–5:07 PM

#### **Risk Factors of Vitamin D Deficiencies on SCFE Development**

*David Momtaz; Abhishek Tippabhatla; Rishi Gonuguntla; Mehul Mittal; Beltran Torres-Izquierdo; Pooya Hosseinzadeh, MD; Zachary Meyer*

*Washington University in St. Louis, St. Louis, MO, U.S.*

#### 104

5:08 PM–5:12 PM

#### **Intertrochanteric Imhauser's Osteotomy Combined with Osteochondroplasty in Management of Slipped Capital Femoral Epiphysis**

*Mostafa Baraka*

*Ain Shams University, Cairo, Egypt*

#### 105

5:13 PM–5:17 PM

#### **Long-Term Outcomes for Total Joint Arthroplasties in Pediatric and Young Adult Populations**

*Andrea Rogers; Gabrielle J. Patin; Carson L. Keeter; Nathan Donaldson, DO*

*Children's Hospital Colorado, Aurora, CO, U.S.*

5:18 PM–5:26 PM

Discussion

### SESSION 5 – BAG O’ BONES

Room: Potomac Ballroom

*Moderators: John “Jack” Flynn, MD and Manoj Ramchandran, MD, FRCS*

**9:45 AM–11:26 AM**

9:45 AM–9:50 AM Welcome & Remarks

**106**

9:51 AM–9:55 AM

**Universal Ultrasound Screening for DDH May Be Cost Effective: A Markov Decision Analysis Model Incorporating the Entire Lifespan**

*Joshua Bram; Drake Glenn LeBrun; Peter Cirrincione; Erikson Nichols; Bridget Ellsworth, MD; Ernest Sink, MD; Emily Dodwell, MD Hospital for Special Surgery, New York, NY, U.S.*

**107**

9:56 AM–10:00 AM

**Deep-Learning Algorithm Accurately Measures Migration Percentage on Hip Surveillance Radiographs**

*Vedant A. Kulkarni, MD; Chun-Hsiao Yeh; Anna Kay; Michael Eli Firtha, DO; Marie Villalba; Patrick Donohue; H. Graham, MD, FRCS; Unni G. Narayanan, MD, FRCSC; Stella X. Yu Shriners Children’s™ Northern California, Sacramento, CA, U.S.*

**108**

10:01 AM–10:05 AM

**Suprainguinal Fascia Iliaca Nerve Blocks Outperform Epidural Analgesia in Patients Undergoing Periacetabular Osteotomy**

*David Peter VanEenenaam; Stefano Cardin, MD; Wallis Muhly; Wudbhav N. Sankar, MD Children’s Hospital of Philadelphia, Philadelphia, PA, U.S.*

10:06 AM–10:14 AM Discussion

**109**

10:15 AM–10:19 AM

**Virtual Children’s Fracture Clinic – A Prospective Study of 5536 Patients Confirming That Efficiency & Cost Saving Does Not Compromise Safety**

*Anish P. Sanghrajka, FRCS (ORTH); Kareem Edres; Aly Pathan; Matthew Edward Kenneth Goodbun; Joe Hwong Pang; Graeme Carlile; Rajiv Merchant; Helen Chase Norfolk & Norwich University Hospitals, Norwich, United Kingdom*

**110**

10:20 AM–10:24 AM

**Prevalence of Osteochondromas in the Spine in Patients with Multiple Hereditary Exostoses**

*Carlos Monroig-Rivera; Lauren Bockhorn; Brenda Santillan; David C. Thornberg; Karl E. Rathjen, MD Scottish Rite for Children, Dallas, TX, U.S.*

**111**

10:25 AM–10:29 AM

**Predictors of Complication in Pediatric Hardware Removal**

*Pablo Coello; David A. Hsiou; Luke Austin Nordstrom; Todd Phillips; Rachel Silverstein, MD; Scott B. Rosenfeld, MD Texas Children’s Hospital, Houston, TX, U.S.*

10:30 AM–10:38 AM Discussion

**112**

10:39 AM–10:43 AM

**Significant Improvement in Health-Related Quality of Life following Surgical Treatment of Congenital Muscular Torticollis among a Two-Year Follow-Up Cohort of Children, Adolescents, and Young Adults**

*Per Reidar Hoinness, MD, PhD; Anja Medbø Oslo University Hospital, Oslo, Norway*



**113**

10:44 AM–10:48 AM

**The Hidden Consequences of Advanced Operative Spine Imaging in Children: Do the Suggested Benefits of Intraoperative Computed Tomography & Navigation in Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis Outweigh the Possible Lifetime Oncological Risks of Increased Radiation Exposure?**

*Bram Verhofste; Brendan M. Striano; Alex Crawford; Andrew M. Hresko; Andrew Schoenfeld; Andrew K. Simpson; Daniel Hedequist, MD  
Boston Children's Hospital, Boston, MA, U.S.*

**114**

10:49 AM–10:53 AM

**Radiation Shielding During Bedside Fluoroscopy Reduces Radiation Exposure to Pediatric Patients**

*Steven Zhang; William Huffman; Caroline Fay; Margaret Bowen; Divya Talwar; J. Todd Lawrence, MD, PhD  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

10:54 AM–11:02 AM Discussion

**115**

11:03 AM–11:07 AM

**Suicidal Ideation in Pediatric Orthopaedic Patients**

*Taylor Zak; Whitney Meghan Herge, PhD; Chan-Hee Jo, PhD; Anthony Riccio, MD  
Scottish Rite for Children, Dallas, TX, U.S.*

**116**

11:08 AM–11:12 AM

**From Bytes to Bones: Assessing the Ability of ChatGPT to Educate Patients and Families in Pediatric Orthopedic Surgery**

*Alex Gornitzky, MD; Raghav Badrinath, MD; Joseph Yellin, MD; Brett R. Lullo, MD  
Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, U.S.*

**117**

11:13 AM–11:17 AM

**Greater Obstetric Barriers for Female Orthopaedic Surgeons Compared to the General Population and Peer Physicians**

*Emily Reeson; Gwen Grimsby; Melissa Esparza, MD; Heather Menzer, MD  
Phoenix Children's Hospital, Phoenix, AZ, U.S.*

11:18 AM–11:26 AM Discussion

**11:27 AM–11:38 AM**

**2025 Meeting Preview**

**Room: Potomac Ballroom**

2025 EPOS

11:27 AM–11:32 AM

2025 POSNA

11:33 AM–11:38 AM

11:39 AM–12:05 PM AM Break/Exhibits

### SESSION 6 – AWARD-NOMINATED PAPERS PART I

**Room: Potomac Ballroom**

**Moderators: Nicholas Fletcher, MD and Ralph Sackers, MD, PhD**

**8:00 AM–9:00 AM**

8:00 AM–8:05 AM Welcome & Remarks

**118**

8:06 AM–8:10 AM

**Full Thickness Skin Graft Versus Hyaluronic Acid Skin Graft Substitute in Syndactyly Release: A Randomized Trial**

*Ann Van Heest; Deborah Bohn, MD; Jamie N. Price; Susan A. Novotny, PhD; Tonye Sylvanus Gillette Children's, St. Paul, MN, U.S.*

**119**

8:11 AM–8:15 AM

**Outcomes Following Operative vs. Non-Operative Treatment of Completely Displaced Midshaft Clavicle Fractures in Adolescent Baseball Players and Other Overhead Athletes**

*Eric W. Edmonds, MD; David D. Spence, MD; Michael Quinn; Benton E. Heyworth, MD; FACTS Study Group Boston Children's Hospital, Boston, MA, U.S.*

8:16 AM–8:23 AM Discussion

**120**

8:24 AM–8:28 AM

**Two-Year Patient-Reported Outcomes and Graft Rupture Following ACL Reconstruction in Skeletally Immature Athletes: Results from the PLUTO (Pediatric ACL: Understanding Treatment Options) Prospective Cohort Study**

*Mininder S. Kocher, MD, MPH; Lauren E. Hutchinson, MPH; Danielle Cook; Jeffrey Kay; Benton E. Heyworth, MD; PLUTO Study Group Boston Children's Hospital, Boston, MA, U.S.*

**121**

8:29 AM–8:33 AM

**Fabrication of a Biomimetic 3D Printed Scaffold for the Treatment of Large Osteochondral Defects in an Adolescent Porcine Model: Outcomes at 6 Months**

*Sanjoy Kumar Ghorai; Patrick William Whitlock, MD, PhD; Sumit Murab; Anish Gangavaram; Chia-Ying James Lin; Jenna Hall Cincinnati Children's Hospital Medical Center, Cincinnati, OH, U.S.*

8:34 AM–8:41 AM Discussion

**122**

8:42 AM–8:46 AM

**Long-term Outcome of Nonoperative Treatment of Perthes Disease - 244 Hips with a Mean Follow-Up of 48 Years**

*Anders Wensaas; Chiara Blatti; Terje Terjesen; Stefan Huhnstock Oslo University Hospital, Oslo, Norway*

**123**

8:47 AM–8:51 AM

**In Situ Fixation of Slipped Capital Femoral Epiphysis Carries an Over 40% Risk for Later Total Hip Replacement during a Long-Term Follow-Up**

*Thomas Schlenzka; Joni Serlo; Timo Juhani Viljakka; Kaj Tallroth; Ilkka J. Helenius, MD Helsinki University Hospital, Helsinki, Finland*

8:52 AM–8:59 AM Discussion

### EPOS PRESIDENTIAL SPEAKER

**Room: Potomac Ballroom**

**9:00 AM–9:25 AM**

9:00 AM–9:04 AM Introduction  
9:05 AM–9:25 AM *Manuel Cassiano Neves, MD*

9:30 AM–9:50 AM AM Break/Exhibits

#### SESSION 7 – AWARD- NOMINATED PAPERS PART II

Room: Potomac Ballroom

*Moderators: Hakan Omeroglu, MD, AAS and Daniel Sucato, MD, MS*

**9:55 AM–11:24 AM**

**124**

9:55 AM–9:59 AM

**Mid-Term Outcomes Following Vertebral Body Tethering: A Single Center Cohort with 5+ Years of Follow-Up**

*Daniel G. Hoernschemeyer, MD; Sam Hawkins; Nicole Tweedy, CPNP; Melanie E. Boeyer, PhD University of Missouri, Columbia, MO, U.S.*

**125**

10:00 AM–10:04 AM

**A CNP Analog As Adjuvant Treatment for Moderate-To-Severe Osteogenesis Imperfecta in the Growing Mouse: A Pilot Study**

*Jack Mulcrone; Ketsia Seide; Erin Carter; Nancy Pleshko; Cathleen L. Raggio, MD Hospital for Special Surgery, New York, NY, U.S.*

10:05 AM–10:12 AM Discussion

**126**

10:13 AM–10:17 AM

**Bi-Lateral and Bi-Level Erector Spinae Plane Block in Pediatric Idiopathic Scoliosis Surgery: A Randomized, Double-Blind, Controlled Trial**

*Malgorzata Domagalska; Piotr Janusz, MD, PHD; Tomasz Reysner; Grzegorz Kowalski; Juliusz Huber; Przemyslaw Daroszewski; Tomasz Kotwicki University of Medical Sciences, Poznan, Poland*

**127**

10:18 AM–10:22 AM

**Local Wound Infiltration Reduces Acute Postoperative Opioid Requirements in AIS: A Prospective Double-Blind Randomized Control Trial**

*Craig Munro Birch, MD; Sydney Lee; Kelsey Mikayla Flowers Zachos; Shanika De Silva; Grant Douglas Hogue, MD; Michael T. Hresko, MD; Daniel Hedequist, MD Boston Children's Hospital, Boston, MA, U.S.*

10:23 AM–10:30 AM Discussion

**128**

10:31 AM–10:35 AM

**Efficacy of a Multimodal Surgical Site Injection in Pediatric Patients with Cerebral Palsy Undergoing Hip Reconstruction: A Randomized Controlled Trial**

*Danielle Brown; Christina-Angèle Kaulueloa'ainalani Sun; Daniel McBride; Bailey Young, DO; Vineeta Swaroop, MD; Rachel Mednick Thompson, MD UCLA, Los Angeles, CA, U.S.*

**129**

10:36 AM–10:40 AM

**Analysis of Regenerate Bone Formation Using Internal Lengthening Nails in a Large Animal Model: A Pilot Study**

*Christopher A. Iobst, MD; Anirejuoritse Bafor; Aidan Gene Isler; Sara McBride-Gagy; Kell Sprangel Nationwide Children's Hospital, Columbus, OH, U.S.*

10:41 AM–10:48 AM Discussion

**130**

10:49 AM–10:53 AM

**Long-term Results of Epiphyseal Distraction Prior to Resection (Cañadell's Technique) in 169 Patients with Metaphyseal Pediatric Bone Sarcomas**

*Jorge Gómez-Álvarez; José María Lamo-Espinosa; Rocío López; Mikel San-Julián Clínica Universidad de Navarra, Pamplona, Spain*

**131**

10:54 AM–10:58 AM

**Use of Serum Biomarkers and Cytokines to Differentiate Septic Arthritis, Osteomyelitis and Transient Synovitis in Pediatric and Adolescent Patients**

*Nichelle Enata; Kirsten Brouillet; Ling Chen; Kim Quayle; Scott J. Luhmann, MD*  
*Washington University in St. Louis, St. Louis, MO, U.S.*

10:59 AM–11:06 AM Discussion

**132**

11:07 AM–11:11 AM

**Kicking the Can in DDH: The Impact of Age on Outcomes Following Secondary Reconstructive Surgery for Residual Dysplasia**

*Shamrez Haider; Laura M. Mayfield, MPH; Corey Gill, MD; Harry K.W. Kim, MD; Daniel J. Sucato, MD, MS; David A. Podeszwa, MD; William Zachary Morris, MD*  
*Scottish Rite for Children, Dallas, TX, U.S.*

**133**

11:12 AM–11:16 AM

**Late-Diagnosed DDH is Rare in Finland with Universal Clinical Screening Program Complemented with Selective Ultrasonography**

*Emma Luoto; Jenni Katariina Jalkanen; Ilari Kuitunen; Reijo Sund; Aarno Yrjana Nietosvaara, MD, PhD*  
*Kuopio University Hospital, Kuopio, Finland*

11:17 AM–11:24 AM Discussion

**SOCIETY AWARD WINNERS**

**Room: Potomac Ballroom**

**11:25 AM–12:00 PM**

**Pro Maximis Meritis Award**

11:25 AM–11:30 AM Introduction  
11:31 AM–11:41 AM *Deborah Eastwood, MD*

**Distinguished Achievement Award**

11:44 AM–11:49 AM Introduction  
11:50 AM–12:00 PM *Charles Johnston, MD*

**SESSION 8A – VERTEBRAL BODY TETHERING (VBT) & SAGITTAL PROFILE**

**Room: Potomac Ballroom**

**Moderators: Firoz Miyanji, MD, FRCSC and Frank Plasschaert, MD, PhD**

**2:00 PM–3:38 PM**

2:00 PM–2:02 PM Welcome & Remarks

**134**

2:03 PM–2:07 PM

**Navigation Versus Fluoroscopy for Anterior VBT Screw Placement, Analysis of 530 screws with Confirmatory 3D Imaging**

*Chunho Chen, MD; Jimmy Daher; A. Noelle Larson, MD; Todd A. Milbrandt, MD; Lawrence L. Haber, MD*  
*Ochsner Hospital for Children, New Orleans, LA, U.S.*

**135**

2:08 PM–2:12 PM

**Growth Modulation Response in Thoracic VBT Depends Primarily on Magnitude of Concave Vertebral Body Growth**

*Craig R. Louer, MD; V. Salil Upasani, MD; Jennifer Hurry; Hui Nian; Christine L. Farnsworth, MS; Peter O. Newton, MD; Stefan Parent, MD, PhD; Pediatric Spine Study Group; Ron El-Hawary, MD, MSc*  
*Vanderbilt University Medical Center, Nashville, TN, U.S.*

12:20 PM–1:20 PM

**Room: Cherry Blossom Ballroom**  
**Orthofix**

**Osteogenesis Imperfecta Disease: Shared Experiences on Different Techniques and the Latest Solutions**

*Jill Flanagan, MD (Children's Healthcare of Atlanta); Cynthia Nguyen, MD (Shriners Children's Southern California); Zagorka Pejin Arroyo, MD (Hôpital Necker-Enfants malades); Ignacio Sanpera MD, PhD (Hospital Universitari Son Espases)*

Through a panel discussion format, this Osteogenesis Imperfecta (OI) focused symposium will help clear a path for surgeons to better understand this genetic bone disorder, provide them with the knowledge to accurately recognize and diagnose the symptoms, and discuss the orthopedic treatment solutions currently available. The panel of OI-experienced orthopedic surgeons will utilize clinical case presentations to demonstrate the advantages, disadvantages, and clinical evidence of telescopic nails to effectively treat OI. This symposium will conclude with an opportunity for the audience to ask questions of the surgeon panel to provide further clarity and address any undiscussed thoughts. Please join us for a lively, interactive conversation about Osteogenesis Imperfecta and the effective treatment using telescopic nails.

**Room: National Harbor 2-3**  
**Highridge Medical**

**Post HDE Approval: Second Generation VBT Data Explained**

*Lawrence Haber, MD (Ochsner Health); Daniel Hoernschemeyer, MD (University of Missouri Health Care); A. Noelle Larson, MD (Mayo Clinic)*

Following FDA HCE approval of a VBT medical device designed to treat AIS, surgeons better understand patient indications. Faculty will present the second-generation outcome data which has shown reduced reoperation rates, improved outcomes, and higher success rates in AIS patients treated with VBT.

**Room: National Harbor 10-11**  
**nView medical**

**AI in Pediatric Surgery - Where will It Bring Us?**

*Allen Kadado, MD (Nationwide Children's Hospital); John Vorhies, MD (Lucile Packard Children's Hospital Stanford); Cristian Atria, Founder and CEO, nView medical*

Faculty will review the state of AI in surgery and will answer the following questions:

- How is AI impacting surgical planning, surgical imaging and navigation in pediatrics?
- What is coming next and how will AI impact pediatric surgery?

An interactive session with the audience will ensue to discuss where AI has most potential and where our efforts should be headed.



**136**

2:13 PM–2:17 PM

### Spontaneous Correction of the Thoracic Curve in Lenke 5 Patients: Lumbar Vertebral Body Tether (VBT) versus Posterior Fusion

*Jennifer Marie Bauer, MD, MS; Suken A. Shah, MD; Jaysson T. Brooks, MD; Baron S. Lonner, MD; Amer F. Samdani, MD; Firoz Miyanji, MD, FRCSC; Peter O. Newton, MD; Burt Yaszay, MD; Harms Study Group  
Seattle Children's Hospital, Seattle, WA, U.S.*

2:18 PM–2:26 PM Discussion

**137**

2:27 PM–2:31 PM

### Are Outcomes Improving for AIS Following FDA HDE Approval?

*Lawrence L. Haber, MD; Melanie E. Boeyer, PhD; Daniel G. Hoernschemeyer, MD; Samantha C. Ahrens; Julia Todderud; Todd A. Milbrandt, MD; Susan Scariano; Nicole Tweedy, CPNP; A. Noelle Larson, MD  
Ochsner Hospital for Children, New Orleans, LA, U.S.*

**138**

2:32 PM–2:36 PM

### Outcomes in Patients with Tether Rupture After Anterior Vertebral Tethering (AVT) for Adolescent Idiopathic Scoliosis: The Good, The Bad, and The Ugly

*John T. Braun, MD; Sofia Federico; David Lawlor; Brian E. Grottkau, MD  
Massachusetts General Hospital for Children, Boston, MA, U.S.*

**139**

2:37 PM–2:41 PM

### Complications in Vertebral Body Tethering: What are the effects on Patient Reported Outcomes?

*Katherine Sborov; Mansi Agarwal; Michael J. Heffernan, MD; Jason Anari, MD; Benjamin D. Roye, MD; Stefan Parent, MD, PhD; Firoz Miyanji, MD, FRCSC; Selina Poon, MD  
Shriners Children's™ Southern California, Pasadena, CA, U.S.*

2:42 PM–2:50 PM Discussion

**140**

2:51 PM–2:55 PM

### Implementation of the Team Integrated Enhanced Recovery (TIGER) Protocol Following Vertebral Body Tethering

*Daniel G. Hoernschemeyer, MD; Nicole Tweedy, CPNP; Melanie E. Boeyer, PhD  
University of Missouri, Columbia, MO, U.S.*

**141**

2:56 PM–3:00 PM

### Validation Study of MR Bone Like Image for Diagnosis of Stress Fracture (Spondylolysis) in the Lumbar Spine

*Yutaka Kinoshita; Toshinori Sakai; Kosuke Sugiura; Jiro Kobayashi; Misaki Okita; Koki Moriyama; Shigeki Ueki; Nozomu Yanaida; Koichi Sairyō  
Tokushima University, Tokushima, Japan*

**142**

3:01 PM–3:05 PM

### Treatment and Health-Related Quality of Life of Acute Adolescent Spondylolysis: A Prospective Comparative Study with 2-year Follow-Up

*Ella Virkki; Milja Holstila; Terhi Kolari; Markus Lastikka; Sari Inkeri Malmi; Kimmo Mattila; Olli Tapio Pajulo; Ilkka J. Helenius, MD  
Turku University Hospital, Turku, Finland*

3:06 PM–3:14 PM Discussion

**143**

3:15 PM–3:19 PM

### Spondylolysis, Spondylolisthesis, and Associated Variables in Pediatric Patients with Osteogenesis Imperfecta: Follow-up from a 2011 Study

*Garrett Matthew Gloeb, BSChM; Brian P. Hasley, MD; Maegen Wallace, MD; Hannah Darland  
University of Nebraska, Omaha, NE, U.S.*

**144**

3:20 PM–3:24 PM

**Is It Necessary to Extend Fusion to L4 when Correcting Pediatric L5/S1 Spondylolisthesis?**

*Ziming Yao; Xuejun Zhang; Rongxuan Gao; Jiahao Jiao; Dong Guo*  
Beijing Children's Hospital, Capital Medical University, National Center, Beijing, People's Republic of China

**145**

3:25 PM–3:29 PM

**Spinal Fusion for Scheuermann Kyphosis Has Higher Complication and Revision Rates than Spinal Fusion for Idiopathic Scoliosis**

*Katherine Margaret Krenek; Nicole S. Pham; Marleni Albarran; John Vorhies, MD*  
Stanford University, Palo Alto, CA, U.S.

3:30 PM–3:38 PM

Discussion

3:45 PM–4:05 PM

PM Break/Exhibits

**SESSION 8B – SPORTS**

**Room: Cherry Blossom Ballroom**

**Moderators: Mininder Kocher, MD, MPH and Monika Thüsing, MD**

**2:00 PM–3:38 PM**

2:00 PM–2:02 PM

Welcome & Remarks

**146**

2:03 PM–2:07 PM

**Arthroscopic Bankart Repair for Anterior Glenohumeral Instability in 488 Adolescents between 2000-2020: Risk Factors for Subsequent Revision Stabilization**

*Jeffrey Kay; Benton E. Heyworth, MD; Donald S. Bae, MD; Mininder S. Kocher, MD, MPH; Matthew D. Milewski, MD; Dennis Kramer, MD*  
Boston Children's Hospital, Boston, MA, U.S.

**147**

2:08 PM–2:12 PM

**Length of Posttreatment Immobilization Following Medial Humeral Epicondyle Avulsion Fracture and Return of Full Range of Motion: An Interim Analysis**

*Ruth Hendry Jones; Samuel Aaron Beber; Eric W. Edmonds, MD; Benton E. Heyworth, MD; Scott D. McKay, MD; Daryl US Osbahar; Michael Saper; Christopher D. Souder, MD; Matthew D. Ellington, MD; Kevin H. Latz, MD; J. Todd Lawrence, MD, PhD; Peter D. Fabricant, MD, MPH; Donna M. Pacicca, MD; MEMO Study Group*  
Hospital for Special Surgery, New York, NY, U.S.

**148**

2:13 PM–2:17 PM

**Mid-term Results of Treatment of Traumatic Knee Chondral Fractures in Adolescents**

*Alberto Losa Sánchez; Gonzalo Cogolludo Pimentel; Joaquín Nuñez De Armas, MD; Javier Fernandez Jara; Luis Moraleda Novo, MD, PhD*  
Hospital Universitario La Paz, Madrid, Spain

2:18 PM–2:26 PM

Discussion

**149**

2:27 PM–2:31 PM

**Patellar Lateralization, Absence of Hyperlaxity, and the Mechanism of Injury are Associated with Osteochondral Fracture after First-Time Acute Lateral Patellar Dislocation in Adolescents: An MRI Based Evaluation**

*Servet Iğrek; Yavuz Sahbat; Erdem Koc; Aytek Huseyin Celiksoz; Mert Osman Topkar; Okan Aslantürk*  
Kartal Dr. Lütfi Kırdar City Hospital, Istanbul, Turkey

**150**

2:32 PM–2:36 PM

**Number of Patellar Dislocation Events are Associated with Increased Chondral Damage of the Trochlea: Data from the JUPITER Group**

*Joshua Bram; Emilie Lijesen; Daniel W. Green, MD; Matthew William Veerkamp; Bennett Elihu Propp; Danielle Chipman; Benton E. Heyworth, MD; Jacqueline Munch Brady; Beth Shubin Stein; Shital N. Parikh, MD, FACS; JUPITER Study Group  
Hospital for Special Surgery, New York, NY, U.S.*

**151**

2:37 PM–2:41 PM

**Dysplasia Worsens Over Time - Trochlear Morphologic Changes in Skeletally Immature Patients Across Consecutive Magnetic Resonance Imaging Studies**

*Kevin Jossue Orellana; Julianna Lee; Daniel Yang; David Matthew Kell; Jie C. Nguyen; J. Todd Lawrence, MD, PhD; Brendan Williams, MD  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

2:42 PM–2:50 PM

Discussion

**152**

2:51 PM–2:55 PM

**The Incidence and Risk Factors for an Osteochondral Fracture after Patellar Dislocation**

*Samir Sharrak; Ali Asma; Marcus A. Shelby, MD; Matthew William Veerkamp; Eric J. Wall, MD; Shital N. Parikh, MD, FACS  
Cincinnati Children's Hospital Medical Center, Cincinnati, OH, U.S.*

**153**

2:56 PM–3:00 PM

**Isolated Medial Patellofemoral Ligament Reconstruction With and Without Bony Patellar Fixation In Young Patients - A Multicenter Comparison of Three Operative Techniques**

*Brendan Williams, MD; David Matthew Kell; Kevin Jossue Orellana; Morgan Batley, BA; Nathan Chaclas; Alexandra Dejneka; Amin Alayleh; Theodore J. Ganley, MD; Neeraj Patel, MD, MPH; J. Todd Lawrence, MD, PhD  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

**154**

3:01 PM–3:05 PM

**Higher Rate of Redislocation and Osteoarthritis after Proximal Realignment Procedures vs MPFL Reconstruction: a Comparative Long-Term Study of Patellar Instability in Adolescents with Open Physis with Mean 9 Years of Follow-Up**

*Maija Jääskelä; Marja Susanna Perhomaa; Lasse Lempainen; Jaakko Sinikumpu  
Oulu University Hospital, Oulu, Finland*

3:06 PM–3:14 PM

Discussion

**155**

3:15 PM–3:19 PM

**Suture-Based Repair with Debridement and Bone Grafting of Unstable Osteochondritis Dissecans of the Knee**

*Crystal Perkins, MD; Anthony Egger, MD; Michael T. Busch, MD; Cliff Willimon, MD  
Children's Healthcare of Atlanta, Atlanta, GA, U.S.*

**156**

3:20 PM–3:24 PM

**Osteochondritis Dissecans of the Femoral Condyle and Coronal Malalignment: An Evaluation of the Demographics, Incidence, and Severity of Disease**

*Claire Clark; Benjamin Johnson; Charles Wyatt, NP; Bayley Nicole Selee; Philip Wilson, MD; Henry Bone Ellis, MD*  
Scottish Rite for Children, Frisco, TX, U.S.

**157**

3:25 PM–3:29 PM

**Osteochondral Allograft Transplantation for Capitellar Osteochondritis Dissecans: Excellent Patient Reported Outcomes Scores and High Return to Sports**

*Cliff Willimon, MD; Michael T. Busch, MD; Anthony Egger, MD; Erin Yuder; Jason Kim; Shivangi Choudhary; Crystal Perkins, MD*  
Children's Healthcare of Atlanta, Atlanta, GA, U.S.

3:30 PM–3:38 PM

Discussion

3:45 PM–4:05 PM

PM Break/Exhibits

**SESSION 8C – LOWER EXTREMITY & DEFORMITY**

**Room: National Harbor 2-3**

**Moderators: Franck Accadbled, MD, PhD and Samantha Spencer, MD**

**2:00 PM–3:38 PM**

2:00 PM–2:02 PM

Welcome & Remarks

**158**

2:03 PM–2:07 PM

**Intraarticular Deformity after Temporary Epiphysiodesis around the Knee**

*Bjoern Vogt, MD; Jan Disselkamp; Georg Gosheger; Adrien Frommer; Jan Duedal Rölling; Gregor Toporowski; Carina Antfang; Robert Roedel; Andrea Laufer*  
University Hospital Muenster, Muenster, Germany

**159**

2:08 PM–2:12 PM

**Removal of the Metaphyseal Screw from Tension Band Constructs After Angular Correction with Hemiepiphysiodesis Has High Rates of Physeal Tethering and Subsequent Need for Implant Removal**

*Timothy Torrez; Senah Stephens; Emily Zhang; Chris Makarewich, MD*  
University of Utah, Salt Lake City, UT, U.S.

**160**

2:13 PM–2:17 PM

**Accuracy of 4 Different Methods for Estimation of Remaining Growth and Timing of Epiphysiodesis**

*Anne Berg Breen; Harald Steen; Sanyalak Niratisairak; Are Hugo Pripp; Joachim Horn*  
Oslo University Hospital, Oslo, Norway

2:18 PM–2:26 PM

Discussion

**161**

2:27 PM–2:31 PM

**Does Osteotomy Level Influence Consolidation Time in Tibias Treated for Limb Length Discrepancy?**

*Sandeep Bains; Jeremy Dubin; Larysa Hlukha; John E. Herzenberg, MD; Philip McClure, MD*  
International Center for Limb Lengthening, Baltimore, MD, U.S.

**162**

2:32 PM–2:36 PM

**Does Peri-operative Ketorolac Affect Bone Healing in Pediatric Limb Lengthening or Reconstruction Patients?**

*Christopher A. Iobst, MD; Anirejuoritse Bafor; Danielle Hatfield, NP; Anthony Yassall*  
Nationwide Children's Hospital, Columbus, OH, U.S.

**163**

2:37 PM–2:41 PM

**Evaluation of Physical and Mental Health in Adults Who Underwent Limb-Lengthening Procedures with Circular External Fixators during Childhood or Adolescence**

*Alessandro Depaoli; Marina Magnani; Agnese Casamenti; Marco Ramella; Giovanni Gallone; Gino Rocca; Giovanni Trisolino*  
*IRCCS Istituto Ortopedico Rizzoli, Bologna, Italy*

2:42 PM–2:50 PM Discussion

**164**

2:51 PM–2:55 PM

**Infection Rates and Risk Factors with Magnetic Intramedullary Lengthening Nails**

*Jeremy Dubin; Sandeep Bains; Connor James Green, FRCS (ORTH); Larysa Hlukha; John E. Herzenberg, MD; Philip McClure, MD*  
*International Center for Limb Lengthening, Baltimore, MD, U.S.*

**165**

2:56 PM–3:00 PM

**Are You Ready to Rumble? Fitbone versus Precise Nail Smackdown for Managing Limb Length Discrepancy**

*Elizabeth W. Hubbard, MD; Alexander Cherkashin, MD; Mikhail Samchukov, MD; David A. Podeszwa, MD; John G. Birch, MD*  
*Scottish Rite for Children, Dallas, TX, U.S.*

**166**

3:01 PM–3:05 PM

**Chronic Knee Pain Following Infrapatellar/Suprapatellar Magnetic Intramedullary Lengthening Nails Versus External Fixators in Limb Length Discrepancy**

*Larysa Hlukha; Oliver Sax, DO, MS; Kyle Kowalewski; John E. Herzenberg, MD; Michael Assayag; Philip McClure, MD*  
*International Center for Limb Lengthening, Baltimore, MD, U.S.*

3:06 PM–3:14 PM Discussion

**167**

3:15 PM–3:19 PM

**3D-Gait Analysis and Patient Reported Outcome Measures before and One Year after Femoral Derotational Osteotomy in Adolescents with Increased Femoral Anteversion**

*Anders Grønseth; Anna Marie Johansson; Terje Terjesen; Joachim Horn*  
*Section for Children's Orthopaedics and Reconstructive Surgery, Division of Orthopaedic Surgery, Oslo, Norway*

**168**

3:20 PM–3:24 PM

**Correlation of Preoperative Simultaneous Fibular Pseudarthrosis with Postoperative Ankle Valgus Risk in Congenital Tibia Pseudarthrosis Patients**

*Ge Yang*  
*Hunan Children's Hospital, Changsha, People's Republic of China*

**169**

3:25 PM–3:29 PM

**Will My Child Walk Funny? The Rotational Profile of Infants and Children with Classic Bladder Exstrophy**

*Maia Regan; Stefano Cardin, MD; Christopher John DeFrancesco, MD; David B. Horn, MD*  
*Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

3:30 PM–3:38 PM Discussion

3:45 PM–4:05 PM PM Break/Exhibits

**SESSION 8D – DEVELOPMENTAL DYSPLASIA OF THE HIP (DDH)**

**Room: Woodrow Wilson Ballroom**

**Moderators: Cristina Alves, MD, MSc, FEBOT and Kishore Mulpuri, MBBS, MHSc, FRCS**

**2:00 PM–3:38 PM**

2:00 PM–2:02 PM Welcome & Remarks



**170**

2:03 PM–2:07 PM

### Development and Validation of a Diagnostic Aid for DDH

*Andreas Roposch, MD, MSc, FRCS; Rachel Buckingham; Claudia Maizen; Pranai Buddhdev, BSc, MBBS, MSc, FRCS; Aresh Hashemi-Nejad Great Ormond Street Hospital for Children, London, United Kingdom*

**171**

2:08 PM–2:12 PM

### Spontaneous Recovery in the Vast Majority of Stable Dysplastic Hips

*Wesley Theunissen; Maria Christine Van Der Steen; Arnold T. Besselaar; Floris Van Douveren; Jaap J. Tolck Máxima Medisch Centrum, Veldhoven, Netherlands*

**172**

2:13 PM–2:17 PM

### Follow-up after Successful Pavlik Harness Treatment for DDH: is Two Years Enough?

*Jessica Poppy Jane Larwood; Edward Lindisfarne, MA, MBBS; Kirsten Elliott; Alexander Aarvold, BSc, MBChB, FRCSEd University Hospital Southampton NHS Foundation Trust, Southampton, United Kingdom*

2:18 PM–2:26 PM

Discussion

**173**

2:27 PM–2:31 PM

### Comparable Amount of Residual Dysplasia after Active Surveillance versus Abduction Brace Treatment

*Wesley Theunissen; Jaap J. Tolck; Arnold T. Besselaar; Floris Van Douveren; Maria Christine Van Der Steen Máxima Medisch Centrum, Veldhoven, Netherlands*

**174**

2:32 PM–2:36 PM

### Influence of Standardized Hip Ultrasound Protocol in Pavlik Harness During Management of Developmental Hip Dislocation

*Carlos David Pargas Colina; Todd Blumberg, MD; Caleb Allred; Apeksha Gupta Seattle Children's Hospital, Seattle, WA, U.S.*

**175**

2:37 PM–2:41 PM

### Utility of "Pavlik Holiday" for Infantile Hip Dysplasia Following Failure of Pavlik Harness Treatment

*Maia Shoham; Hiba Naz; Nicole S. Pham; Stephanie Pun, MD; Kali Tileston, MD; Meghan N. Imrie, MD Stanford University, Stanford, CA, U.S.*

2:42 PM–2:50 PM

Discussion

**176**

2:51 PM–2:55 PM

### Predicting the Resolution of Residual Acetabular Dysplasia Following Successful Brace Treatment for Developmental Dysplasia of the Hip in Infants

*Ayesha Saeed, MD; Catharine Bradley, BScPT, MSc; Yashvi Verma, MSc, BSc; Simon P. Kelley, MD The Hospital for Sick Children (SickKids), Toronto, ON, Canada*

**177**

2:56 PM–3:00 PM

### Residual Acetabular Dysplasia at Walking Age: A Study of 470 Hips Treated with Pavlik Harness

*Luckshman Bavan; Thomas Lloyd; Lucy Llewellyn-Stanton; Max Mifsud; Alpesh Kothari, MA, BM, BCh, AFHEA, MSc, DPhil, FRCS Oxford University Hospitals NHS Foundation Trust, Oxford, United Kingdom*

#### 178

3:01 PM–3:05 PM

**Salter Innominate Osteotomy for the Treatment of Developmental Dysplasia of the Hip in Children. Results of 99 Consecutive Osteotomies after 13 to 34 Years of Follow-up.**

*Renee Anne Van Stralen; Ena Colo; Allard Hosman; Wim Willem Schreurs RadboudUMC, Nijmegen, Netherlands*

3:06 PM–3:14 PM

Discussion

#### 179

3:15 PM–3:19 PM

**Outcomes Following Closed Reduction For Developmental Dislocation of the Hip**

*Michele Cerasani; Christina Herrero; Ronald McCartney, MD; Aurelio Alberto Muzaurieta; Pablo Castañeda, MD*

*Hassenfeld Children's Hospital at NYU Langone, New York, NY, U.S.*

#### 180

3:20 PM–3:24 PM

**Closed Reduction in Developmental Dysplasia of Hip: Predicting Acetabular Remodelling at Skeletal Maturity**

*Evelyn Kuong, MD; Janus Wong; Wang Chow Hong Kong Children's Hospital, Hong Kong, Hong Kong*

#### 181

3:25 PM–3:29 PM

**Acetabular Remodeling in Developmental Dysplasia of the Hip: A Tri-Center Analysis of Open versus Closed Reduction in 459 hips**

*William Zachary Morris, MD; Eduardo Novais, MD; Patricia E. Miller, MS; Samantha L. Ferraro, BS; Laura M. Mayfield, MPH; Wudbhav N. Sankar, MD*

*Boston Children's Hospital, Boston, MA, U.S.*

3:30 PM–3:38 PM

Discussion

3:45 PM–4:05 PM

PM Break/Exhibits

### SESSION 9A – EARLY ONSET SCOLIOSIS (EOS) & MISCELLANEOUS SPINE

**Room: Potomac Ballroom**

**Moderators: Michelle Caird, MD and Ilkka J. Helenius, MD**

**4:10 PM–5:48 PM**

4:10 PM–4:12 PM

Welcome & Remarks

#### 182

4:13 PM–4:17 PM

**Reevaluating the Role of Triradiate Cartilage Status in Shaping Curve Progression among Patients with Juvenile Idiopathic Scoliosis**

*Hong Zhang, MD; Chan-Hee Jo, PhD; Daniel J. Sucato, MD, MS Scottish Rite for Children, Dallas, U.S.*

#### 183

4:18 PM–4:22 PM

**Increased Thoracic Sagittal Spine Length Improves Pulmonary Function in Early-Onset Scoliosis**

*Matt Holloway; Todd F. Ritzman, MD; Lorena Floccari, MD; Richard Steiner; Jennifer Hurry; Amir Mishrek; Ron El-Hawary, MD, MSc; Pediatric Spine Study Group Akron Children's Hospital, Akron, OH, U.S.*

#### 184

4:23 PM–4:27 PM

**Documenting the Variation of Proximal Foundation Constructs and their Correlation with Unplanned Return to the Operating Room in Children with Magnetically Controlled Growing Rods.**

*Bahar Shahidi; Fernando Rios; Hazem Elsebaie; Bailee Monjabez; William Kerr; Joshua Pahys, MD; Steven Hwang, MD; Amer F. Samdani, MD; Lindsay Andras, MD; Matthew E. Oetgen, MD, MBA; Peter O. Newton, MD; Burt Yaszay, MD; Peter F. Sturm, MD; Michael G. Vitale, MD, MPH; Paul D. Sponseller, MD, MBA; Gregory Mundis, MD; Behrooz A. Akbarnia, MD; Pediatric Spine Study Group Pediatric Spine Foundation, Valley Forge, PA, U.S.*

4:28 PM–4:36 PM Discussion

**185**

4:37 PM–4:41 PM

**More Screws, More OR Time, Same Failure Rates: Enabling Technology Use in Proximal Fixation of Growing Spine Constructs**

*Daniel Gabriel; Sydney Lee; Shanika De Silva; Daniel Hedequist, MD; Craig Munro Birch, MD; Brian D. Snyder, MD; Michael T. Hresko, MD; Grant Douglas Hogue, MD  
Boston Children's Hospital, Boston, MA, U.S.*

**186**

4:42 PM–4:46 PM

**The Risks and Benefits of Definitive Surgery in the Graduation of I-EOS Patients whose Deformities were Managed with GR. A Comparison with Matched AIS Patients**

*Gokay Dursun; Rafik Ramazanov; Halil Gokhan Demirkiran; Mehmet Ayvaz; Muharrem Yazici, MD  
Hacettepe University, Ankara, Turkey*

**187**

4:47 PM–4:51 PM

**Lessons Learned from 20 Years of History Using Vertical Expandable Prosthetic Titanium Rib (VEPTR) in Early Onset Scoliosis (EOS) Patients**

*Norman Ramirez-Lluch, MD; Alexandra M. Claudio-Marcano; John T. Smith, MD; John B. Emans, MD; Amer F. Samdani, MD; Mark A. Erickson, MD; John "Jack" M. Flynn, MD; Norberto J. Torres-Lugo; Gerardo Olivella; Pediatric Spine Study Group  
University of Puerto Rico, San Juan, Puerto Rico*

4:52 PM–5:00 PM Discussion

**188**

5:01 PM–5:05 PM

**Quality of Life Assessment in Early-Onset Scoliosis: A Comparison between the EOSQ-24 and EOSQ-SELF Questionnaires on the Same Patients with Two Different Respondents and Time Points**

*Barlas Goker; Gizem Kinikli; Yasemin Yavuz; Rafik Ramazanov; Ataberk Beydemir; Halil Gokhan Demirkiran; Muharrem Yazici, MD  
Hacettepe University, Ankara, Turkey*

**189**

5:06 PM–5:10 PM

**Utility of Preoperative Echocardiogram for Large Curve Scoliosis Patients**

*Chidebelum Nnake; Matan Malka; Alondra Concepción-González; Emma Berube; Nicole Bainton; Michael G. Vitale, MD, MPH; Benjamin D. Roye, MD; Joshua E. Hyman, MD  
Morgan Stanley Children's Hospital at New York-Presbyterian, New York, NY, U.S.*

**190**

5:11 PM–5:15 PM

**Intra-Op CT-based Technology Significantly Increases Radiation Exposure in the Pediatric Population**

*Vishal Sarwahi, MBBS, MS; Sayyida Hasan; Keshin Visahan; Aravind Patil; Katherine Eigo; Sarah M. Trent; Alex Kwong Juen Ngan; Yungtai Lo; Terry D. Amaral, MD  
Northwell Health, New Hyde Park, NY, U.S.*

5:16 PM–5:24 PM Discussion

**191**

5:25 PM–5:29 PM

**In the Era of Liposomal Bupivacaine: Is Patient-Controlled Analgesia Even Needed?**

*Ernest Y. Young, MD, MS; Ernest Dankwah; Ryan C. Goodwin, MD; David P. Gurd, MD; Thomas E. Kuivila, MD  
Cleveland Clinic, Cleveland, OH, U.S.*

**192**

5:30 PM–5:34 PM

**Safety Data for Robotics Coupled with Navigation for Pediatric Spine Surgery: Initial Intraoperative Results of a Prospective Multicenter POSNA-Funded Registry**

*Nicole Welch; Alexa Bosco; Jeffrey Michael Henstenburg; Craig Munro Birch, MD; Grant Douglas Hogue, MD; Michael T. Hresko, MD; Mark A. Erickson, MD; Roger F. Widmann, MD; Jessica H. Heyer, MD; Kirsten Ross, MD; Robert Francis Murphy, MD; Dennis P. Devito, MD; Daniel Hedequist, MD; SPARTAN Boston Children's Hospital, Boston, MA, U.S.*

**193**

5:35 PM–5:39 PM

**The Impact of Lumbar Microdiscectomy in Adolescents on PROMIS Pain, Physical Function, and Mental Health Domains**

*Scott J. Luhmann, MD; Read Abraham Streller Washington University in St. Louis, St. Louis, MO, U.S.*

5:40 PM–5:48 PM

Discussion

**SESSION 9B – ANTERIOR CRUCIATE LIGAMENT (ACL) & MISCELLANEOUS SPORTS**

**Room: National Harbor 2-3**

**Moderators: Corinna C. Franklin, MD and Marco Turati, MD**

**4:10 PM–5:48 PM**

4:10 PM–4:12 PM

Welcome & Remarks

**194**

4:13 PM–4:17 PM

**What are the Morphological Risk Factors for Pediatric Anterior Cruciate Ligament Tears and Tibial Spine Fractures?**

*Chang-Ho Shin, MD; Akbar Nawaz Syed; Morgan Swanson; Theodore J. Ganley, MD; Tibial Spine Research Interest Group Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

**195**

4:18 PM–4:22 PM

**Dynamic Point of Care Ultrasound is Effective in the Early Diagnosis of Anterior Cruciate Ligament Injuries in Children and Adolescents.**

*Marcell Benjamin Varga Manninger Jenő Baleseti Központ, Budapest, Hungary*

**196**

4:23 PM–4:27 PM

**Low-Rates of Complications Following Quadriceps Tendon Autograft ACL Reconstruction in Adolescents: Strategies for Success in the First 12-Months**

*Crystal Perkins, MD; Michael T. Busch, MD; Anthony Egger, MD; Jason Kim; Erin Yuder; Shivangi Choudhary; Cliff Willimon, MD Children's Healthcare of Atlanta, Atlanta, GA, U.S.*

4:28 PM–4:36 PM

Discussion

**197**

4:37 PM–4:41 PM

**Addition of a Lateral Extra-articular Procedure to ACL Reconstruction Does Not Increase Early Complications in Pediatric Patients**

*Samuel I. Rosenberg; Elizabeth Merritt; Neeraj Patel, MD, MPH*

*Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, U.S.*

**198**

4:42 PM–4:46 PM

**Risk Factors Associated with Stiffness Following Pediatric ACL Reconstruction: A Multicenter Study**

*Jack Beale; Gregory Knell; Robert Yockey; Bobby Van Pelt; Theodore J. Ganley, MD; Daniel W. Green, MD; Michael Saper; Emily Niu, MD; Matthew Robert Schmitz, MD; Philip Wilson, MD; Henry Bone Ellis, MD; SCORE Quality Improvement Registry Scottish Rite for Children, Dallas, TX, U.S.*

**199**

4:47 PM–4:51 PM

**Septic Arthritis after Anterior Cruciate Ligament Reconstruction in Pediatric & Adolescent vs. Young Adult Patients: The 20-Year Experience at a Regional Referral Center**

*Deepak Chona; Jeffrey Kay; Ata M. Kiapour, PhD, MMSc; Dennis Kramer, MD; Yi-Meng Yen, MD; Melissa A. Christino, MD; Matthew D. Milewski, MD; Mininder S. Kocher, MD, MPH; Benton E. Heyworth, MD  
Boston Children's Hospital, Boston, MA, U.S.*

4:52 PM–5:00 PM Discussion

**200**

5:01 PM–5:05 PM

**Do Children Differ from Adults in Functional Limb Testing Measured at 9 Months Post ACL Reconstruction?**

*Sarthak Chopra; Pradyumna Raval; Harbeer Ahedi; Alexander Nicholls, MD  
Sydney Orthopaedic Research Institute, Sydney, Australia*

**201**

5:06 PM–5:10 PM

**Features of Discoid Lateral Meniscus in Pediatric Patients with Achondroplasia**

*Jennifer Sheasley; Maya Gopalan; Emily Niu, MD; Apeksha Gupta; Zachary Stinson, MD; Marie-Lyne Nault, MD, PHD; Sasha Carsen, MD, FRCSC; Craig Finlayson, MD; R. Jay Lee, MD; Brian Michael Haus, MD; Daniel W. Green, MD; John A. Schlechter, DO; Benton E. Heyworth, MD; Jennifer J. Beck, MD; Jie C. Nguyen; Gregory A. Schmale, MD; PRISM Meniscus Research Interest Group  
Seattle Children's Hospital, Seattle, WA, U.S.*

**202**

5:11 PM–5:15 PM

**MRI-Guided Retrograde Joint-Sparing Drilling of Osteochondritis Dissecans of the Talus in Children**

*Jyri Järvinen; Mika Hirvonen; Jaakko Sinikumpu; Roberto Blanco Sequeiros  
Oulu University Hospital, Oulu, Finland*

5:16 PM–5:24 PM Discussion

**203**

5:25 PM–5:29 PM

**Is it Worth a Shot?: Efficacy of a Multimodal Pain Program for Pediatric and Adolescent Knee Procedures with and without a Single-shot Peripheral Nerve Block**

*Philip Wilson, MD; James Joseph McGinley; Bobby Van Pelt; Claire Clark; Benjamin Johnson; Charles Wyatt, NP; Henry Bone Ellis, MD  
Scottish Rite for Children, Frisco, TX, U.S.*

**204**

5:30 PM–5:34 PM

**To Block or Not to Block? Results from the Society of Pediatric Anesthesia Improvement Network**

*Matthew D. Ellington, MD; Steven Staffa; Allison Fernandez; Society Pediatric Anesthesia Interest Network (SPAIN)  
Dell Medical School at the University of Texas at Austin, Austin, TX, U.S.*

**205**

5:35 PM–5:39 PM

**Single-shot Peripheral Nerve Blocks with Precedex Increase Neurotoxic Complications in Pediatric and Adolescent Arthroscopic Knee Procedures ♦**

*Philip Wilson, MD; James Joseph McGinley; Bobby Van Pelt; Claire Clark; Benjamin Johnson; Charles Wyatt, NP; Henry Bone Ellis, MD  
Scottish Rite for Children, Frisco, TX, U.S.*

5:40 PM–5:48 PM Discussion

♦ Indicates a presentation in which the FDA has not cleared the drug and/or medical device for the use described (i.e., the drug or medical device is being discussed for an "off label" use)."



### SESSION 9C – TRAUMA

**Room: Cherry Blossom Ballroom**

**Moderators: Matthew Oetgen, MD, MBA and Annelie–Martina Weinberg, MD, PhD**

**4:10 PM–5:48 PM**

4:10 PM–4:12 PM Welcome & Remarks

**206**

4:13 PM–4:17 PM

**Subaxial Cervical Spine Injury Classification System (SLIC) Score is Useful in Guiding Treatment Decisions in Pediatric Cervical Spine Trauma**

*Tyler Metcalf; Ambika Paulson; Kelly Vittetoe; Katherine Sborov; Teresa Benvenuti; Michael Benvenuti, MD; Kirsten Ross, MD; Jeffrey E. Martus, MD; Gregory A. Mencio, MD; Jonathan G. Schoenecker, MD, PhD; Stephanie N. Moore-Lotridge, PhD; Craig R. Louer, MD; Vanderbilt Spine Trauma Consortium  
Vanderbilt University Medical Center, Nashville, TN, U.S.*

**207**

4:18 PM–4:22 PM

**Ring the Alarm: Pediatric Patients with Operative Pelvic Ring Injuries have similar Mortality and Morbidity to Adults in a National Matched Cohort Study**

*Amy Steele; David Liu; David Momtaz; Alexander Farid; Jason Young; Leslie C. Yuen; Grant Douglas Hogue, MD  
Boston Children's Hospital, Boston, MA, U.S.*

**208**

4:23 PM–4:27 PM

**Etiology and Mortality of Acute Pediatric Compartment Syndrome: A Retrospective Review**

*Olivia Barron; Tristen Taylor; Michael Allison; Madison Harris; Lauren Pupa; Dorothy Harris Beauvais, MD  
Baylor College of Medicine, Houston, TX, U.S.*

4:28 PM–4:36 PM Discussion

**209**

4:37 PM–4:41 PM

**The Experience of Adolescent Females Following Completely Displaced Midshaft Clavicle Fractures: Sex-Specific Differences in Pain, Sensory Symptoms, and Activities of Daily Life Following Surgical Treatment**

*Coleen S. Sabatini, MD, MPH; Crystal Perkins, MD; Michael Quinn; Rachel Limon Montoya; Eric W. Edmonds, MD; Henry Bone Ellis, MD; Andrew Pennock, MD; Cliff Willimon, MD; Philip Wilson, MD; Donald S. Bae, MD; Michael T. Busch, MD; Mininder S. Kocher, MD, MPH; Ying Li, MD; Jeffrey Jerome Nepple, MD; Nirav Kiritkumar Pandya, MD; David D. Spence, MD; Benton E. Heyworth, MD; FACTS  
Boston Children's Hospital, Boston, MA, U.S.*

**210**

4:42 PM–4:46 PM

**Presence of Dorsal Spike Fragment in Conjunction with Pediatric Volar Barton Fracture Conveys High Risk of Delayed Extensor Tendon Injury**

*Ahmad F. Bayomy, MD; Charles T. Mehlman, DO, MPH  
Cincinnati Children's Hospital Medical Center, Cincinnati, OH, U.S.*

**211**

4:47 PM–4:51 PM

**Physeal Fractures of the Distal Ulna: Incidence and Risk Factors for Premature Growth Arrest**

*Pille-Riin Värk; Julianna Lee; Shaun Mendenhall; Benjamin Chang; Eliza Buttrick, BA; Apurva S. Shah, MD, MBA  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

4:52 PM–5:00 PM Discussion

**212**

5:01 PM–5:05 PM

**“Don’t Fear the Reamer”: 20-Year Trends of Pediatric Femoral Fracture Fixation Show Increased Utilization of Rigid Nails in ABOS Part II Candidates**

*Kevin Jeffrey Serdahely; Tia Shutes; Craig R. Louer, MD; Nathaniel Lempert, MD; Jonathan G. Schoenecker, MD, PhD; Jeffrey E. Martus, MD; David Ebenezer, MD; Gregory A. Mencio, MD  
Vanderbilt University, Nashville, TN, U.S.*

**213**

5:06 PM–5:10 PM

**How Fast and How Far? Prospective Study on Femoral Overgrowth in Diaphyseal Femur Fractures**

*Julia Skye Sanders, MD; Tiffany Phan; Sarah Rose Purtell, BS; Michael J. Heffernan, MD; Tyler A. Tetreault, MD; Jonas Owen, MD; Lindsay Andras, MD  
Children’s Hospital Los Angeles, Los Angeles, CA, U.S.*

**214**

5:11 PM–5:15 PM

**Factors Associated with Premature Physeal Closure after Distal Femur Fracture**

*Andrew Pennock, MD; Liane Chun, MD; Christopher D. Souder, MD; Tracey P. Bastrom, MA  
Rady Children’s Hospital, San Diego, San Diego, CA, U.S.*

5:16 PM–5:24 PM Discussion

**215**

5:25 PM–5:29 PM

**Do Patient-Answered Versus Parent-Answered Patient Reported Outcomes Differ in Pediatric Fracture Care?**

*Tyler McDonald, MD; Cade Smelley  
University of South Alabama, Mobile, AL, U.S.*

**216**

5:30 PM–5:34 PM

**Validation of the Patient/Parent Reported Outcome Measure of Fracture Healing (PROOF-LE) Questionnaire for Lower Extremity Fractures in Children**

*Unni G. Narayanan, MD, FRCSC; Sydney Leigh Sharp; Sarah Yang; Stanley Richard Moll; Anne Murphy; Jacqueline Chan; Mark Wickus Camp, MD  
The Hospital for Sick Children (SickKids), Toronto, ON, Canada*

**217**

5:35 PM–5:39 PM

**Home Management of Pediatric Buckle Fractures: Can Video Education Replace an In-Person Visit?**

*Mosufa Zainab; Mehmet Esat Kilinc; Evan Sandefur; Andrea Yu-Shan; Nicholas Peterman; Peter J. Apel, MD  
Virginia Tech Carilion, Roanoke, U.S.*

5:40 PM–5:48 PM Discussion

**SESSION 9D – HIP**

**Room: Woodrow Wilson Ballroom**

**Moderators: Mihir Thacker, MD and Thomas Wirth, MD, PhD**

**4:10 PM–5:48 PM**

4:10 PM–4:12 PM Welcome & Remarks

**218**

4:13 PM–4:17 PM

**I Thought Things were too Loose? Prevalence and Risk factors for Stiffness following Open Reduction for Developmental Dysplasia of the Hip**

*Vineet Desai; Carter Hall; Stefano Cardin, MD; Wudbhav N. Sankar, MD  
Children’s Hospital of Philadelphia, Philadelphia, PA, U.S.*

**219**

4:18 PM–4:22 PM

**Open Reduction of Hip Dislocations in Arthrogyrosis is Associated with Higher Rates of AVN than Idiopathic DDH: A Dual-Center Study**

*Tristen Taylor; Rishi Sinha; Callie Bridges; Basel Touban, MD; Nihar Pathare; Caitlin Perez-Stable; Laura M. Mayfield, MPH; Jaclyn Hill, MD; Scott B. Rosenfeld, MD; William Zachary Morris, MD*  
*Texas Children's Hospital, Houston, TX, U.S.*

**220**

4:23 PM–4:27 PM

**Developmental Hip Dysplasia: What Happens After Pavlik?**

*Cristina Alves, MD; Carla Sofia Da Silva Carreço; Ines Balaco; Marcos Carvalho; Joao Cabral; Oliana Madeira Tarquini; Pedro Sa Cardoso; Tah Pu Ling*  
*Hospital Pediátrico - CHUC, EPE, Coimbra, Portugal*

4:28 PM–4:36 PM      Discussion

**221**

4:37 PM–4:41 PM

**The Effect of Femoral Deformity on Hip Contact Mechanics in Patients with Hip Dysplasia: A Finite Element Analysis Study**

*Christian Klemt; Stephanie Kha; Jayme Koltsov; Hiba Naz; Stephanie Pun, MD*  
*Stanford University, Stanford, U.S.*

**222**

4:42 PM–4:46 PM

**Prevalence and Radiographic Measurements of Acetabular Dysplasia in Over 4000 Healthy Dutch Adolescents**

*Suzanne De Vos-Jakobs; Fleur Boel; Delong Chen; Johanna Cornelia Maria Van Haasteren; Rintje Agricola*  
*Erasmus MC - Sophia Children's Hospital, Rotterdam, Netherlands*

**223**

4:47 PM–4:51 PM

**A Biomechanical Analysis of the Surface Contact Pressure After an Innominate Osteotomy for the Correction of Acetabular Dysplasia**

*Mackenzie A. Roof; Gerardo Enrique Sanchez-Navarro; Emmanuel Gibon, MD; Pablo Castañeda, MD*  
*Hassenfeld Children's Hospital at NYU Langone, New York, NY, U.S.*

4:52 PM–5:00 PM      Discussion

**224**

5:01 PM–5:05 PM

**Does Femoral Version Impact the Patient-Reported Outcomes and Clinical Meaningful Improvement after Periacetabular Osteotomy for the Treatment of Acetabular Dysplasia?**

*Emmanouil (Manos) Grigoriou, MD; Till Lerch; Ani Maroyan; Michael B. Millis, MD; Young Jo Kim, MD; Miles Batty; Shanika De Silva; Eduardo Novais, MD*  
*Boston Children's Hospital, Boston, MA, U.S.*

**225**

5:06 PM–5:10 PM

**Differences in Femoroacetabular Impingement Morphology on CT between Adolescent Males and Females with Symptomatic FAI**

*Jeffrey Jerome Nepple, MD; Kyle P. O'Connor; Robert Westermann; Andrea Spiker; Aaron Krych; Yi-Meng Yen, MD; Christopher Larson; Stephanie Watson Mayer, MD; Matthew Robert Schmitz, MD; Etienne L. Belzile; Cecilia Pascual-Garrido; Sasha Carsen, MD, FRCSC; Henry Bone Ellis, MD; Young Jo Kim, MD; John Clohisy, MD; ANCHOR Study Group*  
*Washington University in St. Louis, St. Louis, MO, U.S.*

**226**

5:11 PM–5:15 PM

**A Detailed 3D Analysis of Hip Center of Rotation Trajectory and its Effects on Impingement-Free Range of Motion: A 3D Dynamic Analysis of 1,222 Hips**

*Ata M. Kiapour, PhD, MMSc; Mohammadreza Movahhedi; Mallika Singh; Young Jo Kim, MD; Eduardo Novais, MD  
Boston Children's Hospital, Boston, MA, U.S.*

5:16 PM–5:24 PM

Discussion

**227**

5:25 PM–5:29 PM

**Patient Reported Outcomes of Femoroacetabular Impingement in Adolescents with Open Physes and Duration of Symptoms: A Match-Paired Analysis**

*Benjamin Domb; Tyler Robert McCarroll; Andrew Schab; Roger Quesada-Jimenez; Ady Haim Kahana-Rojkind  
American Hip Institute Research Foundation, Des Plaines, IL, U.S.*

**228**

5:30 PM–5:34 PM

**Expectations Before Periacetabular Osteotomy and Relation to Post-Operative Outcomes and Satisfaction**

*Samantha L. Ferraro, BS; Patricia E. Miller, MS; Young Jo Kim, MD; Michael B. Millis, MD  
Boston Children's Hospital, Boston, MA, U.S.*

**229**

5:35 PM–5:39 PM

**Intraoperative Neuromonitoring During Periacetabular Osteotomy Provides Actionable Alerts – Why Is It Not More Widely Used?**

*Lukas G. Keil, MD; James David Bomar, MPH; V. Salil Upasani, MD  
Rady Children's Hospital, San Diego, San Diego, CA, U.S.*

5:40 PM–5:48 PM

Discussion

### SESSION 10 – PERTHES & MISCELLANEOUS

Room: Potomac Ballroom

*Moderators: Stefan Huhnstock, MD and Harry K.W. Kim, MD*

**8:00 AM–9:18 AM**

8:00 AM–8:05 AM Welcome & Remarks

**230**

8:06 AM–8:10 AM

**MRI Perfusion Correlates with Duration of Stages and Lateral Pillar class in Legg-Calvé-Perthes Disease**

*Wudbhav N. Sankar, MD; Julianna Lee; David Y. Chong, MD; Yasmin D. Hailer; Luiz Renato Agrizzi De Angeli; Scott Yang, MD; Jennifer C. Laine, MD; Harry K.W. Kim, MD; International Perthes Study Group Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

**231**

8:11 AM–8:15 AM

**Early-Stage Femoral Head Hypoperfusion Correlates with Femoral Head Deformity at Intermediate-Term Follow-Up in Patients with Legg-Calvé-Perthes Disease**

*Michael Seungcheol Kang; David Zimmerhanzel; Shamrez Haider; Harry K.W. Kim, MD Scottish Rite for Children, Dallas, TX, U.S.*

**232**

8:16 AM–8:20 AM

**Legg-Calve-Perthes Disease: To Operate or Not to Operate!**

*Joeffroy Otayek; Ayman Assi; Andrea Achkouty; Jerome Sales De Gauzy; Christophe Glorion; Ismat Ghanem, MD; SOFOP Saint-Joseph University of Beirut, Beirut, Lebanon*

8:21 AM–8:29 AM Discussion

**233**

8:30 AM–8:34 AM

**Correlation between Radiological Parameters and PROMs Results in 141 Adults who Suffered a Perthes Disease in Childhood: Should we Modify our Approach in the Phase of Sequelae?**

*Alberto Losa Sánchez; Luis Moraleda Novo, MD, PHD; Joaquín Nuñez De Armas, MD; Ricardo Fernandez Fernandez; Gaspar Gonzalez Moran Hospital Universitario La Paz, Madrid, Spain*

**234**

8:35 AM–8:39 AM

**Predictors of Persistent Limp Following Proximal Femoral Varus Osteotomy for Perthes Disease**

*Kevin Jossue Orellana; Joshua Bram; Morgan Batley, BA; Susan A. Novotny, PhD; Hitesh Shah, MD; Derek M. Kelly, MD, FAAOS, FAOA; Benjamin D. Martin, MD; Tim Schrader, MD; Jennifer C. Laine, MD; Harry K.W. Kim, MD; Wudbhav N. Sankar, MD; International Perthes Study Group Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

**235**

8:40 AM–8:44 AM

**Comparison of Mid-to Long-Term Outcomes of Conservative Treatment versus Shelf Acetabuloplasty in Perthes Disease**

*Mehmet Demirel; Ilhan Sulejmani; Yasar Samet Gökçeoglu; Yavuz Saglam; Fuat Bilgili, MD Istanbul University, Istanbul, Turkey*

8:45 AM–8:53 AM Discussion



**236**

8:54 AM–8:59 AM

**Improved Gait and Patient-Reported Outcomes Following Hip Preservation Procedures via Surgical Hip Dislocation in Adolescents with Residual Legg-Calve-Perthes Disease**

*Kanav Chhabra; Nicholas Anable; Arnav Kak; Chan-Hee Jo, PhD; John Anthony "Tony" Herring, MD, FRCS; Daniel J. Sucato, MD, MS; Harry K.W. Kim, MD*  
*Scottish Rite for Children, Dallas, TX, U.S.*

**237**

9:00 AM–9:04 AM

**Development of a Minimally Invasive Piglet Model of Legg-Calve-Perthes Disease**

*Susan A. Novotny, PhD; Reza Talaie; Erick Buko; Ashton Adele Amann; Alexandra Armstrong; Casey P. Johnson; Ferenc Toth; Jennifer C. Laine, MD*  
*Gillette Children's, St. Paul, MN, U.S.*

**238**

9:05 AM–9:09 AM

**Two Novel Tissue Types Identified in 3D Morphometric Analyses of Perthes Hips: Is this the Key to Early Prognostic Modelling**

*Hannah Kane; Siobhan Hoare; Thomas Brendan Murphy; Niamh Nowlan; Connor James Green, FRCS (ORTH)*  
*University College Dublin, Dublin, Ireland*

9:10 AM–9:18 AM      Discussion

**9:19 AM–9:24 AM**

**Award Announcements**

**Room: Potomac Ballroom**

*David Farrington, MD and Anthony Riccio, MD*

**9:25 AM–9:35 AM**

**EPOS Presidential Transfer**

**Room: Potomac Ballroom**

**9:36 AM–9:46 AM**

**POSNA Presidential Transfer**

**Room: Potomac Ballroom**

9:50 AM–10:10 AM      Coffee Break

**SESSION 11 – TRAUMA**

**Room: Potomac Ballroom**

**Moderators: Federico Canavese, MD, PhD and Kenneth Noonan, MD, MHCDS**

**10:15 AM–12:00 PM**

**239**

10:15 AM–10:19 AM

**Vitamin D—A Risk Factor for Bone Fractures in Children: A Population-Based Prospective Case–Control Randomized Cross-Sectional Study**

*Alexandru-Dan Herdea; Alexandru Ulici*  
*University of Medicine and Pharmacy "Carol Davila", Bucharest, Romania*

**240**

10:20 AM–10:24 AM

**Time to Closed Reduction in the ED: Who is at Risk for Delays and Does it Matter?**

*Ryan Sadjadi; Avionna Baldwin; Daniel Soroudi; Ishaan Swarup, MD*  
*UCSF Benioff Children's Hospital, Oakland, CA, U.S.*

**241**

10:25 AM–10:29 AM

**Nonoperative vs. Operative Management of Type I Pediatric Open Fractures**

*Jeremy Dubin; Sandeep Bains; Daniel Hameed; Mallory C. Moore; John E. Herzenberg, MD; Philip McClure, MD*  
*International Center for Limb Lengthening, Baltimore, MD, U.S.*

10:30 AM–10:38 AM      Discussion

**242**

10:39 AM–10:43 AM

**Gartland Type IIB Supracondylar Fractures can be Treated using Blount's Method**

*Kätlin Puksand; Petra Grahm, MD; Matti Mikael Ahonen; Juho-Antti Ahola; Topi Aaretti Laaksonen, MD*  
*Helsinki University Hospital, Helsinki, Finland*

**243**

10:44 AM–10:48 AM

**Does Time to Surgery Impact Nerve Recovery in Supracondylar Humerus Fractures with Nerve Injury?**

*Brian Wahlig; Mikaela Sullivan; Samuel Broida; A. Noelle Larson, MD; William J. Shaughnessy, MD; Anthony A. Stans, MD; Emmanouil (Manos) Grigoriou, MD; Todd A. Milbrandt, MD Mayo Clinic, Rochester, MN, U.S.*

**244**

10:49 AM–10:53 AM

**Epidemiology of Operatively Treated Pediatric Medial Epicondyle Fractures**

*Akbar Nawaz Syed; Joseph Yellin, MD; Divya Talwar; Margaret Bowen; Leta Ashebo; Scott D. McKay, MD; Peter D. Fabricant, MD, MPH; Eric W. Edmonds, MD; Benton E. Heyworth, MD; Michael Saper; Donna M. Pacicca, MD; Kevin H. Latz, MD; Stephanie Watson Mayer, MD; Daryl US Osbahr; Christopher D. Souder, MD; J. Todd Lawrence, MD, PhD; Medial Epicondyle Multicenter Outcomes Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

10:54 AM–11:02 AM Discussion

**245**

11:03 AM–11:07 AM

**Enhancing Tibial Spine Fracture Repair: Suture Plus Diaphyseal Suture Anchors Biomechanically Outperform Sutures and Screws in Pediatric Cadaveric Knees**

*Thomas M. Johnstone; Ian Hollyer; Kelly Heavner McFarlane; Amin Alayleh; Calvin Chan; Seth Sherman; Kevin G. Shea, MD Stanford University, Stanford, CA, U.S.*

**246**

11:08 AM–11:12 AM

**Risk Factors for Combined Tibial Tubercle Avulsion Fracture and Patellar Tendon Tears**

*Rebecca Schultz; Basel Touban, MD; Jason Amaral; Raymond Kitziger; Tiffany Lee; Matthew Parham; Scott D. McKay, MD Texas Children's Hospital, Houston, TX, U.S.*

**247**

11:13 AM–11:17 AM

**Risk Factors for the Development of Premature Physeal Closure after a McFarland Fracture in Children**

*Yuancheng Pan; Federico Canavese, MD; Shunyou Chen Fuzhou Second Hospital, Fuzhou, People's Republic of China*

11:18 AM–11:26 AM Discussion

**248**

11:27 AM–11:31 AM

**Prospective Distal Tibial Physeal Fractures: Short Leg vs. Long Leg Casting**

*Brock Todd Kitchen; Eric W. Edmonds, MD; V. Salil Upasani, MD; Christopher D. Souder, MD; James David Bomar, MPH; Macy Dexter; Andrew Pennock, MD Rady Children's Hospital, San Diego, San Diego, CA, U.S.*

**249**

11:32 AM–11:36 AM

**Remodeling Potential after Distal Tibial Physeal Fractures**

*Christopher D. Souder, MD; James David Bomar, MPH; Christine Ho, MD; Brian P. Scannell, MD Rady Children's Hospital, San Diego, San Diego, CA, U.S.*

**250**

11:37 AM–11:41 AM

**Identification of & Response to Growth Arrest Following Pediatric Ankle Fractures**

*Charles T. Mehlman, DO, MPH; Jaime Rice Denning, MD, MS; Shital N. Parikh, MD, FACS; Junichi Tamai, MD; Dayna Phillips, MD Cincinnati Children's Hospital Medical Center, Cincinnati, OH, U.S.*

11:42 AM–11:50 AM Discussion

11:51 AM–12:00 PM Closing Remarks



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## BASIC SCIENCE

**ePoster 1****Alterations in the Bone Collagen Organization in Osteogenesis Imperfecta**

*Wouter H. Nijhuis; Zhiming Wu; Stefan Smit; Kelly Warmink; Harrie Weinans; Ruud Bank; Ralph J.B. Sakkers, MD, PhD*  
University Medical Center Utrecht, Utrecht, Netherlands

**ePoster 2****Changes Around Knee After Apophysiodesis of Tibial Apophysis in Rats (Preliminary Results)**

*Emre Cullu; Figen Sevil Kilimci; Mehmet Erkut Kara; Firuze Türker Yavas*  
Adnan Menderes University, Aydın, Turkey

**ePoster 3****Circ\_0000888 Regulates Osteogenic Differentiation of Periosteal Mesenchymal Stem Cells in Congenital Pseudarthrosis of the Tibia**

*Ge Yang*  
Hunan Children's Hospital, Changsha, People's Republic of China

**ePoster 4****Guided Growth for Trochlear Dysplasia – Development of a Rabbit Model**

*Marcus A. Shelby, MD; Carolyn Doerning; John Miras Racadio; Matthew William Veerkamp; Savannah Walters; Ross Schierling; Angie Cummins; Shital N. Parikh, MD, FACS*  
Cincinnati Children's Hospital Medical Center, Cincinnati, OH, U.S.

**ePoster 5****Hip Dysplasia in Mucopolysaccharidosis Type 1 Hurler: Midterm Radiological and Functional Outcomes after Hematopoietic Stem Cell-Gene Therapy**

*Maurizio De Pellegrin; Chiara Filisetti; Matilde Cossutta; Barbara Guerrini; Renata Mellone; Giulia Consiglieri; Francesca Tucci; Marina Sarzana; Alessandro Aiuti; Maria Ester Bernardo; SR-Tiget MPSIH*

*San Raffaele Telethon Institute for Gene Therapy (SR-TIGET), Milan, Italy*

**ePoster 6****Quantitative MRI May Help Detect Bone Repair in a Piglet Model of Legg-Calvé-Perthes Disease**

*Ashton Adele Amann; Erick Buko; Alexandra Armstrong; Jennifer C. Laine, MD; Susan A. Novotny, PhD; Reza Talaie; Ferenc Toth; Casey P. Johnson*  
Gillette Children's, St. Paul, MN, U.S.

**ePoster 7****Sulfur Biology May Be Key to the Aetiology of Developmental Dysplasia of the Hip**

*Amanda ML Rhodes; Sehrish Ali; Magdalena Minnion; Ling Hong Lee, MD; Brijil Maria Joseph; Judwin Alieh Ndzo; Nicholas M.P. Clarke, ChM FRCS; Martin Feelisch; Alexander Aarvold, BSc, MBChB, FRCSEd*  
University Hospital Southampton NHS Foundation Trust, Southampton, United Kingdom

## CONGENITAL, SYNDROMIC, AND SKELETAL DYSPLASIAS

**ePoster 8****Characterization of Bone Growth Patterns Across the Lifespan of Individuals with Osteogenesis Imperfecta**

*Matthew Bernhard; Chloe Derocher; Erin Carter; Karl John Jepsen; Cathleen L. Raggio, MD*  
Hospital for Special Surgery, New York, NY, U.S.

**ePoster 9****Therapeutic Effect of Intramedullary Reaming and Nailing for Long Bones Lengthening in Children with Ollier Disease and Maffucci Syndrome on Enchondromas: Retrospective Serie**

*Samuel Georges; Bonneau Soline; Bernard Fraise; Bremond Nicolas; Yan Lefèvre; Philippe Violas; Zagorka Pejin, MD*  
Necker University Hospital, APHP, Paris, France

## ePoster 10

### To Stand or Not to Stand: a Retrospective Review of Clinical and Health-Related Quality of Life Outcomes Related to Supported Standing in Patients with MMFC1 Spina Bifida

Peter C. Shen; Jill E. Larson, MD  
Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, U.S.

## FOOT & ANKLE

## ePoster 11

### Does Clubfoot Affect Sports Performance?

Michelle Mo, MD, PhD; Megan M. Hannon, MD; William Meehan; Patricia E. Miller, MS; Matthew Lincoln Rauseo; Shawn Patrick Cameron; Maya Fajardo; Susan T. Mahan, MD, MPH  
Boston Children's Hospital, Boston, MA, U.S.

## ePoster 12

### Pedobarography and Ankle-Foot Kinematics in Children with Symptomatic Flexible Flatfoot after Medializing Calcaneal Osteotomy: A Cross-Sectional Study

Noppachart Limpaphayom, MD  
Chulalongkorn University, Bangkok, Thailand

## ePoster 13

### Sports Participation Reported in Children and Adolescents after Treatment for Idiopathic Clubfoot Using Ponseti Method

James Weihe, MD; Abigail Padilla; Divya Jain; Shannon Margherio; Melissa Bent, MD; Natalie C. Stork, MD  
Children's Hospital Los Angeles, Los Angeles, CA, U.S.

## ePoster 14

### Surgical Considerations for Children with Foot Syndactyly

Eliza Buttrick; Sulagna Sarkar; Amanda Pang; Austin James Reiner; Christina Michelle Sacca; Christine Goodbody; David B. Horn, MD; Shaun Mendenhall; Apurva S. Shah, MD, MBA  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.

## HAND/UPPER EXTREMITY

## ePoster 15

### Clinical Presentation and Patient-Reported Function in Children with Sprengel's Deformity

Julianna Lee; Eliza Buttrick, BA; Carley Vuillermin, FRACS, MBBS, MPH; Lindley B. Wall, MD; Julie Samora, MD, PhD; Apurva S. Shah, MD, MBA; CoULD Study Group  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.

## ePoster 16

### Lengthening Over the Plate in Forearm Deformity - A Novel Technique to Reduce the Duration Of External Fixation And Related Complications

Kyeong-Hyeon Park; Chang-Wug Oh  
Severance Children's Hospital, Seoul, Republic of Korea

## ePoster 17

### Pediatric Radial Head Ossification Patterns

Tiffany Liu; Hannah May Reen Chi; Arin Kim; Bamidele KAMMEN; Ishaan Swarup, MD  
UCSF Benioff Children's Hospital, Oakland, CA, U.S.

## ePoster 18

### Reachable Workspace by Injury Level in Brachial Plexus Birth Injury

Stephanie Russo, MD, PhD; Tyler Richardson; Emily Nice; Spencer Warshauer; Dan Ariel Zlotolow, MD; Scott H. Kozin, MD  
Shriners Children's™ Philadelphia, Philadelphia, PA, U.S.



## ePoster 19

### Recreational-Therapeutic Workshops for the Use of Myoelectric Protheses in Upper Limb Agenesis

*Sergio Martinez Alvarez; Álvaro Pérez-Somarrriba; Paula Serrano Gonzalez; María Galán Olleros; Íñigo Monzón Tobalina; Isabel Vara Patudo, MD; Maria Teresa Vara; Angel Palazon Quevedo  
Hospital Infantil Universitario Niño Jesús, Madrid, Spain*

## ePoster 20

### Throwing Pains: Clinical Presentation and Surgical Outcomes of Cubital Tunnel Syndrome in Children and Adolescents

*Nathan Chaclas; Scott J. Mahon; Joseph Yellin, MD; Christine Goodbody; Apurva S. Shah, MD, MBA  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

## HIP

## ePoster 21

### A Hybrid Virtual Baby Hip Clinic Improves Care for the Nonoperative Treatment of Developmental Dysplasia of the Hip (DDH)

*Yashvi Verma, MSc, BSc; Kylie Maxwell; Catharine Bradley, BScPT, MSc; Simon P. Kelley, MD  
The Hospital for Sick Children (SickKids), Toronto, ON, Canada*

## ePoster 22

### A Novel Low-Cost Acoustic Screening Method for Early Detection of Developmental Dysplasia of the Hip in Infants

*Yealeen Jeong; Taylor A. Jazrawi; Hansen A. Mansy; Richard H. Sandler; Charles T. Price, MD; Pablo Castañeda, MD  
Hassenfeld Children's Hospital at NYU Langone, New York, NY, U.S.*

## ePoster 23

### Acetabular Changes in 80 Surgically Treated Perthes Patients, From Diagnosis to Healing

*Yasmin D. Hailer; Wiktor Mizgalewicz; Hitesh Shah, MD  
Kasturba Hospital, Manipal, India*

## ePoster 24 ★

### Acetabular Teardrop Ratio, A Novel Radiographic Measurement in Developmental Dysplasia of the Hip

*Joanne Abby Marasigan, MD; Munish Krishnan; Kurt Seagrave; David Graham Little, MBBS  
Children's Hospital at Westmead, Westmead, Australia*

## ePoster 25

### Anteroinferior Iliac Spine (AIIS) Osteoplasty at the Time of Periacetabular Osteotomy (PAO) Helps Preserve Preoperative Range of Motion

*Wasim Shihab; Connor Luck; Jonathan Dalton; Ashley Disantis; Jennifer Oakley; Michael McClincy, MD  
UPMC Children Hospital, Pittsburgh, PA, U.S.*

## ePoster 26

### Birthweight Correlates to Pubo-Femoral Distances and Alpha Angles in Hip Ultrasound of Newborns at Six Weeks of Age

*Maria Tirta; Ole Rahbek, MD, PhD; Michel Bach Hellfritzsch; Rikke Damkjær Maimburg; Mads Henriksen; Søren Kold; Natalia Lapitskaya; Bjarne Moeller-Madsen, MD, PhD; Hans-Christen Husum  
Aalborg University Hospital, Aalborg, Denmark*

## ePoster 27

### Combined Guided Growth and Growth Tethering Versus Varus Osteotomy for Caput Valgum and Leg Length Discrepancy Following Surgery in Developmental Dysplasia of the Hip: Outcome of the Hip Development

*Kuan-wen Wu, MD; Chia-Che Lee; Ting-ming Wang, MD; Ken N. Kuo, MD  
National Taiwan University Hospital, Taipei, Taiwan*

★ Nominated for Best ePoster

## ePoster 28

### Femoral Anteversion Assessment: 3D Modelization Insight

Mohamed Laroussi Toumia; Alina Badina; Nejb Khouri; Axel Koussou; Eric Desailly  
Necker University Hospital, APHP, Paris, France

## ePoster 29

### How Long is a Piece of String? - Duration of Pavlik Harness Treatment for Developmental Dysplasia of the Hip

Bhushan Sharad Sagade, Junior Consultant; Kakra Wartemberg; Julia Judd, NP; Safwan Abdulwahid; Edward Lindisfarne, MA, MBBS; Kirsten Elliott; Alexander Aarvold, BSc, MBCbB, FRCSEd  
University Hospital Southampton NHS Foundation Trust, Southampton, United Kingdom

## ePoster 30

### Impact of Pavlik Harness Treatment on Motor Skills Acquisition: a Prospective Study

Ana Rita Jesus; Catarina Silva; Inês Luz; José Eduardo Mendes; Ines Balaco; Cristina Alves, MD  
Hospital Pediátrico - CHUC, EPE, Coimbra, Portugal

## ePoster 31

*Withdrawn*

## ePoster 32

### Natural Evolution of Legg-Calvé-Perthes Disease in Children "Surgical Hips" Treated with a Non-Operative Approach

Joeffroy Otayek; Ayman Assi; Andrea Achkouty; Jerome Sales De Gauzy; Christophe Glorion; Ismat Ghanem, MD  
Saint-Joseph University of Beirut, Beirut, Lebanon

## ePoster 33

### One-third of Patients with Slipped Capital Femoral Epiphysis have Abnormal Thyroid Screening Studies

Ena Nielsen; Braeden Makato Leiby; Todd Blumberg, MD  
Seattle Children's Hospital, Seattle, WA, U.S.

## ePoster 34 ★

### Optimizing the Arthrogram: Does Local Anesthetic Improve the Duration of Femoral Head Visualization?

Kyle Maas; Nicholas Chiaramonti; Ira Zaltz, MD; Alex Gornitzky, MD  
University of Michigan, Ann Arbor, MI, U.S.

## ePoster 35

### Osteochondral Allograft Transplantation for Large Chondral Lesions of the Femoral Head in Young Patients

V. Salil Upasani, MD; Omid Jalali, MD; James David Bomar, MPH; Lei Zhao; Patrick William Whitlock, MD, PhD; Jordan K. Penn; Julie McCauley; William Bugbee; Andrew Pennock, MD  
Rady Children's Hospital, San Diego, San Diego, CA, U.S.

## ePoster 36

### Outcomes of Hip Arthroscopy With Concomitant Periacetabular Osteotomy: Minimum Five-Year Follow-Up

Ady Haim Kahana-Rojkind; Ali Parsa; Saiswarnesh Padmanabhan; Rachel Bruning; Tyler McCarroll; Justin Mark Lareau; Benjamin Domb  
American Hip Institute Research Foundation, Des Plaines, IL, U.S.

## ePoster 37

### Outcomes of Treatment of Pediatric Pathologic Femoral Neck Fractures

Rishi Sinha; Shamrez Haider; Chinelo Onubogu; Alexandra Callan; David A. Podeszwa, MD; William Zachary Morris, MD  
Scottish Rite for Children, Dallas, TX, U.S.

## ePoster 38

### Patients with CMT Undergoing a Bernese PAO Return to Baseline Gait Parameters and Improve Patient Reported Outcomes at Two Years But Are Worse than Normal Controls

Andrew Hinkle; Nicholas Anable; Lauren Osborne; David A. Podeszwa, MD; William Zachary Morris, MD; Daniel J. Sucato, MD, MS  
Scottish Rite for Children, Dallas, TX, U.S.

## ePoster 39

### Perthes Disease. Ellipsoidal Process: Is it Possible to Prevent the Deformity?

Margarita Montero Diaz; Juan Carlos Abril, PhD  
Ruber International Hospital, Madrid, Spain

## ePoster 40

### Postoperative Cast Immobilization Might be Unnecessary after Pelvic Osteotomy for Children with Developmental Dysplasia of the Hip: A Systematic Review

Mohamed Mai; Renee Anne Van Stralen; Sophie Moerman; Christiaan J.A. Van Bergen  
Force Amphia, Breda, Netherlands

## ePoster 41

### Pre-operative Gallows Traction as an Adjunct to Hip Open Reduction Surgery: Is it Safe and is it Effective?

Nicholas Uren; Alexander Aarvold, BSc, MBChB, FRCSEd; Julia Judd, NP; Kirsten Elliott; Stephanie Jane Buchan; Edward Lindisfarne, MA, MBBS  
University Hospital Southampton NHS Foundation Trust, Southampton, United Kingdom

## ePoster 42

### Radiation Burden and Associated Cancer Risk Amongst Children Undergoing Open Reduction for Developmental Dysplasia of the Hip (DDH)

Waseem Hasan; Nicholas Uren; Alexander Aarvold, BSc, MBChB, FRCSEd  
University Hospital Southampton NHS Foundation Trust, Southampton, United Kingdom

★ Nominated for Best ePoster

## ePoster 43

### Re-analyses of Treatment Outcomes and Prognostic Factors of a Large Prospective Multicenter Study of Legg–Calvé–Perthes Disease Using the Sphericity Deviation Score

Michael Seungcheol Kang; Arnav Kak; Lauren Osborne; John Anthony “Tony” Herring, MD, FRCS; Harry K.W. Kim, MD  
Scottish Rite for Children, Dallas, TX, U.S.

## ePoster 44 ★

### Relationship of Self-Reported Pain, Degree of Hip Dysplasia and Behavioral Health Diagnosis in Adolescents and Young Adults

Heather M. Richard, PsyD; Daryn Strub; Kirsten Tulchin-Francis, PhD; Craig Smith; Kevin E. Klingele, MD  
Nationwide Children’s Hospital, Columbus, OH, U.S.

## ePoster 45

### Shenton’s Line in DDH: Useful or Useless?

Jessica Poppy Jane Larwood; Richard Connell; Waseem Hasan; Alexander Aarvold, BSc, MBChB, FRCSEd  
University Hospital Southampton NHS Foundation Trust, Southampton, United Kingdom

## ePoster 46

### The Anterior Modified San Diego Acetabuloplasty Does Not Result in Improved Anterior Acetabular Coverage

Joshua Carroll Tadlock, MD; Garrett E. Rupp; Christine L. Farnsworth, MS; James David Bomar, MPH; Jason Patrick Caffrey; V. Salil Upasani, MD  
Rady Children’s Hospital, San Diego, San Diego, CA, U.S.

## ePoster 47

### The Detrimental Effect of Human Growth Hormone Treatment on the Development of Slipped Capital Femoral Epiphysis

Mehul Mittal; David Momtaz; Rishi Gonuguntla; Mahshid Mohseni; Beltran Torres-Izquierdo; Aaron Singh; Pooya Hosseinzadeh, MD  
Washington University in St. Louis, St. Louis, MO, U.S.

## ePoster 48

### The Sphericity Deviation Score, a Continuous Parameter to Assess Femoral Head Sphericity in Legg-Calvé-Perthes Disease: is it Useful and Reliable?

Chiara Blatti; Jennifer C. Laine, MD; Anders Wensaas; Sahar Toumie; Armend Fejzulaj; Stefan Huhnstock  
Oslo University Hospital, Oslo, Norway

## ePoster 49

### Trans-Perineal Hip Ultrasound in DDH Patients Treated with Pavlik Harness and Tübingen Hip Flexion Splint

Xuemin Lyu, MD, PhD; Zheng Yang  
Beijing Jishuitan Hospital, Beijing, People's Republic of China

## ePoster 50

### Treatment Outcomes at Skeletal Maturity after Physeal-sparing Procedure for Early-Onset Slipped Capital Femoral Epiphysis

Mi Hyun Song; Chang-Ho Shin, MD; Tae-Joon Cho, MD  
Seoul National University Children's Hospital, Seoul, Republic of Korea

## ePoster 51

### Ultrasound and Magnetic Resonance in Spica Cast for Detection of Femoral Head Reduction in Unstable Developmental Dysplasia of the Hip

Nicola Guindani, MD; Luca Grion; Jole Graci; Federico Chiodini  
Papa Giovanni XXIII Hospital, Bergamo, Italy

## ePoster 52

### Upper Retinacular Vascular Avulsion: A Newly Described Cause of Avascularity of the Femoral Epiphysis in Unstable SCFE

Katherine Sara Hajdu; David Ebenezer, MD; Nathaniel Lempert, MD; Craig R. Louer, MD; Stephanie N. Moore-Lotridge, PhD; Courtney Baker, MD; Jonathan G. Schoenecker, MD, PhD  
Vanderbilt University Medical Center, Nashville, TN, U.S.

## INFECTION AND TUMOR

## ePoster 53

### Clavicular Osteomyelitis In Children: Special Considerations For The Orthopaedic Surgeon

Jessica Davis Burns, MD, MPH  
Phoenix Children's Hospital, Phoenix, AZ, U.S.

## ePoster 54 ★

### Does Ricketts Carry an Increased Risk of Osteomyelitis and Septic Arthritis? A Large Database Study

Monish Sai Lavu; Chloe Heather Van Dorn; Lukas Bobak; Robert John Burkhart; David Kaelber; R. Justin Mistovich, MD, MBA  
University Hospitals Rainbow Babies and Children's Hospital, Cleveland, OH, U.S.

## ePoster 55

### Is Exclusive Oral Antibiotic Treatment Feasible in Pediatric Uncomplicated Osteomyelitis?

Cindy Mallet; Anne-Laure Simon, MD, PhD; Brice Ilharreborde, MD  
Robert Debre Hospital, Paris, France

## ePoster 56

### It's as Easy as CBC (with a Diff): Using the Neutrophil-to-Lymphocyte-to-Platelet Ratio to determine the Severity of Pediatric Musculoskeletal Infection

Brian Quincey Hou; Malini Anand; William Franklin Hefley; Katherine Sara Hajdu; Stephen Chenard; Anoop Chandrashekar; Naadir Jamal; Michael Joseph Greenberg; Courtney Baker, MD; Keith D. Baldwin, MD; Stephanie N. Moore-Lotridge, PhD; Jonathan G. Schoenecker, MD, PhD  
Vanderbilt University Medical Center, Nashville, TN, U.S.

## ePoster 57

### Knee Septic Arthritis or Lyme Disease – Can It Be Predicted?

*Ying Li, MD; Ryan Sanborn; Danielle Cook; Keith D. Baldwin, MD; Benjamin J. Shore, MD, MPH, FRCSC; Children's Orthopaedic Trauma and Infection Consortium for Evidence-Based Studies (CORTICES) University of Michigan, Ann Arbor, MI, U.S.*

## ePoster 58

### Neurodivergent Patients are at Increased Risk of Infection after Orthopaedic Surgery - a multicentre Cohort Study Across 25 Years

*Janus Wong; Lauren Sun; Alfred Lee; Noah So; Evelyn Kuong, MD; Michael To; Wang Chow The University of Hong Kong, Hong Kong, Hong Kong*

## ePoster 59

### Pathologic Fractures in Patients with Neuroblastoma Impacts Overall Survival

*David Matthew Kell; Sulagna Sarkar; Akbar Nawaz Syed; Ryan Guzek; Jie C. Nguyen; Alexandre Arkader, MD Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

## ePoster 60

### Peroneal Nerve Decompression in Pediatric Patients with Multiple Hereditary Exostoses

*Aaron Huser, DO; Hans K. Nugraha; Arun R. Hariharan, MD, MS; David S. Feldman, MD Paley Orthopedic & Spine Institute, West Palm Beach, FL, U.S.*

## ePoster 61

*Withdrawn*

## ePoster 62

### Resident-Performed Bedside Aspiration for Workup of the Pediatric Septic Hip: Expedited Diagnosis, No Decrease in Time to Definitive Treatment

*Kira Skaggs; Olivia Okoli; Hiba Naz; Nicole S. Pham; John Vorhies, MD; Kali Tileston, MD Stanford University, Palo Alto, CA, U.S.*

## ePoster 63 ★

### Separate Resection of Biopsy Tract and Primary Sarcoma: Implications for Local Recurrence and Overall Survival

*Michael D. Eckhoff; Thomas J. Utset-Ward; Daryn Strub, BA; Kirsten Tulchin-Francis, PhD; Thomas J. Scharschmidt, MD Nationwide Children's Hospital, Columbus, OH, U.S.*

## ePoster 64

### Single Stage Surgical Debridement With and Without Local Application of Vancomycin Loaded Calcium Sulphate for Treatment of Chronic Osteomyelitis in Children, A Comparative Study

*Ahmed Hamed Kassem Abdelaal, MD Sohag University, Sohag, Egypt*

## ePoster 65

### Treatment of Aneurysmal Bone Cysts in Children and Risk Factors for Fractures and Complications: A Multicenter Study

*Ali Erkan Yenigül; Mahmut Kursat Ozsahin; Osman Emre Aycan; Ömer Sofulu; Bahattin Kerem Aydin; Ahmet Nadir Aydemir; Sahin Cepni; Bulent Erol, MD; Cenk Ermutlu; Bartu Sarisozen, MD; Turkish Society of Children's Orthopaedics Tumour Study Group Marmara University, Istanbul, Turkey*



## LOWER EXTREMITY/DEFORMITY

### ePoster 66

*Withdrawn*

### ePoster 67

#### A Novel Plate Design for Rotational Guided Growth - an Experimental Study in Immature Porcine Femurs

Ahmed Halloum; Maria Tirta; Søren Kold; Jan Duedal Rölfing; Ahmed Abdul-Hussein Abood; Shima Gholinezhad; Ali Yalcinkaya; Ole Rahbek Aalborg University Hospital, Aalborg, Denmark

### ePoster 68 ★

#### Assessing the Accuracy of Predictive Models in Angular Deformity

Brian C. Lynch, MD; Robert K. Lark, MD; Robert Fitch  
Duke University, Durham, NC, U.S.

### ePoster 69

#### Comparing RVUs for Intramedullary Limb Lengthening Procedures to Common Pediatric Orthopaedic Surgeries to Determine Adequate Compensation

Jill C. Flanagan, MD; Sonia Gilani; Anirejuoritse Bafor; Christopher A. Iobst, MD  
Children's Healthcare of Atlanta, Atlanta, GA, U.S.

### ePoster 70

#### Decision Making in Congenital Femoral Deficiency: A Stated Preference Survey of Patients, Parents, and Clinicians

Ilene Hollin; Sarah Beth Nossov, MD; Corinna C. Franklin, MD; Henrike Schmalfuss; Camille Brown; Malliena DeShields; Kyrillos Akhnouk Shriners Children's™ Philadelphia, Philadelphia, PA, U.S.

### ePoster 71

#### Does Percentage of Canal Reaming Prior to Insertion of Motorized Intramedullary Nails Influence Consolidation Time in Limb Length Discrepancy Corrections?

John E. Herzenberg, MD; Philip McClure, MD; Larysa Hlukha; Sandeep Bains  
International Center for Limb Lengthening, Baltimore, MD, U.S.

### ePoster 72

#### Hemi-epiphysiodesis Correction Rates for Lower Extremity Malalignment are Similar Between Multiple Hereditary Exostoses and Idiopathic Populations

Joshua Bram; Don Tianmu Li; Olivia Christina Tracey; Emilie Lijesen; Danielle Chipman; Roger F. Widmann, MD; Emily Dodwell, MD; John S. Blanco, MD; Daniel W. Green, MD  
Hospital for Special Surgery, New York, NY, U.S.

### ePoster 73 ★

#### Infantile Blount Disease and Overweight in Ghana

Niels Jansen; Heleen Staal  
Maastricht UMC+, Maastricht, Netherlands

### ePoster 74 ★

#### International Field Test of LIMB-Q Kids: A New Patient Reported Outcome Measure for Lower Limb Differences

Harpreet Chhina PhD; Anne Klassen; Jan Duedal Rölfing; Bjoern Vogt, MD; Mohan V. Belthur, MD; Alicia Kerrigan, MD; Marcel Abouassaly; Jonathan Wright; Ashish Ranade; Louise Johnson; David A. Podeszwa, MD; James Alfred Fernandes; Juergen Messner; Christopher A. Iobst, MD; Sanjeev Sabharwal, MD, MPH; Anthony Philip Cooper, FRCS; LIMB-Q Kids Study Group  
University of British Columbia, Vancouver, BC, Canada

**ePoster 75**

**Limb Reconstruction in Severe Tibial Hemimelia: Minimum 4-year Follow-up**

Aaron Huser, DO; David S. Feldman, MD; Claire Elizabeth Shannon, MD; Katherine Miller, MD; Dror Paley, MD  
Paley Orthopedic & Spine Institute, West Palm Beach, FL, U.S.

**ePoster 76**

**Magnetic Intramedullary Lengthening Nails can be Lengthened to their Maximum with No Increase in Nail Failure**

Jeremy Dubin; Sandeep Bains; Daniel Hameed; John E. Herzenberg, MD; Michael Assayag; Philip McClure, MD  
International Center for Limb Lengthening, Baltimore, MD, U.S.

**ePoster 77**

**Patients with Lower Limb Deficiencies Mobilizing with Extension-prosthesis - Long-term follow-up, Quality of Life (QoL) and Function**

Sharon Eylon; Raafat Akil; Patrice L. (Tamar) Weiss; Vladimir Goldman  
Alyn Rehabilitation hospital for Children & Adolescents, Jerusalem, Israel

**ePoster 78**

**Re-use of Motorized Intramedullary Limb Lengthening Nails** ♦

Andrew Gregory Georgiadis, MD; Nickolas Nahm, MD; Mark T. Dahl, MD  
Gillette Children's, St. Paul, MN, U.S.

**ePoster 79**

**Unrecognized Consequences of Growth Modulation: Are We Prioritizing Limb Alignment Over Future Joint Health?**

Taylor Zak; Elizabeth W. Hubbard, MD; Anthony Minopoli; Claire Shivers; David A. Podeszwa, MD  
Scottish Rite for Children, Dallas, TX, U.S.

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♦ Indicates a presentation in which the FDA has not cleared the drug and/or medical device for the use described (i.e., the drug or medical device is being discussed for an "off label" use)."

NEUROMUSCULAR

**ePoster 80**

**10-years Patient Reported Outcome Follow-up of Children with Cerebral Palsy Treated with Tibialis Posterior Tendon Transfer**

Prajahi Ketheeswaran Kumarasamy; Line Kjeldgaard Pedersen; Polina Martinkevich; Bjarne Møller-Madsen  
Aarhus University Hospital and dpor.dk, Aarhus, Denmark

**ePoster 81**

**Clinical, Densitometric and Laboratory Evaluation of Bones in Children with Neuro-Orthopedic Diseases Resulting in Motor Disability**

Wojciech Stelmach; Kryspin Niedzielski; Krzysztof Malecki; Pawel Flont; Kornelia Pruchnik Witoslawska  
Polish Mother's Memorial Hospital Research institute, Łódź, Poland

**ePoster 82 ★**

**Incidence of Femur Fracture Post Hardware Removal in Children with Cerebral Palsy Who Have Undergone Varus Derotational Osteotomy**

Ellie Montufar Wright; Luiz Carlos Almeida Da Silva; Jason Howard, MD; Sarah Raab; Kenneth Rogers, PhD, ATC; Amelia M. Lindgren, MD; Freeman Miller, MD; Arianna Trionfo, MD; M. Wade Shrader, MD  
Nemours Children's Hospital, Wilmington, DE, U.S.

**ePoster 83**

**Medium-Term Outcomes after Multi-Level Surgery in Children with Bilateral Cerebral Palsy**

Ken Ye; Ayman D'Souza; Rebecca Morgan; Alpesh Kothari, MA, BM, BCh, AFHEA, MSc, DPhil, FRCS  
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**ePoster 84**

**One Injection of BoNT-A in Biceps Brachii in CP has Both a Degenerative and Regenerative Effect**

*Eva M. Ponten, MD, PhD; Ferdinand Von Walden, MD, PHD; Alexandra Palmcrantz; Per Stal  
Karolinska Institutet, Stockholm, Sweden*

**ePoster 85**

**Recurrence of Spastic Planovalgus Foot in Cerebral Palsy: A Comprehensive Study on Influencing Factors**

*Ana Laura Arenas Diaz, MPH; Carlos Alfonso Guzmán-Martín; Thania Ordaz; Agustin Barajas Monterrey; Andrea Gabriela García Rueda; Erika Barron Torres; Clemente Hernández; Javier Masquijo, MD  
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**ePoster 86**

**Rotation and Asymmetry of the Axial Plane Pelvis in Cerebral Palsy: A CT-Based Study**

*Akbar Nawaz Syed; Jenny Liu Zheng; Christine Goodbody; Patrick John Cahill, MD; David A. Spiegel, MD; Keith D. Baldwin, MD  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

**ePoster 87**

**Talo-Calcaneal-Navicular Realignment Surgery in Severe Neurologic Equinovarus Foot. Mid-Term Results of a Novel Surgical Approach**

*María Galán Olleros; María Jesus Figueroa; Ana Ramirez Barragan; Gonzalo Andres Chorbadian Alonso; Manuel Fraga; Ignacio Martinez Caballero  
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**ePoster 88**

**Worsening Gait Deviations in Hereditary Spastic Paraparesis**

*Lizabeth Bunkell; Cinthya Meza; Kelly Jeans; Linsley B. Smith; Michelle Christie; Fabiola Reyes; Robert Lane Wimberly, MD  
Scottish Rite for Children, Dallas, TX, U.S.*

QUALITY, SAFETY, VALUE INITIATIVES; ARTIFICIAL INTELLIGENCE; MACHINE LEARNING; AND MISCELLANEOUS

**ePoster 89**

**Cost Analysis and Variability in Pediatric Anterior Cruciate Ligament Reconstruction: Insights for Optimizing Surgical Value**

*Emily Moya; Kelly Heavner McFarlane; Kali Tileston, MD; Charles M. Chan, MD; Kevin G. Shea, MD  
Stanford University, Palo Alto, CA, U.S.*

**ePoster 90**

**Efficacy of DIY Cast Covers: An In Vivo Study**

*John A. Schlechter, DO; Amirhossein Misaghi, MD; Remy Zimmerman; Gian Ignacio; Hayley Ditmars, B.S.  
Riverside University Health Systems, Moreno Valley, CA, U.S.*

**ePoster 91**

**Embracing Wide Awake Techniques in Pediatric Orthopaedic Surgery**

*Sonia Chaudhry, MD, BS, FAAOS, FACS; Lisa Tamburini  
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**ePoster 92**

**Late Diagnosis of Developmental Dysplasia of the Hip in a Country Using Selective Ultrasound Screening**

*Frederike Mulder; Hei Sook Femke Hagenmaier; Heleen Staal; Joëlle Rosier; Adhiambo Witlox  
Maastricht UMC+, Maastricht, Netherlands*

**ePoster 93**

**Long-Term Complications of Peripheral Nerve Blocks in Pediatric Orthopaedic Lower Extremity Procedures: A Systematic Review**

*Yifan Mao, BS, BA; Sunny Trivedi, MD; Charlotte Wahle, BA; Dimpy Wraich, BS; Kevin G. Shea, MD; Kesavan Sadacharam; Jennifer J. Beck, MD; POSNA QSVI  
David Geffen School of Medicine at UCLA, Los Angeles, CA, U.S.*

**ePoster 94 ★****Optimizing Intraoperative Irradiation Levels for Paediatric Orthopaedics Surgeries: Radiation Doses Does Matter**

Mohamed Laroussi Toumia; Stephanie Pannier, MD, PhD; Alina Badina; Bouchra Habib Geryes Necker University Hospital, APHP, Paris, France

**ePoster 95****POSNA Safe Surgery Program (PSSP): First-Year Results for Entire POSNA Membership**

Kali Tileston, MD; Michael G. Vitale, MD, MPH; Robert Hyun Cho, MD; Verena M. Schreiber, MD; Henry Bone Ellis, MD; Henry J. Iwinski, MD; Zachary Stinson, MD; Bryan Tompkins, MD; Kevin G. Shea, MD  
Stanford University, Palo Alto, CA, U.S.

**ePoster 96****Safety Profile Following Tibial Tubercle Osteotomy for Adolescents in an Ambulatory Surgery Center**

Garrett Sohn; Nolan Daniel Hawkins; Caroline Podvin; Madison Brenner; Savannah Cooper; Benjamin Johnson; Charles Wyatt, NP; Henry Bone Ellis, MD; Philip Wilson, MD  
Scottish Rite for Children, Dallas, TX, U.S.

**ePoster 97****The Importance of Surgeon Dashboarding for Comparative Quality and Safety Outcomes When Adopting Robotics in Practice**

Alexa Bosco; Nicole Welch; Maty Petcharaporn; Michelle Marks, PT, MA; Shanika De Silva; Daniel Hedequist, MD  
Boston Children's Hospital, Boston, MA, U.S.

**ePoster 98 ★****Utilizing Neural Networks for Ultrasound Evaluation of Developmental Dysplasia of the Hip**

Hsuan Kai Kao, MD; Wei-Chun Lee, MD, PhD; Szu-Yao Wang; Wen-E Yang, MD; Chia-Hsieh Chang, MD, PhD  
Chang Gung Memorial Hospital, Taoyuan, Taiwan

★ Nominated for Best ePoster

## SPINE

**ePoster 99****2-Year Follow Up from a Prospective Study on a Posterior Dynamic Distraction Device for Adolescent Idiopathic Scoliosis**

Kevin M. Neal, MD; Ron El-Hawary, MD, MSc; Gilbert Chan, MD; Geoffrey F. Haft, MD; Timothy S. Oswald, MD; A. Noelle Larson, MD; Ryan Fitzgerald, MD; Alvin C. Jones, MD, MS; Baron S. Lonner, MD; Todd A. Milbrandt, MD; Christina K. Hardesty, MD; John T. Anderson, MD; Michael C. Albert, MD; Nigel J. Price, MD  
Nemours Children's Health, Jacksonville, FL, U.S.

**ePoster 100****A Comparison of Intrathecal Morphine Injection vs. IV Methadone for Pain Control for Posterior Spinal Fusion in Adolescent Idiopathic Scoliosis**

Devan Kumar; Rohini Mahajan Vanodia; Surya Mundluru, MD; Lindsay Michele Crawford, MD; Shiraz A. Younas, MD; Timothy C. Borden, MD  
University of Texas Health Science Center at Houston, Houston, TX, U.S.

**ePoster 101****A Comparison of Two Central Sacral Vertical Line Methods and Their Effect on Curve Correction**

Varun Ravi; Adam A. Jamnik; Alexander Turner; Emeka N. Andrews; Yves Kenfack; David C. Thornberg; Jaysson T. Brooks, MD  
Scottish Rite for Children, Dallas, TX, U.S.

**ePoster 102****Accuracy and Safety of 3D-Printed Patient-Specific Pedicle Screw Insertion Technique in Complex Spine Deformity Correction; Analysis of 60 Patients Performed at a Large Academic Center**

Assem Sultan; Omolola Priscilla Fakunle; Mustafa Mahmood; Conner J. Paez; Ahmed K. Emara; Dimitri Joseph Mabarak; Thomas Kuivila; Ryan C. Goodwin, MD  
Cleveland Clinic Foundation, Cleveland, OH, U.S.

## ePoster 103

### An Efficient, Steady, Or Dual-Surgeon Allows for the Best Outcomes?

Vishal Sarwahi, MBBS, MS; Katherine Eigo; Alex Kwong Juen Ngan; Sarah M. Trent; Sayyida Hasan; Brian Li; Yungtai Lo; Terry D. Amaral, MD  
Northwell Health, New Hyde Park, NY, U.S.

## ePoster 104

### Analysis of 5,525 Consecutive Pedicle Screws Placed Utilizing Robotically-Assisted Surgical Navigation: Surgical Safety and Early Complications

Roger F. Widmann, MD; Jenna L. Wisch; Colson Zucker; Olivia Christina Tracey; Tyler Feddema; Florian Miller; Gabriel S. Linden; Mark A. Erickson, MD; Jessica H. Heyer, MD  
Hospital for Special Surgery, New York, NY, U.S.

## ePoster 105

### Comparison of Perioperative Complication Rates in Congenital Scoliosis Patients with Tethered Cord

Andrea Munoz; Leila Mehraban Alvandi, PhD; Edina Gjonbalaj; Allyn Morris; Pediatric Spine Study Group; Paul D. Sponseller, MD, MBA; Richard Anderson; Jaime A. Gomez, MD  
Montefiore Medical Center, Bronx, NY, U.S.

## ePoster 106

### Complexities of Orthopedic Epidemic: Adolescent Back Pain

Heather M. Richard, PsyD; Gerrit Franko; Kirsten Tulchin-Francis, PhD  
Nationwide Children's Hospital, Columbus, OH, U.S.

## ePoster 107

### Development of Pelvic Incidence, Sacral Slope and Pelvic Tilt and the Effect of age, Sex, and BMI: An Automated 3D-CT Study of 10,969 Children and Adolescents

Eduardo Novais, MD; Mohammadreza Movahhedi; Munif Hatem; Mallika Singh; Shanika De Silva; Nazgol Tavabi; Grant Douglas Hogue, MD; Young Jo Kim, MD; Sarah D. Bixby; Ata M. Kiapour, PhD, MMSc  
Boston Children's Hospital, Boston, MA, U.S.

## ePoster 108 ★

### Differences in Spine Growth Potential for Sanders Maturation Stages 7A and 7B Have Implications for Treatment of Idiopathic Scoliosis

Yusuke Hori; Burak Kaymaz; Luiz Carlos Almeida Da Silva; Kenneth Rogers, PhD, ATC; Petya Yorgova; Peter G. Gabos, MD; Suken A. Shah, MD  
Nemours Children's Hospital, Wilmington, DE, U.S.

## ePoster 109

### Do Neuromuscular Early-Onset Scoliosis Patients with Rib-on-Pelvis Deformity Have Decreased Reported Pain after Surgery?

Vineet Desai; Margaret Bowen; Jason Anari, MD; John "Jack" M. Flynn, MD; Jaysson T. Brooks, MD; Brian D. Snyder, MD; Brandon A. Ramo, MD; Jason Howard, MD; Ying Li, MD; Lindsay Andras, MD; Walter Lam Huu Truong, MD; Ryan Fitzgerald, MD; Ron El-Hawary, MD, MSc; Benjamin D. Roye, MD; Burt Yaszay, MD; Kenny Kwan; Amy McIntosh, MD; Susan Nelson, MD, MPH; Patrick John Cahill, MD; Pediatric Spine Study Group  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.

## ePoster 110

### Do Parents and Patients with Early Onset Scoliosis (EOS) Share the Same Perspective On Health-Related Quality of Life? A Comparison of EOSQ-24 and SRS-22 Scores

Rachel Gottlieb; John T. Smith, MD; Firoz Miyanji, MD, FRCSC; Juan Carlos Rodriguez; Ron El-Hawary, MD, MSc; Ying Li, MD; Pediatric Spine Study Group  
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★ Nominated for Best ePoster



**ePoster 111 ★**

**Early Tether Rupture Prior to 2-Years Compromises Growth Modulation by Failing to Impede Convex Growth**

*Ambika Paulson; V. Salil Upasani, MD; Jennifer Hurry; Hui Nian; Christine L. Farnsworth, MS; Peter O. Newton, MD; Stefan Parent, MD, PhD; Pediatric Spine Study Group; Ron El-Hawary, MD, MSc; Craig R. Louer, MD  
Vanderbilt University Medical Center, Nashville, TN, U.S.*

**ePoster 112**

**Effectiveness of a Subcutaneous Bupivacaine Catheter for Pain Control and Opioid Reduction in Pediatric Spine Fusion Surgery: A Retrospective Cohort Study**

*Joshua Acebo; Kenzo Cotton; Emma Wiest; Jordan M. Walters; Eric Siegel; Richard E. McCarthy, MD; David Bumpass, MD  
Arkansas Children's Hospital, Little Rock, AR, U.S.*

**ePoster 113 ★**

**Have We Improved Anterior Vertebral Body Tethering Outcomes Over Time? An Examination of Survivorship Trends**

*Joshua Carroll Tadlock, MD; Peter O. Newton, MD; Tracey P. Bastrom, MA; Stefan Parent, MD, PhD; Firoz Miyanji, MD, FRCSC; Harms Study Group  
Rady Children's Hospital, San Diego, San Diego, CA, U.S.*

**ePoster 114**

**Hip Pain After Spinopelvic Fixation with Sacral Alar Iliac Screws in Pediatric Neuromuscular Scoliosis**

*Pochih Shen; Mark A. Erickson, MD; Nancy Hadley Miller, MD  
Children's Hospital Colorado, Denver, CO, U.S.*

**ePoster 116**

**Impact of Comorbidities on Mortality in Neuromuscular Patients with Early Onset Scoliosis**

*Hiroko Matsumoto, PhD; Bhavana Gunda; Taylor-Marie Adams; Sydney Lee; Maria Fernanda Canizares; John T. Smith, MD; Paul D. Sponseller, MD, MBA; Mark A. Erickson, MD; Brian D. Snyder, MD; Pediatric Spine Study Group  
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**ePoster 116 ★**

**Intraoperative Neuromonitoring Events During Spinal Fusion for Scoliosis: A Case Series**

*John F. Lovejoy, MD; Mark Lewis; Shane Saifman; Jonathan Daniel Schwartzman; Alec Stall, MD  
Nemours Children's Health, Orlando, FL, U.S.*

**ePoster 117 ★**

**Is a BraIST for One, a BraIST for All? Evaluating the Effect of the BraIST Trial on Spinal Fusion Rates Across Race and Insurance Status**

*Anthony Catanzano, MD; Tristan Chari; John Atwater; Emily Poehlein; Cindy Green  
Duke University, Durham, NC, U.S.*

**ePoster 118**

**Lowest Instrumented Vertebra (LIV) Selection in Thoracic Adolescent Idiopathic Scoliosis (AIS): LIV Selection Drawn for Cotrel-Dubouset Original Technique Including Sagittal Disc Mobility**

*Benjamin Salle; Benoit De Courtivron; Francois Bergerault, MD; Marc-Florent Tassi; Thierry Odent  
CHU Tours Hopital Clocheville, Tours, France*

**ePoster 119 ★**

**Lowest Instrumented Vertebra in Treatment of Adolescent Idiopathic Scoliosis is Not Correlated with PROMIS Scores**

*Katherine Sborov; Mansi Agarwal; De-An Zhang; Robert Hyun Cho, MD; Cynthia Nguyen, MD; Selina Poon, MD  
Shriners Children's™ Southern California, Pasadena, CA, U.S.*

★ Nominated for Best ePoster

## ePoster 120

### Medical Issues Complicate 90 Day Return to the ED following Spinal Deformity Surgery

Vishal Sarwahi, MBBS, MS; Sayyida Hasan; Keshin Visahan; Victor Koltenyuk; Katherine Eigo; Aravind Patil; Terry D. Amaral, MD  
Northwell Health, New Hyde Park, NY, U.S.

## ePoster 121 ★

### MRI Results in Patients Undergoing Surgery for Adolescent Idiopathic Scoliosis: Neural Axis Abnormalities and Neurosurgical Interventions

Mark Lewis; Kevin M. Neal, MD  
Nemours Children's Health, Jacksonville, FL, U.S.

## ePoster 122

### Multi-Disciplinary Perioperative Pathway for Neuromuscular Scoliosis Patients

Bryce Pember; Lorena Floccari, MD; Richard Steiner; Matt Holloway; Todd F. Ritzman, MD  
Akron Children's Hospital, Akron, OH, U.S.

## ePoster 123

### Novel Surface Topographic Assessment of Lung Volume in Pediatric Spinal Deformity Patients

Jessica H. Heyer, MD; Jenna L. Wisch; Kiranpreet Nagra; Ankush Thakur; Howard Hillstrom; Benjamin Groisser; Colson Zucker; Matthew Cunningham; Michael T. Hresko, MD; Ram Haddas; John S. Blanco, MD; Mary F. Di Maio; Roger F. Widmann, MD; HSS Spinal Alignment Registry  
Hospital for Special Surgery, New York, NY, U.S.

## ePoster 124

### Pelvic Asymmetry in Myelomeningocele Associated with Scoliosis

Michael Benvenuti, MD; Lawrence I. Karlin, MD  
Boston Children's Hospital, Boston, MA, U.S.

## ePoster 125

### Peri-Operative Outcomes of Posterior Dynamic Deformity Device Compared to Vertebral Body Tethering for Adolescent Idiopathic Scoliosis

Julia Todderud; A. Noelle Larson, MD; Geoffrey F. Haft, MD; Ron El-Hawary, MD, MSc; John T. Anderson, MD; Ryan Fitzgerald, MD; Timothy S. Oswald, MD; Gilbert Chan, MD; Baron S. Lonner, MD; Michael C. Albert, MD; Daniel G. Hoernschemeyer, MD; Todd A. Milbrandt, MD  
Mayo Clinic, Rochester, MN, U.S.

## ePoster 126

### Plastic Multilayered Closure Reduces Surgical Site Infections in Pediatric Neuromuscular Scoliosis Surgery

Jason Amaral; McKenna C. Noe; Rebecca Schultz; Tristen Taylor; John T. Anderson, MD; Richard M. Schwend, MD; Brian G. Smith, MD  
Baylor College of Medicine, Houston, TX, U.S.

## ePoster 127

### PROMIS and ODI Tools: Clinically Useful Predictors of Abnormal MRIs in Pediatric Back Pain?

Devan James Devkumar; Karina A. Zapata, PT, DPT, PhD; Chan-Hee Jo, PhD; Brandon A. Ramo, MD  
Scottish Rite for Children, Dallas, TX, U.S.

## ePoster 128

### Put a Ring on it! Wedding Band Connectors Have Fewer Complications Than Tandem Connectors in Traditional Growing Rod Constructs

Sydney Lee; Kelsey Mikayla Flowers Zachos; Paul D. Sponseller, MD, MBA; Peter F. Sturm, MD; Matthew E. Oetgen, MD, MBA; John B. Emans, MD; Grant Douglas Hogue, MD; Pediatric Spine Study Group  
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**ePoster 129**

**Radiation-Free Assessment of The 3D Morphology of the Adolescent Scoliotic Spine: A Feasibility Study in Synthetic CT**

Lorenzo Costa; Tijl Van Der Velden; Tom P. Schlosser, MD; Rene Marten Castelein, MD; Peter Seevinck  
University Medical Center Utrecht, Utrecht, Netherlands

**ePoster 130**

**Rigo Cheneau Brace for Adolescent Idiopathic Scoliosis: Higher in Brace Correction and Lower Rates of Curve Progression**

Lisa Bonsignore-Opp; Ritt Givens; Rajiv Iyer; Hiroko Matsumoto, PhD; Nicole Bainton; Benjamin D. Roye, MD; Michael G. Vitale, MD, MPH  
Columbia University, New York, NY, U.S.

**ePoster 131**

**Rigo versus Boston Brace for Treatment of Adolescent Idiopathic Scoliosis**

Qais Zai; Petar Golijanin; Romil Shah; Cortney Matthews; Kirsten Ross, MD; Brian Edward Kaufman, MD  
Dell Medical School at the University of Texas at Austin, Austin, TX, U.S.

**ePoster 132**

**Risk of Proximal Junctional Kyphosis After Revision of Growing Rod Constructs**

Chidebelum Nnake; Alondra Concepción-González; Matan Malka; Simon Blanchard; Ron El-Hawary, MD, MSc; Michael G. Vitale, MD, MPH; Pediatric Spine Study Group; Benjamin D. Roye, MD  
Columbia University Irving Medical Center, New York, NY, U.S.

**ePoster 133**

**Safety and Efficacy of a Novel Technique for Posterior Column Osteotomy in Patients with Adolescent Idiopathic Scoliosis Undergoing Posterior Spinal Fusion**

Alec Christian Stall, MD; Ryan M. Ilgenfritz, MD; Naveed Nabizadeh; Michael Read  
Nemours Children's Health, Orlando, FL, U.S.

**ePoster 134**

**Screening MRI in Congenital EOS: Is it Safe to Delay Advanced Imaging to Decrease Early Anesthesia?**

Evan Mostafa, MD; Leila Mehraban Alvandi, PhD; Edina Gjonbalaj; John B. Emans, MD; Paul D. Sponseller, MD, MBA; Purnendu Gupta, MD; A. Noelle Larson, MD; Pediatric Spine Study Group; Jaime A. Gomez, MD  
Montefiore Medical Center, Bronx, NY, U.S.

**ePoster 135**

**Similar Results with Less Spinal Cord Exposure: Comparison of In Situ Osteotomies with Traditional Ponte Osteotomies in AIS**

Ian Hollyer; Katherine Margaret Krenek; Kali Tileston, MD; Meghan N. Imrie, MD; Lawrence A. Rinsky, MD; Kelly Heavner McFarlane; John Vorhies, MD; RetroPonte  
Stanford University, Palo Alto, CA, U.S.

**ePoster 136**

**The Fate of The Broken Tether: How Do Curves Treated with Vertebral Body Tethering (VBT) Behave After Tether Breakage?**

Tyler A. Tetreault, MD; Tiffany Phan; Tishya A.L. Wren, PhD; Michael J. Heffernan, MD; Michelle C. Welborn, MD; John T. Smith, MD; Ron El-Hawary, MD, MSc; Kenneth MC Cheung, MD; Kenneth David Illingworth, MD; David L. Skaggs, MD; Lindsay Andras, MD; Pediatric Spine Study Group  
Children's Hospital Los Angeles, Los Angeles, CA, U.S.

**ePoster 137**

**The Impact of Operating Room Process versus Team Standardization on Outcomes in Pediatric Spinal Deformity Surgery**

Vishal Sarwahi, MBBS, MS; Katherine Eigo; Sarah M. Trent; Alex Kwong Juen Ngan; Aravind Patil; Brian Li; Yungtai Lo; Terry D. Amaral, MD  
Northwell Health, New Hyde Park, NY, U.S.

**ePoster 138**

**Thoracic Deformity Index Correlates with Poorer Pre-Operative Pulmonary Function Testing in Patients with Adolescent Idiopathic Scoliosis of the Thoracic Spine**

Charles Mechas; Trey William Moberly; Alison Dittmer, MD; Vishwas R. Talwalkar, MD; Ryan D. Muchow, MD; Vincent Prusick, MD University of Kentucky/Shriners Children's™ Lexington, Lexington, KY, U.S.

**ePoster 139**

**Vertebral Body Tethering vs Posterior Spinal Fusion for Lenke 1 AIS: A Single Surgeon Comparison with 2-6 Year Follow-up**

Baron S. Lonner, MD; Ashley Wilczek; Rodnell Busigo Torres; Rami Rajjoub; Mateo Restrepo Mejia; Lily Eaker Mount Sinai Hospital, New York, NY, U.S.

**ePoster 140**

**What Factors Impact Flexibility after Spinal Fusion?**

Vishal Sarwahi, MBBS, MS; Sayyida Hasan; Keshin Visahan; Brittney Moncrieffe; Katherine Eigo; Aravind Patil; Sarah M. Trent; Alex Kwong Juen Ngan; Terry D. Amaral, MD Northwell Health, New Hyde Park, NY, U.S.

SPORTS

**ePoster 141**

**A Cadaveric Study of the Sagittal Patellar Insertion of the Medial Patellofemoral Ligament in Children: Implications for Reconstruction**

Amin Alayleh; Ian Hollyer; Thomas M. Johnstone; Bryan Khoo; Chiamaka Nneka Obilo; Kelly Heavner McFarlane; David Baird; Calvin Chan; Kevin G. Shea, MD Stanford University, Palo Alto, CA, U.S.

**ePoster 142**

**Biomechanical Comparison of Four “Hashtag” Suture Patterns for Repair of Lateral Meniscus Radial Tears**

Kelly Heavner McFarlane; David Baird; Thomas Michael Johnstone; Amin Alayleh; Chiamaka Nneka Obilo; Bryan Khoo; Christian Wright; Vanessa Taylor; Ian Hollyer; Calvin Chan; Marc Tompkins; Henry Bone Ellis, MD; Theodore J. Ganley, MD; Yi-Meng Yen, MD; Seth Sherman; Kevin G. Shea, MD Stanford University, Palo Alto, CA, U.S.

**ePoster 143 ★**

**Different Roads Traveled: Disparities in the Preoperative Timeline Result in Delays to Pediatric Anterior Cruciate Ligament Reconstruction**

Michelle Andreea Nutescu; Samuel I. Rosenberg; Elizabeth Merritt; Neeraj Patel, MD, MPH Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, U.S.

**ePoster 144**

**Discoid Meniscus with Anterior Instability: Incidence, Presentation, Diagnosis, Treatment, and Outcomes.**

Joseph N. Charla; Emily Ferreri; Leila Mehraban Alvandi, PhD; Edina Gjonbalaj; Jacob Schulz, MD; Eric Fornari, MD; Mauricio Drummond, MD Children's Hospital at Montefiore, Bronx, NY, U.S.

**ePoster 145**

**Factors Associated with Return to Sports in Patients Undergoing ACL Surgery: A 20-Year Analysis at a Tertiary-Care Children's Hospital**

Benton E. Heyworth, MD; James Pruneski; Melissa A. Christino, MD; Mininder S. Kocher, MD, MPH; Dennis Kramer, MD; Lyle J. Micheli, MD; Matthew D. Milewski, MD; Yi-Meng Yen, MD; Nazgol Tavabi; Ata M. Kiapour, PhD, MMSc Boston Children's Hospital, Boston, MA, U.S.

★ Nominated for Best ePoster

**ePoster 146**

**Hamstring Autograft is Associated with Increased Knee Valgus Moment after ACL Reconstruction: A Biomechanical Analysis of Autograft Selection after Anterior Cruciate Ligament Reconstruction**

*Sailesh V. Tummala; Neeraj Vij; Kaycee Glattke; Amber Brennan, DPT; Jenni Winters; Seyed Hadi Salehi; Anikar Chhabra; Heather Menzer, MD; PCH ACL Study Group  
Phoenix Children's Hospital, Phoenix, AZ, U.S.*

**ePoster 147**

**High Frequency of Meniscal Injuries Found in Adolescents with ACL tears**

*John Logan Reynolds; Tim Westbrook; Kyle Boden; Austin V. Stone; Mary Lloyd Ireland; Darren Johnson; Benjamin Wilson, MD  
University of Kentucky, Lexington, KY, U.S.*

**ePoster 148**

**Osteochondritis Dissecans of the Talus: Composite Cancellous Bone and Morselized Allograft Cartilage Grafting Results in Excellent Patient Reported Outcomes and Return to Play**

*Patrick Ojeaga; Nolan Daniel Hawkins; Terrul Ratcliff; Rishi Sinha; Benjamin Johnson; Charles Wyatt, NP; Henry Bone Ellis, MD; Philip Wilson, MD  
Scottish Rite for Children, Dallas, TX, U.S.*

**ePoster 149**

**Predictive Characteristics of Meniscal Tear Locations with Concomitant ACL Injury in Adolescents**

*Savannah Rose Troyer; David R. Howell; Claire Giachino; Hannah Rossing; Amanda Kass; Neeraj Patel, MD, MPH; Jay C. Albright, MD; Curtis Daniel VandenBerg, MD  
University of Colorado, Denver, CO, U.S.*

**ePoster 150**

**Rates of Reoperation and Readmission Following Arthroscopic Pediatric and Adolescent Knee Surgery: Data from the SCORE Patient Registry, 2018-2022.**

*Philip Wilson, MD; Gregory Knell; Robert Yockey; James Joseph McGinley; Philip Austin Serbin; Garrett Sohn; Henry Bone Ellis, MD; SCORE  
Scottish Rite for Children, Frisco, TX, U.S.*

**ePoster 151**

**Surgical Management and Long-Term follow up of Congenital and Obligatory Patellar Dislocation in Children**

*Roy Gigi; Addy S. Brandstetter, MD; Barry Danino, MD; Inbar Lidor; Amit Benady; Dror Ovadia, MD; Moshe Yaniv, MD  
Tel Aviv Sourasky Medical Center – Ichilov Hospital, Tel Aviv, Israel*

**ePoster 152**

**Your Patella Dislocated: Will it Happen Again? An Assessment of MRI Criteria for Recurrent Patella Dislocation After an Initial Event**

*Jason Brenner; Leila Mehraban Alvandi, PhD; Steven Maxwell Henick; Edina Gjonbalaj; Benjamin J. Levy; Jacob Schulz, MD; Eric Fornari, MD; Mauricio Drummond, MD  
Children's Hospital at Montefiore, Bronx, NY, U.S.*

TRAUMA

**ePoster 153**

**"Heat Mapping" of Pediatric and Adolescent Gun Violence in an Urban Center: Is Targeted Intervention One Possible Solution?**

*Emerson Rowe; Abbey Glover; Martin J. Herman, MD  
Drexel University College of Medicine, Philadelphia, PA, U.S.*



## ePoster 154

### A Clinical and Scientific Paradigm Shift: Revisiting Growth After Pediatric Radius Fracture Plating

Rachel Lenhart, MD, PhD; Pille-Riin Värk; Keith D. Baldwin, MD; Christine Goodbody; Jonathan G. Schoenecker, MD, PhD; Apurva S. Shah, MD, MBA  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.

## ePoster 155

### A Prospective Cohort Analysis of Two Nonoperative Treatment Modalities for the Management of Pediatric Type II Supracondylar Humerus Fractures

Mary Sun; Emily Schaeffer, PhD; Vuong Nguyen; Kishore Mulpuri, MBBS, MHSc, FRCSC; Christopher W. Reilly, MD  
BC Children's Hospital, Vancouver, BC, Canada

## ePoster 156

### A Single Retrograde Intramedullary Nail Technique for Treatment of Displaced Proximal Humeral Fractures in Adolescents: Case Series and Review of the Literature

Eri Samara; Nicolas Lutz, MD  
Children's University Hospital of Lausanne, Lausanne, Switzerland

## ePoster 157

### Acetabular "Fleck" Sign: Outcomes of Surgical Repair

Daniel Gaines; Stephanie Chen, MD; Kirsten Tulchin-Francis, PhD; Elizabeth Badowski; Craig Smith; Kevin E. Klingele, MD  
Nationwide Children's Hospital, Columbus, OH, U.S.

## ePoster 158

### Avoiding Trouble with Pediatric Capitellar Fractures: Unusual Fracture Variants, TRASH Lesions, and Treatment Pearls

Soroush Baghdadi, MD; Daniel Yang; Pille-Riin Värk; Keith D. Baldwin, MD; Eliza Buttrick, BA; Apurva S. Shah, MD, MBA  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.

## ePoster 159

### Changes in Femoral Anteversion after Intramedullary Nail for Pediatric Femoral Shaft Fracture: A Multicenter Study

Jae Jung Min; Soon-Sun Kwon; Kibeom Youn; Daehyun Kim; Ki Hyuk Sung, MD; Moon Seok Park  
Seoul National University Bundang Hospital, Seongnam, Republic of Korea

## ePoster 160

### Closed Reduction Techniques Lead to Fewer Complications Than Open Reductions In Treating Minimally and Moderately-Displaced Pediatric Lateral Humeral Condyle Fractures: A Multicenter Study

Abhishek Tippabhatla; Beltran Torres-Izquierdo; Daniel Pereira; Rachel Goldstein, MD; Julia Skye Sanders, MD; Kevin M. Neal, MD; Laura Bellaire, MD; Jaime Rice Denning, MD, MS; Pooya Hosseinzadeh, MD  
Washington University in St. Louis, St. Louis, MO, U.S.

## ePoster 161

### Comminuted Ulna Fractures and Nerve Injuries: An Investigation in Monteggia Dislocations

Jason Amaral; Basel Touban, MD; Rebecca Schultz; Jacob Scioscia; Pablo Coello; Aharon Zvi Gladstein, MD; Scott D. McKay, MD  
Baylor College of Medicine, Houston, TX, U.S.

## ePoster 162

### Diagnosis and Treatment of Lateral to Medial Diagonal Injury of the Elbow in Children: Concomitant Medial Epicondylar and Radial Neck Fractures

Yunan Lu; Federico Canavese, MD; Shunyou Chen  
Fuzhou Second Hospital, Fuzhou, People's Republic of China

**ePoster 163**

**Do Post-Operative Immobilization Protocols and Physical Therapy Impact Return of Elbow Motion Following Pinning of Supracondylar Humerus Type-III Fractures?**

Akbar Nawaz Syed; Pooja Nilesch Balar; Margaret Bowen; J. Todd Lawrence, MD, PhD  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.

**ePoster 164**

**Effect of Serum Vitamin D Levels in Pediatric Fracture Occurrence**

David Liu; Susan T. Mahan, MD, MPH; Taylor-Marie Adams; Hiroko Matsumoto, PhD; Melissa S. Putman; Brian D. Snyder, MD  
Boston Children's Hospital, Boston, MA, U.S.

**ePoster 165**

**Effects of Casting Material on Reduction Maintenance**

Emily Boschert, MD; Catalina Baez, MD; Alexis Clifford; Aaron Jennings; Stephanie Ihnow, MD; Jessica McQuerry, MD  
University of Florida, Gainesville, FL, U.S.

**ePoster 166**

**Elastic Stable Intramedullary Nail (ESIN) Treatment of Pediatric Femoral Shaft Fractures: Fracture Stability Does Not Predict Malunion or Major Complications**

Nandini Patel; Charles T. Mehlman, DO, MPH; Jaime Rice Denning, MD, MS; Wendy Ramalingam, BS, MD  
Cincinnati Children's Hospital Medical Center, Cincinnati, OH, U.S.

**ePoster 167**

**Elastic Stable Intramedullary Nail (ESIN) Treatment of Pediatric Tibial Shaft Fractures: Patients 75 Pounds and Over Have Higher Risk Malunion**

Justin A. Jebackumar; Charles T. Mehlman, DO, MPH; Jaime Rice Denning, MD, MS; Wendy Ramalingam, MD  
Cincinnati Children's Hospital Medical Center, Cincinnati, OH, U.S.

**ePoster 168**

**Enhanced Radiographic Union Score (RUST) of Adolescent Tibia Shaft Fractures Treated with Hexapod Circular External Fixation: A Multicenter Study of 38 Consecutive Cases**

Ahmed Hagag, MD, PhD; Ibrahim Feras Salama; Anirejuoritse Bafor; Kyle Jay Klahs; Dillon Stone; Amr Atef Abdelgawad, MD, MBA; Christopher A. Iobst, MD  
El Paso Children Hospital and Texas Tech Health Science Center, El Paso, TX, U.S.

**ePoster 169**

**Financial Implications Associated with Use of Waterproof Casting Material in Pediatric Patients**

Alexis Clifford; Aaron Jennings; Catalina Baez, MD; Emily Boschert, MD; Stephanie Ihnow, MD; Jessica McQuerry, MD  
University of Florida, Gainesville, FL, U.S.

**ePoster 170 ★**

**Healthcare Utilization Following Closed Reduction and Percutaneous Pinning of Supracondylar Humerus Fractures**

Elizabeth Cinquegrani; Matthew Van Boxtel; Jessica Hanley, MD  
Medical College of Wisconsin, Milwaukee, WI, U.S.

**ePoster 171**

**Implant Selection and Complications in Pediatric Monteggia Fracture Dislocations**

Jason Amaral; Rebecca Schultz; Basel Touban, MD; Pablo Coello; Nihar Pathare; Aharon Zvi Gladstein, MD; Scott D. McKay, MD  
Baylor College of Medicine, Houston, TX, U.S.

**ePoster 172**

**Incidence and Long Term Follow up of Lateral Condyle Fractures**

Mikaela Sullivan; Elizabeth Wellings; Prabin Thapa; A. Noelle Larson, MD; William J. Shaughnessy, MD; Anthony A. Stans, MD; Todd A. Milbrandt, MD  
Mayo Clinic, Rochester, MN, U.S.

★ Nominated for Best ePoster

## ePoster 173

### Interfacility Transfer of Pediatric Supracondylar Elbow Fractures: Transfer by Ambulance Shows No Advantage in Speed of Transfer or Prevention Of Complications

Spencer Richardson; Sarah T. Levey, MD; Joash Rajesh Suryavanshi; Amrit Parihar; Curtis Vrabc; Robert Tyskling; Robert J. Bielski, MD  
Indiana University, Indianapolis, IN, U.S.

## ePoster 174

### Intimate Partner Violence in Teenagers: Why Should the Pediatric Orthopaedic Surgeon Care?

Bharti Khurana; Rose Olson; Jeff Temple; Randall T. Loder, MD  
Riley Children's Hospital, Indianapolis, IN, U.S.

## ePoster 175

### Is Tibial Intramedullary Nail Placement Safe When Placed Across Open Physes

Grant McHorse; K. John Wagner; Matthew D. Ellington, MD; Christopher D. Souder, MD  
Dell Medical School at the University of Texas at Austin, Austin, TX, U.S.

## ePoster 176

### Lateral Overgrowth in Surgically Treated Pediatric Lateral Condyle Fractures

Adele Bloodworth; Shrey Nihalani; Gerald McGwin; Kevin Williams; Michael J. Conklin, MD  
University of Alabama at Birmingham, Birmingham, AL, U.S.

## ePoster 177

### MRI Without Sedation or Anesthesia Can Guide Treatment of Minimally Displaced Pediatric Lateral Humeral Condyle Fractures

Rana Nabil Nouri; Jonas Sterup Bovin; Hilla Matilda Biermann; Kasper Gosvig; Morten Jon Andersen, MD  
Copenhagen University Hospital - Herlev and Gentofte, Copenhagen, Denmark

## ePoster 178

### Nonunions of Surgically-Treated Pediatric Humeral Lateral Condylar Fractures: Risk Factors and Outcomes

Abhishek Tippabhatla; Beltran Torres-Izquierdo; Laura Bellaire, MD; Rachel Goldstein, MD; Julia Skye Sanders, MD; Kevin M. Neal, MD; Jaime Rice Denning, MD, MS; Pooya Hosseinzadeh, MD  
Washington University in St. Louis, St. Louis, MO, U.S.

## ePoster 179

### Novel Radiographic Predictors of Diaphyseal Forearm Fracture Malrotation: A Cadaveric Analysis

Samuel Renfro; Alexander Dan-Fong Li; Kelly Hogan; Andrew Henebry; Mark Katsma, DO; Vanna Rocchi, DO  
Naval Medical Center Portsmouth, Portsmouth, VA, U.S.

## ePoster 180 ★

### Operative versus Nonoperative Treatment of Displaced Proximal Humerus Fractures in Adolescents: Results of a Prospective Multicenter Study

Beltran Torres-Izquierdo; Abhishek Tippabhatla; Keith D. Baldwin, MD; V. Salil Upasani, MD; Julia Skye Sanders, MD; Rachel Goldstein, MD; Jaime Rice Denning, MD, MS; Claire Schaibley; Pooya Hosseinzadeh, MD  
Washington University in St. Louis, St. Louis, MO, U.S.

## ePoster 181

### Opioid Prescription Patterns 30 Days After Pediatric Supracondylar Humerus Fracture Closed Reduction and Percutaneous Pinning

Jack Haglin, MD; David Deckey; Tony Gaidici; Daniel Gaines; Judson W. Karlen, MD; Jessica Davis Burns, MD, MPH  
Phoenix Children's Hospital, Phoenix, AZ, U.S.

## ePoster 182

### Orthopedic Fixation of Skeletally Immature Ankle Fractures in Children and Adolescents Using Bio-Integrative Implants

*Evan McNall; Mark E. Solomon; Joslin Lashay Seidel; Hannah Schneiders; David Lin, MD; ORIF Ankle  
The Pediatric Orthopedic Center, Cedar Knolls, NJ, U.S.*

## ePoster 183

### Pediatric Patients who Sustain Gunshot Wound Related Fractures are at Higher Risk of Developing Addiction and Psychiatric Disorders

*David Momtaz; Rishi Gonuguntla; Mehul Mittal; Beltran Torres-Izquierdo; Pooya Hosseinzadeh, MD  
Washington University in St. Louis, St. Louis, MO, U.S.*

## ePoster 184 ★

### Pediatric Talar Neck Fractures Outcomes and Complications - a 20-Year Review

*Shrey Nihalani; Adele Bloodworth; Michael J. Conklin, MD; Philip Ashley, MD  
University of Alabama at Birmingham, Birmingham, AL, U.S.*

## ePoster 185

### Please Don't X-ray My Healed Fracture! Utility of Repeat Radiographs During Treatment of Pediatric Diaphyseal Clavicle Fractures

*Robert William Gomez; David Jessen; Morgan Storino; Zachary John Lamb; Dustin A. Greenhill, MD  
St. Luke's University Health Network, Bethlehem, PA, U.S.*

## ePoster 186

### Polymer-based Biodegradable Implants Can Be Used Safely Instead of K-wires and Screws in Pediatric Trauma - an Experience of 495 Children and 12 Years

*Marcell Benjamin Varga; Gergo Józsa; Tamás Kassai; Zsófia Krupa  
Manninger Jenő Baleseti Központ, Budapest, Hungary*

## ePoster 187

### Radiographic Predictors of Displacement in Transitional Ankle Fractures: Can We Avoid a CT Scan on All Patients?

*Luke Sang; Alex H. Youn; Katherine E. Bach; Steven M. Garcia; Ishaan Swarup, MD  
UCSF Benioff Children's Hospital, Oakland, CA, U.S.*

## ePoster 188

### Rolling Up the Sleeve: Patient Characteristics and Postoperative Outcomes of Surgically Treated Inferior Pole Patellar Sleeve Fractures

*Vineet Desai; Christopher John DeFrancesco, MD; Joseph Yellin, MD; Brendan Williams, MD  
Children's Hospital of Philadelphia, Philadelphia, PA, U.S.*

## ePoster 189

*Withdrawn*

## ePoster 190

### The Alarming Trends in the Epidemiology and Risk factors of Non-Accidental Fractures in Children

*Soroush Baghdadi, MD; David Momtaz; Beltran Torres-Izquierdo; Daniel Pereira; Mehul Mittal; Rishi Gonuguntla; Pooya Hosseinzadeh, MD  
Washington University in St. Louis, St. Louis, MO, U.S.*

## ePoster 191

### The Effects of Atypical Fracture Morphology on the Need for Open Reduction in Pediatric Supracondylar Humerus Fractures

*Bartu Sarisozen, MD; Cenk Ermutlu; Yücel Bilgin; Saltuk Bugra Güler; Ishak Sayan  
Bursa Uludağ University, Bursa, Turkey*

★ Nominated for Best ePoster

## ePoster 192 ★

### There is No Role for Isolated Closed Reduction in Displaced Proximal Humerus Fractures in Adolescents: Results of a Prospective Multicenter Study

*Beltran Torres-Izquierdo; Abhishek Tippabhatla; Keith D. Baldwin, MD; V. Salil Upasani, MD; Julia Skye Sanders, MD; Rachel Goldstein, MD; Jaime Rice Denning, MD, MS; Claire Schaibley; Pooya Hosseinzadeh, MD*  
Washington University in St. Louis, St. Louis, MO, U.S.

## ePoster 193

### Trampoline-Related Fractures in 1063 Consecutive Children and Adolescents

*Roope Parviainen; Topi Aaretti Laaksonen, MD; Jaakko Sinikumpu; Matti Mikael Ahonen*  
New Children's Hospital, HUS, Helsinki, Finland

## ePoster 194

### Underdiagnosis of Pediatric Lateral Ankle Avulsion Injuries: An Ultrasound Study

*Jacob Jones; Cassidy Schultz; Bobby Van Pelt; Caroline Podvin; Jane Soyeun Chung; Shane Miller; Charles Wyatt, NP; Benjamin Johnson; Henry Bone Ellis, MD; Philip Wilson, MD*  
Scottish Rite for Children, Dallas, TX, U.S.

## ePoster 195

### Understanding the Impact of Family Member Presence during Pediatric Forearm Fracture Reductions in the Emergency Department

*Elizabeth Wacker, MD; Paige Gloster; Wendy Ramalingam, MD*  
Cincinnati Children's Hospital Medical Center, Cincinnati, OH, U.S.

## ePoster 196 ★

### Utility of Follow-Up X-ray in Type 1 Supracondylar Humerus Fracture

*Shrey Nihalani; Adele Bloodworth; Katie Frith; Philip Ashley, MD; Kevin Williams; Michael J. Conklin, MD*  
University of Alabama at Birmingham, Birmingham, AL, U.S.

## ePoster 197

### Who Should See My Child? Differences Between Pediatric and Non-Pediatric Orthopedic Specialists During Treatment of Pediatric Diaphyseal Clavicle Fractures

*Robert William Gomez; Morgan Storino; David Jessen; Zachary John Lamb; Dustin A. Greenhill, MD*  
St. Luke's University Health Network, Bethlehem, PA, U.S.

## AAP YIA WINNERS

## ePoster 198

### Are Elbow Ocds Different for Weightbearing and Throwing Athletes?

*McKenna Noe*

## ePoster 199

### The Pressure Is On: Dorsal versus Volar Univalves for Long Arm Casts

*Remy Zimmerman*



## **POGO: Delivering Orthopaedic Care after Disasters or in Austere Environments – Challenges and Needs**

**95 Minutes**

*Chairs: Elhanan Bar-On, MD, MPH; Corey Gill, MD; Ignacio Sanpera, Sr.; and Christopher Souder, MD*

This year's Pediatric Orthopaedic Global Outreach Symposium focuses on the practice of orthopaedics in austere environments resulting from conflict, natural disaster, or lack of resources. A variety of experts will discuss their experiences in three regions around the globe: Ukraine, Haiti, and Sub-Saharan Africa. This will be followed by a panel discussion highlighting the perspectives of surgeons with experience working in under-resourced environments. The program will conclude with an introduction of POGO scholars and presentation of their research projects.

### **Introduction**

*Corey Gill, MD*

### **Orthopaedics in Haiti: Challenges and Opportunities in a War Zone (POSNA Member Perspective)**

*Scott Nelson, MD*

### **Orthopaedics in Haiti: Challenges and Opportunities in a War Zone (Local Perspective)**

*Archelus Isaac, MD*

### **Treating and Training Pediatric Orthopaedics in Sub Saharan Africa - Challenges and Solutions (EPOS Member Perspective)**

*Elhanan Bar-On, MD, MPH*

### **Treating and Training Pediatric Orthopaedics in Sub Saharan Africa - Challenges and Solutions (Local Perspective)**

*Mesfin Kassahun, MD*

### **Pediatric War Injuries: A Review of Our Experience**

*Anatolii F. Levytskyi, MD*

### **Panel Discussion**

*Corey Gill, MD; Archelus Isaac, MD; Elhanan Bar-On, MD, MPH; Mesfin Kassahun, MD; and Valentyn Rogozynskiy, MD*

### **Introduction of POGO Scholars**

*Alvin Su, MD*

### **Developing Screening Guidelines for DDH and CP Hip Displacement in India**

*Alaric Aroojis, MS (Ortho), D'Ortho, DNB (Ortho)*

### **Cast Wedges in Pediatric Fractures**

*Andres Ferreyra, MD*

### **Results of Hemiepiphysiodesis for Genu Valgum Using PET Screws**

*Taral Nagda, MD*

### **Management Outcomes of Congenital Pseudarthrosis of the Tibia at a National Orthopaedic Hospital in Nigeria**

*Emeka Izuagba, MD*

### **Does Prophylactic Pinning Affect the Proximal Femur Morphology in Slipped Capital Femoral Epiphysis?**

*Venkatadass Krishnamoorthy, MD*

## **POPS: The Scoliosis Patient Experience**

**85 Minutes**

*Chairs: Katie Carpenter, APRN and Nicole Tweedy, APRN*

This symposium hopes to educate attendees regarding the path of the adolescent idiopathic scoliosis patient as they navigate throughout the practice. We outline the popular topics that families come into clinic talking about, as well as how to approach discussion of the latest surgical treatments. Surgical efficiency and safety updates will then be highlighted, and lastly, we will discuss how providers and surgeons can work to develop their own pathways for enhanced recovery.

### **Introduction**

*Katie Carpenter, APRN*

### **Clinic Appointment for Mild/Moderator AIS: Non-operative Treatment Options**

*K. Aaron Shaw, DO, FAAOS*

### **Effective Communication Strategies for Discussion About Bracing and Surgery**

*Whitney Herge, PhD*

### **Time for Surgery: What are My Options for AIS Discussion?**

*John T. Anderson, MD and Daniel Hoernschemeyer, MD*

### **Heading to the OR: Surgical Efficiency and Safety Practices**

*Patrick Cahill, MD*

### **Time to Recover: Developing an ERAS Pathway for your Facility**

*Nicole Tweedy, APRN*

### **Importance of APRN in Spine Practice**

*Anne Stuedemann, APRN*

## Multi-Center Research from Both Sides of the Atlantic

**90 Minutes**

*Chairs: Jennifer Laine, MD; A. Noelle Larson, MD; and Christian Wong, MD, PhD*

Multicenter, collaborative research is essential to advance pediatric musculoskeletal health. This combined EPOS/POSNA virtual symposium features leaders of key multicenter studies and study groups from both sides of the Atlantic. These clinical research leaders will highlight updates from their current prospective work and discuss the challenges of running multicenter studies. They will inform approaches to study methodology and infrastructure, as well as look ahead to the potential of future international collaboration and research translation. Individual presentations will be followed by a roundtable with both the EPOS and POSNA Research Committees.

### Introduction

*Jennifer Laine, MD*

### Pediatric Orthopedic RCTs in the UK

*Daniel Perry, FRCS (ORTH)*

### Lessons learned from Global Hip Dysplasia Study Group

*Kishore Mulpuri, MBBS, MHSc, FRCSC*

### Update on Orthopaedic and Trauma Research

*César García Fontecha, MD, PhD*

### Pediatric Spine Study Group

*Tricia St. Hilaire, MPH*

### What's New in Research for Neuromuscular Patients

*Elke Viehweger, Prof. MD, PhD*

### Pediatric Research in Sports Medicine

*Mathew Milewski, MD*

### Roundtable and Q&A

*Jennifer Laine, MD; A. Noelle Larson, MD; and Christian Wong, MD, PhD*

### Wrap-Up

*Christian Wong, MD, PhD*

## Pediatric Trauma Over the “Borders” of the Atlantic

**75 Minutes**

*Chairs: Abby Howenstein, MD; Nicolas Lutz, MD; Sara Van Nortwick, MD; and Melinda Witbreuk, MD, PhD*

This symposium discusses the management of various pediatric trauma situations and fractures from both sides of the Atlantic. The focus is on the “tweener” group and injuries where decision making can be challenging.

### Introduction

*Sara Van Nortwick, MD*

### Teen Proximal Humerus Fracture Conservative: Are There Borders?

*Jessica McQuerry, MD and Federico Canavese, MD*

### Teen Supracondylar Fracture: The Border Where to Pin

*Abby Howenstein and Morten Jon Andersen, MD*

### Femoral Neck Fracture: When to Cross the Border (Growth Plate)

*Kristen Nathe, MD and Marta Salom, MD, PhD*

### Tibia Shaft Fractures: When Is It Appropriate to Rigid Nail?

*Karen Bovid, MD and Wouter Nijhuis, MD*

### Humerus Lateral Condyle Fractures: US/MRI/Arthrogram - Is It Different Over the Border?

*John Vorhies, MD and Ignacio Sanpera, Sr.*

### Complex Hip Dislocations Without Borders

*Patrick Bosch, MD and Cristina Alves, MD, MSc, FEBOT*

### Pelvic Fractures: What's the Border to Operate?

*Sara Van Nortwick, MD and Salih Marangoz, MD, FEBOT*

# 2023 RESEARCH GRANT WINNERS

## ANGELA S.M. KUO MEMORIAL AWARD

**Eric Fornari, MD — \$50,000**

*Psychological Assessment of Scoliosis Patients Undergoing Surgery (PASS)*  
Albert Einstein College of Medicine, Bronx, New York

## ARTHUR H. HUENE MEMORIAL AWARD

**Woody Sankar, MD — \$30,000**

*Contrast-Enhanced Ultrasound to Evaluate Femoral Head Perfusion in DDH*  
The Children's Hospital of Philadelphia, Philadelphia, PA

## ST. GILES YOUNG INVESTIGATOR AWARD

**Michael Patrick McClincy, MD — \$30,000**

*Evaluation of Capsular Impact on Hip Biomechanics Under Physiologic Loading*  
Gillette Children's-Minneapolis

## POSNA RESEARCH GRANTS (3)

**Allen Kadado, MD — \$30,000**

*Sensitivity, Specificity, and Accuracy of Dynamic Spinal Cord Mapping*  
The Research Institute at Nationwide Children's Hospital, Columbus, Ohio

**Richard Schwend, MD — \$30,000**

*Why Do Patients with SCFE Have Increased Mortality and Morbidity?*  
The Children's Mercy Hospital, Kansas City, Missouri

**Alexandre Arkader, MD — \$30,000**

*Genetic Profiling in Multiple Hereditary Exostosis*  
The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania

## POSNA RESEARCH START-UP GRANT

**Daniel Gregory, MD — \$10,000**

*Wearable Sensors for Gait Surveillance in Children with Cerebral Palsy*  
Shriners Hospitals for Children, Boston, Massachusetts

## POSNA REGISTRY GRANT (3-YEAR GRANT - YEAR 2 OF 3)

**Anthony Philip Cooper, FRCS, MBChB — \$148,900 total (Year 1 \$49,600)**

*International Limb Differences Registry*  
University of British Columbia, Vancouver, BC, Canada



## CLINICAL TRIAL PLANNING GRANT

**Mohan Belthur, MD — \$30,000**

*Screw Vs. K-wire Fixation for Pediatric Lateral Condyle Fractures: a RCT*  
Phoenix Children's Hospital, Phoenix, Arizona

## ROSHEN N. IRANI RESEARCH GRANT

**Rachel Thompson, MD — \$20,000**

*The Role of Social Determinants in Return-to-Activity Following Fractures*  
The Regents of the University of California, Los Angeles, California

## ROSHEN N. IRANI RESEARCH TRAINING GRANTS (2)

**Madeleine Jackson, MD — \$10,000**

*Relationship of Perigenicular Ligaments and the Physeal Perichondral Ring*  
The Regents of the University of California, San Diego, California

**Taylor R. Johnson, MD — \$10,000**

*SET Screws: A Novel Approach to Anterior Spinal Growth Modulation*  
The Board of Trustees of the Leland Stanford Junior University, Palo Alto, California

## POSNA QSVI GRANTS (2)

**Maryse Bouchard, MD, MSc, FRCSC — \$12,998.14**

*Improving Regional Anesthesia for Foot Surgery in Children with CMT*  
The Hospital for Sick Children, Toronto, Ontario, Canada

**Jason B. Malone, DO — \$14,992**

*The Utilization of Ultrasound to Diagnose Pediatric Elbow Fractures*  
Nemours Children's Hospital, Orlando, Florida

# 2023 SPRING MICRO GRANT WINNERS

**Joshua Abzug, MD — \$1,000 (Funded by CurveBeam AI)**

*Using a Music Glove as a Tool for Hand Rehabilitation*

University of Maryland School of Medicine, Baltimore, Maryland

**Maryse Bouchard, MD, MSc, FRCSC — \$1,000 (Funded by Miach Orthopaedics)**

*Exposure to Community Pediatric Orthopaedics in Canadian Residency Training*

The Hospital for Sick Children, Toronto, Canada

**Lindsay Crawford, MD — \$1,000 (Funded by PediTST)**

*Effect of Sleep in Adolescents on Bone Healing Evaluated by Range of Motion*

The University of Texas Health Science Center at Houston, Houston, Texas

**Ryan Katchky, MD — \$1,000 (Funded by PediTST)**

*Developing an Outpatient Surgical Pathway for Paediatric Orthopaedic Trauma*

The University of Western Ontario, Ontario, Canada

**Collin May, MD, MPH — \$998.40**

*Posttraumatic Stress after Limb Lengthening/Deformity Correction Surgery*

Boston Children's Hospital, Boston, Massachusetts

**Susan A. Novotny, PhD — \$1,000**

*Why Adults with Child-onset Conditions Decline Research Participation?*

Gillette Children's Specialty Healthcare, St. Paul, Minnesota

**Gabrielle Rauls, BS — \$925**

**PI: Sara van Nortwick (POSNA mbr)**

*Radiation Exposure of Pediatric Orthopedic Operating Room Staff*

Medical University of South Carolina, Charleston, South Carolina

**Apurva S. Shah, MD, MBA — \$1,000**

*Functional Outcomes of Upper Limb Differences Registry: CRUS*

The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania

**Margaret Wright, MD — \$1,000**

*"How Do I Get Back on the Field?" ACL Reconstruction Educational Videos*

Nicklaus Children's Hospital, Miami, Florida

# 2023 FALL MICRO GRANT WINNERS

**Varun Arvind, MD, PhD — \$1,000**

*Understanding the Role of Tendon in Neuromuscular Contracture*  
Columbia University Medical Center, New York, New York

**Matthew Dow, MD — \$1,000**

*Comparing Outcomes in Pediatric Flatfoot Reconstructions*  
Medical University of South Carolina, Charleston, South Carolina

**Mininder Kocher, MD, MPH — \$1,000**

*Post-Operative Video Instructions for Paediatric Sports Medicine Patients*  
Boston Children's Hospital, Boston, Massachusetts

**Luis Torres-Gonzalez, MS — \$1,000**

*Intrathecal Baclofen Pump on Outcomes of Spinal Fusion in Cerebral Palsy*  
Gillette Children's Specialty Healthcare, St. Paul, Minnesota

**Arianna Trionfo, MD — \$1,000**

*Validation of a Low-Cost "Pool Noodle" Cast Removal Training Mode*  
Nemours Children's Hospital, Delaware, Wilmington, Delaware

**Shiraz Younas, MD — \$1,000**

*Posterior Spinal Fusion Models in Adolescent Idiopathic Scoliosis Patients*  
McGovern Medical School at the University of Texas Health Sciences Center,  
Houston, Texas

## ALEXION PHARMACEUTICALS

At Alexion, AstraZeneca Rare Disease, we are committed to working with the patient community and health care stakeholders worldwide to address the challenges facing the rare disease community. The work we do is guided by people living with rare and devastating diseases. We are driven to continuously innovate and create meaningful value in all we do to help patients and families fully live their best lives.



## AMES MEDICAL

AMES Medical is dedicated to the manufacturing and sale of porous titanium implants for orthopaedic foot and ankle surgery, the instruments associated with these products, and other biomedical devices. Our products are based on the OsteoSinter® porous titanium material, which is produced by Powder Metallurgy technology.



## BIOCOMPOSITES

At Biocomposites, we are distinct in that our team of specialists is singularly focused on the development of innovative calcium compounds for surgical use. Our innovative products are at the forefront of calcium technology and range from bone grafts to matrices that can be used in the presence of infection. We are proud to be driving improved outcomes across a wide range of clinical applications, in musculoskeletal infection, trauma, spine and sports injuries, for surgeons and patients alike.



## BIORETEC

Bioretec., with nearly 20 years of legacy with absorbable implants, will now present its flagship product, absorbable metal implant RemeOs™ made of unique absorbable RemeOs™ alloy. For better healing, better life.



## BOJIN

Bojin, dedicated in orthopedic products, has independently developed and produced a series of products such as medical electric saw and drill, external fixator, portable X-ray fluoroscopy instrument and fracture treatment instrument.



## BONALIVE BIOMATERIALS INC.

Bonalive is a smart biomaterials company, transforming healthcare at the intersection of biology and technology. With over 30 years of clinical history and 300+ peer-reviewed publications, Bonalive is re-imagining a smarter future for pediatric benign bone tumor surgery.

The logo for Bonalive, featuring the word "bonalive" in a bold, lowercase, black sans-serif font.

## CHILDREN'S HOSPITAL OF ORANGE COUNTY

The Orthopaedic Institute at Children's Hospital of Orange County offers innovative programs and specialized expertise in treating conditions related to the spine, sports medicine, neuromuscular disease, musculoskeletal tumor, hand, foot, and hip. Our industry experts provide a full spectrum of care for disorders of the bones, joints, ligaments, tendons, and muscles. With a strong research focus in neuro-engineering, robotics, exercise physiology, and functional genomics, we are driven to forge discoveries in treatment and rehabilitation.



CHOC is among only 7% of hospitals awarded Magnet designation. CHOC's Orthopaedic Institute is a nationally ranked pediatric program, a truly world-class destination for children's health that strives to improve young lives with a full spectrum of care that upholds their ability to live and play. For more information, visit us at [choc.org/orthopaedics](https://choc.org/orthopaedics).

## CHILDREN'S NATIONAL HOSPITAL

Children's National Hospital, based in Washington, D.C., was established in 1870 to help every child grow up stronger. Today, it is the No. 5 children's hospital in the nation and ranked in all specialties evaluated by *U.S. News & World Report*. Children's National is transforming pediatric medicine for all children. The Children's National Research & Innovation Campus opened in 2021, a first-of-its-kind pediatric hub dedicated to developing new and better ways to care for kids. Children's National has been designated three times in a row as a Magnet® hospital, demonstrating the highest standards of nursing and patient care delivery.



Children's National is home to the Children's National Research Institute and Sheikh Zayed Institute for Pediatric Surgical Innovation. It is recognized for its expertise and innovation in pediatric care and as a strong voice for children through advocacy at the local, regional and national levels.



## CLUBFOOT SOLUTIONS, INC.

The late Dr. Ignacio Ponseti revolutionized the treatment of clubfoot while at the University of Iowa in the 1940s. He developed a non-invasive technique that utilized gentle manipulation and serial casting of the feet to successfully correct clubfoot without major reconstructive surgery.

Today, the Ponseti Method is the international gold standard for clubfoot treatment with a 97% correction rate.

“For children, comfort and ease of use are major issues with clubfoot braces that complicate adherence to the accepted bracing protocol and, ultimately, prevention of relapse.”

–Dr. Jose A. Morcuende, University of Iowa Ponseti Clubfoot Center, 2017

The Iowa Brace was developed at the University of Iowa in 2013 as an extension of Dr. Ponseti’s egalitarian efforts to ensure that children across the world would have access to high quality clubfoot bracing, regardless of their economic or social circumstances. The combination of innovation and humanitarian considerations allow the Iowa Brace to be affordable for all children born with clubfoot. Dr. Ponseti’s legacy lives on through Ponseti International Association and Clubfoot Solutions. The two organizations are working together to help free the world of untreated clubfoot deformity. Clubfoot Solutions, Inc., is a 501(c)(3) non-profit Iowa-based organization.



## CURE INTERNATIONAL

CURE International is a global nonprofit network of children’s hospitals providing surgical care in a compassionate, gospel-centered environment.



## DEPUY SYNTHES

DePuy Synthes, part of the Johnson & Johnson Medical Devices Companies, provides one of the most comprehensive orthopaedics portfolios in the world.

DePuy Synthes solutions, in specialties including joint reconstruction, trauma, craniomaxillofacial, spinal surgery

and sports medicine, are designed to advance patient care while delivering clinical and economic value to health care systems worldwide. For more information, visit [www.depuysynthes.com](http://www.depuysynthes.com).



## ELSEVIER

Elsevier is a world-leading provider of information solutions that enhance the performance of science, health, and technology professionals, empowering them to make better decisions, and deliver better care.



# EXHIBITOR LISTING

## ESSITY/AQUACAST LINER

Essity is a leading global hygiene and health company that develops, produces and sells Personal Care and Professional Hygiene products and solutions. Our vision is: Dedicated to improving well-being through leading hygiene and health solutions. Hygiene and health are the essence of well-being. Better hygiene and health are necessities for better lives, and our products and solutions play an essential role in improving well-being. That is why we are called Essity.



## GLOBUS MEDICAL

Globus Medical, Inc. is a leading musculoskeletal technology company based in Audubon, PA. The company was founded in 2003 by an experienced group of engineers and business leaders who believed that significantly better patient outcomes in spine surgery were possible. Today, Globus Medical is committed to creating products that enable surgeons to promote healing in patients with musculoskeletal disorders. At Globus Medical, listening to customers and responding with action is paramount, and the company is relentlessly focused on solving unmet customer and patient needs with world class engineering and technology.



## HOSPITAL FOR SPECIAL SURGERY (HSS)

The Lerner Children's Pavilion Pediatric Orthopaedic Service at Hospital for Special Surgery (HSS) provides comprehensive diagnostic, medical, surgical and rehabilitative care to help children with musculoskeletal disorders improve their quality of life and achieve the highest level of function. Experts in managing complex cases, we routinely perform spinal deformity surgery and revision spinal surgery, limb reconstruction and limb lengthening, ACL reconstruction, fracture care, growth plate injuries, periacetabular osteotomies (PAOs) for severe hip dysplasia, and both operative/non-operative management of children with cerebral palsy. Our team is committed to clinical and surgical excellence, academic productivity and care for the underserved. The Lerner Children's Pavilion Pediatric Orthopedic Service was ranked Best Children's Hospital for Orthopaedics in New York, New Jersey, and Connecticut for 2023-24.



## I'M A HIPPY

I'm A HIPpy is a Vancouver born and led grassroots organization that advocates for children's hip health around the globe. By supporting research, innovation, and education initiatives, we aim to raise awareness for, and improve the care and outcomes for children with Hip Dysplasia and other hip disorders. Our heartbeat is the dedicated work of The HIPpy Lab, led by Dr. Kishore Mulpuri and his exceptional team at BC Children's Hospital and the University of British Columbia. But it doesn't stop there. We are committed to supporting global initiatives as long as they champion children's hip health, and impact the lives of children and their families wherever they are in the world, and regardless of their socioeconomic means. I'm A HIPpy is driven by our focused mission to improve hip health, mobility, and quality of life in children with Hip Dysplasia and other hip disorders, globally.



## IMPACCT

The Infrastructure for Musculoskeletal Pediatric Acute Care Trials (IMPACCT) is a research consortium of researchers from hospitals across the United States and Canada with collaborators in the United Kingdom that aims to improve the quality of research in pediatric orthopaedic surgery by conducting randomized clinical trials. Stop by to find out more about IMPACCT's current trials – COMET (Cast or Operation for Medial Epicondyle fracture Treatment in children) and DRIFT (Distal Radius Interventions for Fracture Treatment). Learn about planned future trials and our next conference.



## IMPLANET AMERICA, INC.

Implanet provides novel solutions to complex spinal pathologies: the JAZZ™ Band polyester band fixation system and now Olea™, the latest innovation in Ultrasonic Bone Scalpel technology.



## INION

Inion is a medical device company based in Finland that designs and manufactures innovative and safe bioabsorbable and bioactive surgical implants. Our orthopaedic product line includes bioabsorbable fixation products for small bone trauma in lower and upper extremities. We have a wide product portfolio of bioabsorbable screws, pins and plates. Approximately one million of our implants have been used in over 300,000 surgical operations.



## KIDDFOOT CLUBFOOT SOLUTIONS

KiddFoot is proud to support the Ponseti method and to have developed, alongside C-Pro Direct, the broadest range of clubfoot braces and accessories available anywhere in the world. KiddFoot believes passionately that every child affected by Clubfoot deserves the best possible treatment and bracing options.



## KIDS ENABLING TECHNOLOGIES – PART OF THE ORTHOPEDIATRICS FAMILY OF COMPANIES

Founded in 2006, OrthoPediatrics is an orthopedic company focused exclusively on advancing the field of pediatric orthopedics. As such, it has developed the most comprehensive product offering to the pediatric orthopedic market to improve the lives of children with orthopedic conditions. OrthoPediatrics currently markets 70 products that serve three of the largest categories within the pediatric orthopedic market. This product offering spans trauma and deformity, scoliosis, and sports medicine/other procedures. OrthoPediatrics' global sales organization is focused exclusively on pediatric orthopedics and distributes its products in the United States and over 70 countries outside the United States. For more information, please visit [www.orthopediatrics.com](http://www.orthopediatrics.com).



# EXHIBITOR LISTING

## MEDICALEX

Medicalex, created in 1967, are French and in family companies. We are specialized in the design, the manufacture and the trade of orthopaedic implants but also of various surgical materials.

We can study any request concerning specific products, our manufacturing unit allow us to manufacture custom made devices and new products.



## MEDTRONIC

Bold thinking. Bolder actions. We are Medtronic. We lead global healthcare technology and boldly attack the most challenging health problems facing humanity by searching out and finding solutions. Our Mission — to alleviate pain, restore health, and extend life — unites a global team of 95,000+ passionate people. Powered by our diverse knowledge, insatiable curiosity, and desire to help all those who need it, we deliver innovative technologies that transform the lives of two people every second, every hour, every day. Expect more from us as we empower insight-driven care, experiences that put people first, and better outcomes for our world. In everything we do, we are engineering the extraordinary. Learn more at [www.medtronic.com](http://www.medtronic.com).



# Medtronic

## MERETE TECHNOLOGIES, INC.

Merete demonstrates a passion for solutions. Our stated aim is to discover and react to market demands at any time. As a manufacturer, the health and the mobility of the patient is top priority. Our latest innovation for simpler and faster guided growth and growth arrest is PediatrOS FlexTack™ and RigidTack™. These novel staples work on the same tension-band principle of a plate to correct leg length discrepancies and angular deformities. Furthermore, Merete's PediatrOS staples offer a safer and more effective alternative for your patients. [www.MereteUSA.com](http://www.MereteUSA.com).



## MHE RESEARCH FOUNDATION

The MHE Research Foundation is a nonprofit 501(c) (3) organization dedicated to the support of Researchers, Physicians & Families dealing with Multiple Hereditary Exostoses Syndrome (MHE) Multiple Osteochondroma Syndrome (MO), a rare genetic bone disease. The MHE Research Foundation Five-point mission is to REACH, advance and support the following.

**RESEARCH:** to assist and support researchers in order to one day discover a treatment / cure for MHE. Our foundation works hand in hand with researchers and physicians from around the world in this mission.

**EDUCATION:** to provide vital clinical informational guides & accompanying video benefiting both families and physicians.

**ADVOCACY:** bring awareness about this disease throughout the world.

**CLINICAL:** to provide resources directly to families enabling them to locate the medical care they require.

**HOPE:** the research being conducted on MHE/MO/HME & the informational resources will bring a better quality of life to the families affected by this disease around the world.



## MIACH ORTHOPAEDICS

Miach Orthopaedics is leading a shift in the treatment of anterior cruciate ligament tears from reconstruction to restoration. The company's Bridge-Enhanced ACL Restoration (BEAR) Implant is the first medical technology to demonstrate with Level 1 clinical evidence that it enables the body to heal its own torn ACL. The BEAR Implant is indicated for a broad range of tear types and is implanted with an easy, bone-sparing technique.



## MIRACLEFEET

More than 2 million children under the age of 15 are living with the physical and social consequences of clubfoot. In low- and middle-income countries, children living with untreated clubfoot face incredible hurdles their whole lives. Along with stigma and discrimination, they are also among the least likely to enjoy the benefits of education and healthcare. Even worse, they are prone to higher risks of neglect, poverty, and physical and sexual abuse.

MiracleFeet is a 501(c)3 nonprofit organization on a mission to create universal access to treatment for clubfoot worldwide. We partner with local health workers and organizations to bring the low-cost solution to children who need it today and for generations. Treatment for one child costs only \$500 on average. Since 2010, MiracleFeet has provided Ponseti treatment to 91,620 children born with clubfoot across 401 clinics and 36 countries.



## nVIEW MEDICAL

nView medical is an imaging and navigation company focused on what's best for patients. The nView s1 + true-map navigation™ is a pediatric system specifically designed to provide the fastest 3D imaging at the lowest dose. Did you know that you can get 3D images from just an AP C-arm position? Yes, no-spin and no CT needed! Do you need an all-in-one imaging and navigation platform that is easy to use? Do you need to make accurate intraoperative measurements on orthopedic surgery? The nView s1 + true-map is FDA cleared, has been used in more than 300 surgeries, and is commercially available. Come check us out!



## OHK MEDICAL DEVICES, INC.

OHK Medical Devices, Inc. produces innovative devices for limb surgery. See **HemaClear**® - the ALL-IN-ONE sterile, exsanguination tourniquet that significantly improves patient safety over wide tourniquets, saves time and clutter in the operating theater. No post-operative pain, skin, or nerve injury. No pneumatic pump, hoses, or electrical requirements. Always a dry sterile surgical field.

New - **PrepSleeve**® is a preoperative skin preparation sleeve that provides superior scrubbing and disinfectant coverage to the limb, saves prep & OR time. Can be applied by one person in pre-OP or the patient's room.



## ORTHOFIX

Orthofix is a leading global orthopedics and spine company with a comprehensive portfolio of specialized orthopedic solutions, biologics, innovative spinal hardware, bone growth therapies, and a leading surgical navigation system. Its products are distributed in approximately 68 countries worldwide. The company's pediatric portfolio specifically addresses the most challenging pediatric orthopedic conditions worldwide including bone deformity, trauma, and limb lengthening procedures. The company is headquartered in Lewisville, TX, and has primary offices in Carlsbad, CA, with a focus on spine and biologics product innovation and surgeon education, and Verona, Italy, with an emphasis on product innovation, production, and medical education for orthopedics. The combined company's global R&D, commercial and manufacturing footprint also includes facilities and offices in Irvine, CA; Toronto, Canada; Sunnyvale, CA; Wayne, PA; Olive Branch, MS; Maidenhead, UK; Munich, Germany; Paris, France; and São Paulo, Brazil. To learn more, visit [Orthofix.com](http://Orthofix.com).



## ORTHOPEDIATRICS CORP.

Founded in 2006, OrthoPediatrics is an orthopedic company focused exclusively on advancing the field of pediatric orthopedics. As such, it has developed the most comprehensive product offering to the pediatric orthopedic market to improve the lives of children with orthopedic conditions. OrthoPediatrics currently markets 70 products that serve three of the largest categories within the pediatric orthopedic market. This product offering spans trauma and deformity, scoliosis, and sports medicine/other procedures. OrthoPediatrics' global sales organization is focused exclusively on pediatric orthopedics and distributes its products in the United States and over 70 countries outside the United States. For more information, please visit [www.orthopediatrics.com](http://www.orthopediatrics.com).



## PACIRA BIOSCIENCES, INC.

Pacira BioSciences, Inc. (Nasdaq: PCRX) is committed to providing non-opioid options to as many patients as possible to redefine the role of opioids as rescue therapy only. Pacira has three commercial-stage non-opioid options for treating pain: EXPAREL® (bupivacaine liposome injectable suspension), a long-acting, local analgesic approved for postsurgical pain management; ZILRETTA® (triamcinolone acetone extended-release injectable suspension), an extended-release, intra-articular, injection indicated for the management of osteoarthritis knee pain; and iovera®<sup>®</sup>, a novel, handheld device for delivering immediate, long-acting, drug-free pain control using precise, controlled doses of cold temperature to a targeted nerve. To learn more about Pacira, visit [www.pacira.com](http://www.pacira.com).





## PEDITST

PediTST® is a brand under TST Orthopedics® that specialized in pediatric orthopedic solutions. PediTST assists in the treatment of children with US-patented solutions for trauma & reconstruction and deformity correction. Since 2010, PediTST has pioneered the development of state-of-the-art pediatric solutions. TST and PediTST support academic and educational activities under TST Academy®.



## RADY CHILDREN'S HOSPITAL

Rady Children's Hospital-San Diego is a nonprofit, 511-bed pediatric-care facility dedicated to excellence in care, research and teaching. We are the only hospital in the San Diego, California area dedicated exclusively to pediatric health care and the regions only designated pediatric trauma center. In affiliation with the University of California, San Diego School of Medicine, we are the region's teaching hospital for the next generation of pediatric physicians.

Rady Children's was named by *U.S. News & World Report* to its 2023-2024 Best Children's Hospitals Honor Roll, a distinction awarded to only 10 children's hospitals nationwide. Their Orthopedics & Scoliosis Center is also ranked among the top 10 in the nation by *U.S. News & World Report*. Dedicated to providing the highest quality of comprehensive and personalized care. We are honored to partner with young patients and their families in San Diego and beyond.



## RUBIN INSTITUTE FOR ADVANCED ORTHOPEDICS

The 34th Annual Baltimore Limb Deformity Course will take place August 21-25, 2024. This course is intended for orthopedic surgeons, podiatrists, and allied health professionals who treat lower extremity deformities. No prior experience required. The course features lectures, deformity planning sessions, innovative apps, case presentations from experts, and an internationally renowned faculty. The course will introduce basic and advanced limb reconstruction concepts including limb alignment, limb lengthening, corrective osteotomies, and internal and external fixation. The 2023 course was attended by clinicians from 37 countries and 30 U.S. states.



## SCOTTISH RITE FOR CHILDREN

Scottish Rite for Children is a world-renowned leader in the treatment of pediatric orthopedics, such as scoliosis, clubfoot, hand differences, hip disorders, limb lengthening and reconstruction, sports injuries and fractures, and related arthritic, neurological and learning disorders. Through groundbreaking research and leading-edge education, our experts advance pediatric orthopedic care, serving as the model to emulate for practitioners around the world. *U.S. News & World Report* ranks Scottish Rite for Children No. 4 in the nation for pediatric orthopedic care in collaboration with Children's Medical Center Dallas and UT Southwestern Medical Center. A seven-time recipient of the NRC Health Excellence in Patient Experience Award, Scottish Rite for Children has been giving children back their childhood for more than a century.



## SHRINERS CHILDREN'S™

Shriners Children's is a leader in providing care for orthopedic conditions, burn injuries, spinal cord injuries and other spine disorders, rehabilitation, sports injuries and craniofacial conditions. We also offer specialized services, including orthotics and prosthetics and motion analysis. We strive to provide the care and support our patients need to reach their goals and discover their full potential. All care and services are provided regardless of the families' ability to pay or insurance status.



## SIEMENS-HEALTHINEERS

Multitom Rax - Advancing pediatric imaging through innovation Pediatric healthcare demands specialized expertise and a compassionate approach. That's why Multitom Rax, our Robotic Advanced X-ray system designed for pediatric patients, ensures safe and efficient examinations, customized to meet the unique needs of your diagnostic department. Our commitment to children's well-being is unwavering, and we're here to revolutionize the way pediatric care is delivered.



## STRYKER

Stryker is a global leader in medical technologies and, together with its customers, is driven to make healthcare better. The company offers innovative products and services in MedSurg, Neurotechnology, Orthopaedics and Spine that help improve patient and healthcare outcomes. Alongside its customers around the world, Stryker impacts more than 130 million patients annually. More information is available at [www.stryker.com](http://www.stryker.com).



## TEXAS CHILDREN'S HOSPITAL

Texas Children's Hospital Orthopedics cares for children across Houston, Texas and beyond with more than 30 Pediatric Orthopedic Surgeons and Advanced Practice Providers. We have a dominant presence in the southeastern United States and a well-established international patient program. Our practice is continuing to expand with recruitment, program development and many other projects reengineering orthopedics at Texas Children's Hospital.



## UNFO MED LTD.

UNFO Med Ltd. stands at the forefront of pediatric orthopedic innovation, dedicated to transforming early childhood healthcare. Our mission is to revolutionize treatment methodologies, focusing on innovative solutions for prevalent orthopedic conditions in infants and children, such as **Metatarsus Adductus**. The Universal Neonatal Foot Orthotics (UNFO) system, a groundbreaking short foot orthotic device worn below the ankle, was developed in collaboration with esteemed medical experts, including renowned pediatric orthopedic specialist, Dr. Izak Daizade. UNFO introduces an innovative approach to corrective foot care for newborns, eliminating the need for casting and surgical intervention. Join us in reshaping the landscape of pediatric healthcare.



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## WOLTERS KLUWER

Wolters Kluwer provides trusted clinical technology and evidence-based solutions that engage clinicians, patients, researchers, and the next generation of healthcare providers. With a focus on clinical effectiveness, research and learning, safety and surveillance, and interoperability and data intelligence, our proven solutions drive effective decision-making and consistent outcomes across the continuum of care.



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## HIGHRIDGE MEDICAL

Highridge Medical is dedicated to restoring daily life for patients through comprehensive spinal solutions with a focus on education, training, and clinical support for surgeons. Along with cervical disc replacement, vertebral body tethering, comprehensive spinal fixation, and fusion implants, Highridge offers minimally invasive procedural solutions and a complete suite of biologic solutions.



## LANGUAGE

English is the official language of the 2024 Combined EPOSNA Meeting.

## NO SMOKING POLICY

Smoking is not permitted during any meeting or event.

## EVENT CANCELLATION

Due to circumstances beyond our control, the European Paediatric Orthopaedic Society and Pediatric Orthopaedic Society of North America may elect to cancel EPOSNA. These circumstances may include, but are not limited to, disaster, severe weather, civil commotion, pandemics, or government laws or regulations. In the event of such cancellation, all EPOSNA registrants will be notified by email at the address noted in the POSNA database, and registration fees will be refunded in full. Other costs incurred by the registrant, such as airline or hotel penalties, are the responsibility of the registrant.

## INSURANCE/LIABILITIES

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# EXPLORE NATIONAL HARBOR

## NATIONAL HARBOR




### ATTRACTIONS

- 1 Plaza
- 2 The Awakening
- 3 Water Taxis
- 4 The Capital Wheel
- 5 The Plateau
- 6 Carousel/Carousel Lot
- 7 Sunset Pointe
- 8 Southpointe
- 9 Capital Canopy

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# EXPLORE NATIONAL HARBOR

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- J-178 Brackish Waters
- L-142 Carhartt
- L-160 Cariloha Bamboo
- J-172 Comfort One Shoes
- K-171 Community Love
- L-160 DeI Sol Color Change
- J-164 Faith2Felicity
- L-153 House of JonLei Atelier
- L-138 Miguel Wilson Collection
- A-189 ZAAF

## FAST CASUAL DINING

- K-161 BurgerFi
- B-158 Chipotle Mexican Grill
- B-156 Mason's Famous Lobster Rolls
- N Cove McDonald's
- D-144 Mezeh Mediterranean Grill
- K-191 Nando's Peri-Peri
- L-150 PrimoHoagies
- D-146 Potbelly Sandwich Works
- N Cove Subway (at Sunoco)

## SPECIALTY FOOD & BEVERAGE

- B-138 Ben & Jerry's
- 4 Flight Deck
- A-185 Furlough Cheesecake
- A-181 Georgetown Olive Oil Co
- D-150 It'Sugar
- D-141 Panda Tea House
- L-120 Pepper Palace
- L-180 Potomac Gourmet Market
- L-140 Savannah's Candy Kitchen
- A-167 Starbucks

## DINING & ENTERTAINMENT

- P-172 Bobby McKey's
- Dueling Piano Bar
- D-149 Bond 45
- P-164 Brass Tap
- K-177 Brother Jimmy's BBQ
- P-186 Cadillac Ranch
- K-141 Capital Wheel Business Center
- R-230 Escapology **COMING SOON**
- B-152 Fiorella Italian Kitchen
- E-141 Fogo de Chão **COMING SOON**
- J-188 Grace's Mandarin
- K-177 Irish Whisper Pub
- E-145 McCormick & Schmick's
- M-122 Muse Paintbar
- J-199 Public House
- C-155 Redstone American Grill
- B-153 Rosa Mexicano
- J-186 SUCCOTASH
- E-137 Sunset Room
- R-200 Tom's Watch Bar **COMING SOON**
- K-152 Walrus Oyster & Ale House

## PERSONAL CARE & SERVICES

- L-120 Bella Cosmetic Surgery
- D-145 BrookieGirl
- Q-162 CVS Pharmacy
- L-141 Divine Nail Spa
- K-181 Girlkin Lashes
- K-161 Harbor Cleaners
- Q-221 Precision Orthopedic
- L-125 Harborside Surgery Center
- B-168 Marina Office
- S-201 Medical Pavilion
- M-128 Roll by Goodyear
- N Cove Sunoco
- L-145 The UPS Store

## GIFTS & HOME GOODS

- A-177 AMERICA!
- A-173 Build-A-Bear Workshop
- K-131 Corinto Gallery
- K-121 MahoganyBooks
- K-162 PGAHC Arts'tination
- L-170 Sticky Situation **COMING SOON**

## RESIDENTIAL

- R-250 The Esplanade
- S2 The Flats Sales Office
- K-157 Fleet Street
- W-145 The Haven
- L-155 One National Harbor
- Potomac Overlook
- D Waterfront Street Condos

## HOTELS

- K-156 AC Hotel by Marriott
  - AC Lounge
- G Gaylord National Resort & Convention Center
  - Belvedere Lobby Bar
  - Old Hickory Steakhouse
  - Relache Spa
- O-250 Hampton Inn & Suites
- F-123 Hyatt Place
- NH MGM National Harbor
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The European Paediatric Orthopaedic Society (EPOS) is a distinguished not-for-profit association dedicated to advancing the field of pediatric orthopaedics through education, research, and patient care. EPOS serves as a vital platform for orthopaedic professionals, researchers, and practitioners to collaborate, share knowledge, and drive innovation in the specialized domain of paediatric musculoskeletal health. By fostering a global network of experts and facilitating educational initiatives, EPOS plays a pivotal role in improving the quality of care and outcomes for young patients with orthopaedic conditions.

**Mission: To increase the quality of care of children with orthopaedic conditions.**

This goal is helped by increasing the communication between professionals dealing with the child, improving the education of those interested in the child care, and sharing and diffusing the advances in knowledge.

## WHY JOIN EPOS?

- EPOS serves as Europe's central hub, uniting providers of paediatric orthopaedic care to exchange expertise and collectively learn.
- We firmly believe that this collaboration is pivotal in fostering a comprehensive understanding and advancing the treatment of paediatric orthopaedic ailments. The annual EPOS gatherings offer an exceptional forum for global experts to connect and facilitate the exchange of cutting-edge insights in our field.
- Our esteemed international faculty imparts profound knowledge through our comprehensive educational programs, catering to both basic and advanced levels. Additionally, our open-access journal of children's orthopaedics publishes exceptional research with a significant impact.
- As an international network of specialists, our mission is centered around elevating the quality of care for children with orthopaedic conditions.
- Similar to any other society, our success heavily relies on the active participation of our members in achieving our ambitious objectives. Therefore, EPOS warmly welcomes all peers with a vested interest in paediatric orthopaedics to join our society.

## WEBSITE:

<https://www.epos.org/>

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The Pediatric Orthopaedic Society of North America (POSNA) is a not-for-profit professional organization of over 1,500 surgeons, physicians, and allied health members passionately dedicated to advancing musculoskeletal care for children and adolescents through education, research, and quality care.

**Mission:** To advance pediatric orthopaedics by promoting education, research, and quality care.

**Vision:** A world with optimal musculoskeletal health for all children.

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## BENEFITS

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- Reduced registration fees for Annual Meeting and International Pediatric Orthopaedic Symposium (IPOS®)
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- Method of provision and sale of POSNA products and services to non-members;
- Restrictions in the selection and requirements for exhibitors at the POSNA Annual Meeting or in CME activities;
- Collecting and distributing certain orthopaedic practice information, particularly involving practice charges and costs;
- Obtaining and distributing orthopaedic industry price and cost information;
- Professional certification programs;
- Group buying and selling; and
- Inclusions or exclusion of other medical societies in organizational activities or offerings.

When these and related topics are discussed, the convener or members of the POSNA group should seek counsel from its General Counsel.

POSNA urges its board, committees, and other groups not to participate in discussions that may give the appearance of or constitute an agreement that would violate the antitrust laws. Notwithstanding this reliance, it is the responsibility of each POSNA board or committee member to avoid raising improper subjects for discussion. This policy has been prepared to ensure that POSNA members and other participants in POSNA meetings are aware of this obligation.

The “Do Not’s” and “Do’s” presented below highlight only the most basic antitrust principles. POSNA members and others participating in POSNA meetings should consult with the General Counsel in all cases involving specific questions, interpretations, or advice regarding antitrust matters.

## Do Not's

1. Do not, in fact or appearance, discuss or exchange information regarding:
  - a. Individual company prices, price changes, price differentials, mark-ups, discounts, allowances, credit terms, etc. or any other data that may bear on price, such as costs, production, capacity, inventories, sales, etc.
  - b. Raising, lowering, or “stabilizing” orthopaedic prices or fees;
  - c. What constitutes a fair profit or margin level;
  - d. The availability of products or services; or
  - e. The allocation of markets, territories or patients.
2. Do not suggest or imply that POSNA members should or should not deal with certain other persons or companies.
3. Do not foster unfair practices regarding advertising, standardization, certification or accreditation.
4. Do not discuss or exchange information regarding the above matters during social gatherings, incidental to POSNA-sponsored meetings.

5. Do not make oral or written statements on important issues on behalf of POSNA without appropriate authority to do so.

## The Do's

1. Do adhere to a prepared agenda for all POSNA meetings. It is generally permissible for agendas to include discussions of such varied topics as professional economic trends, advances, and problems in relevant technology or research, various aspects of the science and art of management, and relationships with local, state, or federal governments.
2. Do object whenever meeting summaries do not accurately reflect the matters that occurred.
3. Do consult with General Counsel on all antitrust questions relating to discussions at POSNA meetings.
4. Do object to and do not participate in any discussions or meeting activities that you believe violate the antitrust laws; dissociate yourself from any such discussions or activities and leave any meeting in which they continue.

## Special Guidelines for Collecting and Distributing Information

The collection and distribution of information regarding business practices is a traditional function of associations and is well-recognized under the law as appropriate, legal, and consistent with the antitrust laws. However, if conducted improperly, such information gathering and distributing activities might be viewed as facilitating an express or implied agreement among association members to adhere to the same business practices. For this reason, special general guidelines have developed over time regarding association's reporting on information collected from and disseminated to members. Any exceptions to these general guidelines should be made only after discussion with General Counsel. These general guidelines include:

1. Member participation in a statistical reporting program is voluntary. A statistical reporting program should be conducted without coercion or penalty. Non-members should be allowed to participate in a statistical reporting program if eligible; however, if a fee is involved, non-members may be charged a reasonably higher fee than members.
2. Information should be collected via a written instrument that clearly sets forth what is being requested.
3. The data that is collected should be about past transactions or activities, particularly if the survey deals with prices and price terms (including charges, costs, wages, benefits, discounts, etc.), it should be historic, i.e., more than three months old.
4. The data should be collected by either POSNA or an independent third party not connected with any one member.
5. Data on individual orthopaedic surgeons should be kept confidential.
6. There should be a sufficient number of participants to prevent specific responses or data from being attributable to any one respondent. As a general rule, there should be at least five respondents reporting data upon which any statistic or item is based, and no individual's data should represent more than 25% on a weighted average of that statistic or item.
7. Composite/aggregate data should be available to all participants—both members and non-members. The data may be categorized, e.g., geographically, and ranges and averages may be used. No member should be given access to the raw data. Disclosure of individual data could serve to promote uniformity and reduce competition.
8. As a general rule, there should be no discussion or agreement as to how members and non-members should adjust, plan, or carry out their practices based on the results of the survey. Each member should analyze the data and make business decisions independently.



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