

2018 AUSTIN, TEXAS
JW MARRIOTT AUSTIN
MAY 9 – MAY 12, 2018

POSNA

ANNUAL MEETING

Local Hosts

Jay Shapiro, MD & John Williams, MD

Program Chair
Jeffrey Sawyer, MD

Pre-Course Chair
Wudbhav Sankar, MD

Subspecialty Day Chair
Michelle Caird, MD



POSNA

PEDIATRIC ORTHOPAEDIC SOCIETY
OF NORTH AMERICA






For children. For families. For answers.SM

Children's Mercy Kansas City is proud to announce the creation of the Department of Orthopaedic Surgery and Musculoskeletal Science. This change reflects the scope and the depth of services we provide. With **over 150 members on our orthopaedic team, including 17 faculty and 25 advanced practice nurses**, we are able to focus on all aspects of pediatric orthopaedics. Our hand, spine and sports medicine divisions offer further expertise in each field. Recently, we entered into a first-of-its-kind partnership between a children's hospital, a national sports federation and a professional sports team, creating a new sports medicine center including a custom-built, state-of-the-art human performance lab. Our focus on improving outcomes for kids helps us find answers to the pediatric orthopaedic questions that matter today.

The Children's Mercy Department of Orthopaedic Surgery and Musculoskeletal Science congratulates Richard Schwend, MD, on his role as President of POSNA.



For more on how we're providing answers,
visit childrensmercy.org/POSNA

Richard Schwend, MD,
Director of Orthopaedic Research

Brad Olney, MD,
Department Chairman

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POSNA

PEDIATRIC ORTHOPAEDIC SOCIETY
OF NORTH AMERICA

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POSNA extends sincere appreciation to

K2M

for their support for the production of the Final Program Book



PRE-COURSE COMMITTEE

Chair

Wudbhav N. Sankar, MD

Committee

Jeffrey Sawyer, MD

Brian Scannell, MD

A. Noelle Larson, MD

PROGRAM COMMITTEE

Chair

Jeffrey Sawyer, MD

Committee

Anthony Stans, MD

Michelle Caird, MD

Jeffrey Martus, MD

ABOUT POSNA

The Pediatric Orthopaedic Society of North America (POSNA) is a group of professionals comprised mostly of pediatric orthopaedic surgeons. We are board certified in orthopaedic surgery and have participated in additional training to become specialized in the care of children's musculoskeletal health and our practice reflects this dedication.

We, as a group, strive to become the authoritative source on such care through appropriate research that will lead to the best evidence-based patient care.

POSNA MISSION STATEMENT

To improve the care of children with musculoskeletal disorders through education, research, and advocacy.

CONNECT WITH POSNA DURING THE MEETING AND SHARE YOUR EXPERIENCES

#POSNA2018



@POSNA_org



Pediatric Orthopaedic Society of North America (POSNA)

Websites: POSNA.org and orthokids.org

WELCOME

Dear Colleagues,

On behalf of our local co-hosts Jay and Shannon Shapiro and John and Jeannette Williams, our Program Chair Jeffrey Sawyer, our Executive Director Teri Stech and her staff, as well as the numerous POSNA volunteers who have worked to make this meeting a success, we welcome you to **Austin for the 2018 POSNA Annual Meeting and Pre-Course**. The meeting will be at the new JW Marriott in the heart of downtown Austin, from May 9 to 12, 2018.

The meeting begins Wednesday morning with the Pre-Course entitled: "Natural History in Pediatric Orthopaedics: How Good is the Data on Which We Base our Decisions?", developed and chaired by Wudbhav (Woody) Sankar. The scientific sessions begin Wednesday afternoon, and will conclude on Saturday afternoon. There was a record 865 submitted abstracts, graded by the program committee (Jeffrey Sawyer, Anthony Stans, Michelle Caird and Jeffrey Martus) and 150 POSNA member volunteers, resulting in 169 podium presentations, 19 posters and 81 ePosters. The program committee, chaired by Jeffrey Sawyer, has worked hard and created THE premier pediatric orthopaedic educational event.

The Opening Ceremony, which will take place on Wednesday evening, is highlighted with the Howard Steel Lecture presented by Mr. Evan Smith, Chief Executive Officer of *The Texas Tribune* "The Future is Texas (Unless We Screw It Up)". The Opening Ceremony also allows us to recognize our industry partners who have contributed to POSNA in the past year. The Awards Committee has selected Lynn T. Staheli for the Humanitarian Award and Derek M. Kelly for the Special Effort and Excellence Award, to be presented Wednesday evening. A cocktail welcome reception will follow the Opening Ceremony.

The awards committee has selected Jim Roach for the Distinguished Achievement Award, which will be presented on Thursday morning. The Symposia Program will take place Thursday afternoon and includes programs from POPS and COUR, as well as topics on Telemedicine, Evidence Based Practice, the Opioid Epidemic and a special symposium on member health and wellness, in which spouses are encouraged to join. The Fourth Annual Arabella Leet, MD Young Member Forum will be Thursday afternoon and is moderated by Marty Herman. Thursday evening, as always, is reserved for family, friends and fellowship reunions, with a wide variety of outstanding restaurants to experience in Austin.

Friday morning's scientific session will include the basic science and clinical awards papers. Michael B. Millis will be the Presidential Speaker and will be sharing his perspective from a lifetime of experience as a leader, thinker and mentor in pediatric orthopaedics. Friday morning will also be the presidential transfer, to incoming POSNA President, Steve Frick. The Friday Subspecialty Day sessions will run after lunch and will include sessions on Hip, Trauma, Lower Extremity/Neuromuscular, Upper Extremity, Spine, and Sports. The closing night celebration will be at Austin City Limits Live (ACL Live), just a short walk from the JW Marriott. Food will be provided by Terry Black's BBQ and live music will be with nine-time Grammy Award Winning Ray Benson and Asleep at the Wheel. Remember to leave your tie at home for this memorable evening with your friends and family.

The educational and social program for this 2018 POSNA Annual Meeting is outstanding. The POSNA volunteers, staff and I are most excited to welcome you to Austin.

Richard M. Schwend, MD
POSNA President



RICHARD M. SCHWEND, MD
POSNA PRESIDENT

Richard M. Schwend MD, is Chief of Orthopaedic Research at the Children's Mercy Hospital, and is Professor of Orthopaedics and Pediatrics, University of Missouri, Kansas City and University of Kansas Medical Center. He graduated with BA Biochemistry from the University of California, MD from St. Louis University Medical School, orthopaedic residency at Harvard Combined Orthopaedic Residency and fellowship at Children's Hospital, Boston. He recently completed the Global Clinical Research Training Program, Harvard University. He is the immediate past chair of the Orthopaedic Section of the American Academy of Pediatrics and is board certified in pediatrics, in addition to Orthopaedics. He was the 2001 Scoliosis Research Society Travelling Fellow and Harvard University, Cave Travelling Fellowship to Bern, Switzerland. He has received the POSNA Humanitarian and the POSNA Special Effort awards. He is Medical Director of the Project Perfect World Ecuador Program, which since 2002 has been developing a pediatric orthopaedic and spine program. His research interests involve program development in regions with limited resources, pediatric spine and chest anatomy and surgical safety. He is a retired Colonel, United States Air Force. Dr. Schwend and his wife Colleen have two children and one granddaughter. In his spare time he enjoys bicycling to work, swimming, fly fishing, reading history, reading about airplanes and travel.

STEVEN L. FRICK, MD
POSNA INCOMING PRESIDENT



Dr. Steven L. Frick is a pediatric orthopaedic surgeon who joined the faculty of the Stanford University Department of Orthopaedic Surgery in December 2016. He was the founding Chairman of the Department of Orthopaedic Surgery at Nemours Children's Hospital in Orlando, FL from 2012-2016. He also served as Surgeon-in-Chief and Chairman of the Department of Surgery. A native of Greenville, South Carolina, he graduated from The George Washington University and received his medical education at the Medical University of South Carolina. He completed orthopaedic surgery residency and a basic science research fellowship at Carolinas Medical Center in Charlotte NC, and a fellowship in pediatric orthopaedic surgery at Children's Hospital San Diego. He served from 1998-2012 on the faculty and as Residency Program Director in the Department of Orthopaedic Surgery at Carolinas Medical Center. His academic interests include clubfoot and foot/ankle disorders, trauma, hip dysplasia, growth, leadership, professionalism, and graduate medical education. He has been honored with induction into the Eastside High School and The George Washington University Athletic Halls of Fame. He was selected by the American Orthopaedic Association as a North American Traveling Fellow (2001) and an American-British-Canadian Traveling Fellow (2007), and as a Leadership Fellow (2002-3) for the American Academy of Orthopaedic Surgeons. He is active in organized medicine, previously chairing the Leadership Development Committees of both the American Orthopaedic Association and the American Academy of Orthopaedic Surgeons. He was the annual meeting program chair for the Pediatric Orthopaedic Society of North America (2010), and for the American Academy of Orthopaedic Surgeons (2013). He serves on the Question Writing Task Force for the American Board of Orthopaedic Surgery. He has also served on the Executive Committee of the J. Robert Gladden Orthopaedic Society (dedicated to promoting multi-culturalism and diversity in orthopaedics), and edits and reviews manuscripts for multiple orthopaedic journals. He was Treasurer of POSNA. He lives in Redwood City, CA with his wife of 31 years, Lisa. Their son Eric is a graduate of the University of South Carolina and the George Mason University School of Law and practices in Charlotte, NC, and daughter Rachel is a graduate of North Carolina State University and is currently enrolled in the Temple University Occupational Therapy program in Philadelphia, PA.

BOARD OF DIRECTORS



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OF NORTH AMERICA

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ACKNOWLEDGMENTS



The Pediatric Orthopaedic Society of North America gratefully acknowledges the following for their generous financial support during 2018

Howard Steel Foundation
St. Giles Foundation
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Stanford Children's Health Sponsored Pens*

*Provided financial support to POSNA for the 2018 POSNA Annual Meeting

WELCOME

Dear friends and fellow pediatric orthopedic surgeons,

We are looking forward to having you visit Austin, Texas for the Annual POSNA meeting from May 9-12, 2018. This year's scientific program under the direction of our president, Rick Schwend and program chair, Jeffrey Sawyer promises to be nothing less than outstanding.

Austin is located "deep in the heart of Texas". It is the state capital, and has been the home of 2 United States presidents in the past half century. It is a bustling center of government when the state legislature is in session (every other year for 6 months), and home of one of the top 10 state universities in the US. (Texas Longhorns). But more than being just a center of government and education, it is the soul of Texas culture both old and new, with a vibrant community of scholars, musicians, artists, ranchers, and developers of new age technology.

Diverse cultures of the South and Southwest US come together in Austin to create an amazingly rich music and food scene. We are the "live music capital of the world", and on any given night there are numerous venues for listening to music ranging from "blues" to "country swing" to "salsa and merengue". Over the past few years chefs have been flocking to Austin to create dining experiences fusing influences of Latin America, Texas barbecue, and locally sourced farm to table produce.

Austin is somewhat of an oasis with rivers, lakes, and hills in an otherwise flat, dry state. Our downtown is very walkable, with a hike and bike trail winding its way around our appropriately named, "Town Lake". Our weather in May can be unpredictable. It's possible to have cool nights and clear warm days, or tropical weather with high temperatures and sudden dramatic thunderstorms. Either way, we have plenty of sunshine, and expect our guests to get outside and exercise around the lake.

We welcome our POSNA friends to come to Austin and enjoy our slower pace and outdoor lifestyle, while visiting with colleagues, and exchanging new ideas and collaboration. Who knows you may return home with a cowboy hat or new pair of boots!

Jay Shapiro, Local Host
John Williams, Local Host



GENERAL MEETING INFORMATION

LEARNING OBJECTIVES

- Objective 1:** Learn about the latest advances in pediatric orthopaedic surgery.
- Objective 2:** Obtain opinions of world-renowned thought leaders in the field.
- Objective 3:** Use the information obtained to make improvements in their own practices.
- Objective 4:** Fulfill the annual meeting requirements for membership in POSNA.

ACCREDITATION


This Annual Meeting of the Pediatric Orthopaedic Society of North America has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the American Academy of Orthopaedic Surgeons and POSNA.

The American Academy of Orthopaedic Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

CONTINUING MEDICAL EDUCATION

The American Academy of Orthopaedic Surgeons designates this live activity for a maximum of **22.75** AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

- Scientific Program 15.75
- Subspecialty Day 3.75
- Symposia Program 2.00
- Young Member Forum 1.25

8.9 hours may be used for external trauma-related CMEs. Presentations denoted with  are eligible for these credits.

ONSITE REGISTRATION

POSNA MEETING REGISTRATION

POSNA Member:	\$ 775
Non-member:	\$ 1025
Resident/Fellow**:	\$ 550
RN/PA/Allied Health:	\$ 550
Delegates from Reduced Rate Countries:	
Low Income:	\$ 475
Low-Middle Income:	\$ 550
Accompanying Person:	
Senior Members:	\$ 325
Senior Members:	\$ 375
Children 13-17, per child:	\$ 100
Children 6-12, per child:	\$ 10

PRE-COURSE REGISTRATION

Member:	\$ 150
Non-member:	\$ 200
RN/PA/Allied Health:	\$ 100
Resident/Fellow**:	\$ 100

FRIDAY SUBSPECIALTY DAY REGISTRATION*

Friday ONLY – Member:	\$ 250
Friday ONLY – Non-member:	\$ 300
Friday ONLY – Allied Health:	\$ 200
Friday ONLY – Resident/Fellow: ..	\$ 200

*Friday Subspecialty Day registration is Friday only, and includes breakfast, the morning scientific paper sessions, afternoon sessions, and the Closing Reception in the evening.

**Residents/Fellows must have the phone number and signature of their Chief of Service on their registration form to qualify for the reduced fee. Without a signature and phone number, you will be charged the non-member fee.

GENERAL MEETING INFORMATION

BADGES

Badges are required for entry to the Exhibit Hall, POSNA sessions and events, and are distributed with a paid registration.

White	Annual Meeting Registration	Blue	Pre-Course Registration
Green	Friday Only	Lavender	Accompanying Person

EVENT CANCELLATION

Due to circumstances beyond our control, the Pediatric Orthopaedic Society of North America may elect to cancel the Annual Meeting. These circumstances may include but are not limited to disaster, severe weather, civil commotion or government laws or regulations. In the event of such cancellation, all Annual Meeting 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.

DISCLOSURE

Each faculty member in this meeting 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.

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. POSNA does 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

Some drugs or medical devices demonstrated at this 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.

Academy policy provides that 'off label' uses of a drug or medical device may be described in the Academy's CME activities so long as the "off label" use of the drug or medical device is also specifically disclosed (ie., it must be disclosed that the FDA has not cleared the drug or device for the described purpose). 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 those faculty presentations in which the FDA has not cleared the drug and/or medical device for the use described (ie. the drug or medical device is being discussed for an "off label" use).

SPEAKER READY ROOM INFORMATION

POSNA REQUIRES ALL ELECTRONIC PRESENTATIONS TO BE MADE USING THE CENTRAL COMPUTER SYSTEM. No Laptop computers will be allowed.

Note: All presentations (including concurrent sessions) MUST be uploaded in the Speaker Ready Room located in the General Session room, JW Grand Ballroom 5-8.

HOURS OF OPERATION:

Wednesday, May 9 6:30 AM – 5:00 PM
Thursday, May 10 6:30 AM – 6:30 PM

Friday, May 11 6:30 AM – 5:30 PM
Saturday, May 12 6:30 AM – 12:00 PM

GENERAL MEETING INFORMATION

PAPER POSTERS AND ePOSTERS

Paper posters and ePosters will be located in the JW Grand Foyer.

LANGUAGE

English will be the official language POSNA.

LOST AND FOUND

Lost and Found Inquiries may contact (512)608-4546 or Extension 4546 while on property.

SAFETY INFORMATION

EMERGENCY NUMBERS

City Police Emergency: 911

City Police Non-Emergency: (512)974-2000

Poison Control: (800)222-1222 (Nationwide)

NEAREST HOSPITAL AND URGENT CARE

Nearest Hospital

Dell Seton Medical Center at The University of Texas
1500 Red River Street
(512)324-7000
1.4 miles

CVS Pharmacy

500 Congress Ave.
Austin TX 78701
(512)474-2380
0.2 Miles

Urgent Care

First Choice Emergency Room Care Center
2020 E. Riverside Dr.
(737)717-4100 2.3 miles
Open 24 hours, 7 days a week

Operation Hours
Monday-Sunday 7:00 AM-10:00 PM

Pharmacy Hours
M-F 9:00 AM-9:00 PM
SA 9:00 AM-6:00 PM / SU 11:00 AM-3:00 PM



FULL PROGRAM CAN BE FOUND IN THE 2018 MEETING APP

Access the meeting app by
downloading My POSNA from the
Apple App or Google Play store.

Schedules will NOT be provided at registration.
We encourage you to create your schedule in
the app by bookmarking sessions, where you
can download into your Outlook calendar.

ANNUAL MEETING POLICIES

DISCLAIMER

The material presented at the Annual Meeting has been made available by the Pediatric Orthopaedic Society of North America for educational purposes only. The material is not intended to represent the only, nor necessarily best, method or procedure appropriate for the medical situations discussed, but rather is intended to present an approach, view, statement or opinion of the faculty which may be helpful to others who face similar situations.

POSNA disclaims any and all liability for injury or other damages resulting to any individual attending the Annual Meeting and for all claims which may arise out of the use of the techniques demonstrated therein by such individuals, whether these claims shall be asserted by physician or any other person.

INSURANCE/LIABILITIES

POSNA will not be held liable for personal injuries or for loss or damage to property incurred by participants or guests at the Pre-Course or Meeting, including those participating in tours and social events. Participants and guests are encouraged to take out insurance to cover losses incurred in the event of cancellation, medical expenses or damage to or loss of personal effects when traveling outside their own country.

POSNA cannot be held liable for any hindrance or disruption of the Meeting arising from natural, political, social or economic events or other unforeseen incidents beyond its control. Registration of a participant implies acceptance of this condition.

PRIVACY POLICY – USE OF PERSONAL INFORMATION

Annual Meeting registration lists, including the registrant's name and postal mailing address are provided to POSNA's sponsors as a sponsor benefit.

REPRODUCTION POLICY

POSNA reserves any and all rights to materials presented at the Annual Meeting, including Posters and ePosters. Reproductions of any kind, by any person or entity, without prior written permission from POSNA, are strictly prohibited. Prohibited reproductions include, but are not limited to, audiotapes, videotape, and/or still photography. Cameras or video cameras may not be used in any portion of the scientific sessions. Persons violating this policy may have their badge confiscated and be escorted from the meeting. No unapproved surveys, handouts, or literature may be distributed at the meeting.

PHOTOGRAPHY

Registration and attendance at, or participation in, POSNA activities constitutes an agreement by the registrant to allow POSNA to capture, retain, and utilize (both now and in the future) the attendees' image, likeness, voice, and actions, whether captured live or recorded and in any format, during the Annual Meeting, for display, exhibition, publication, or reproduction in any medium or context for any purpose, including but not limited to, POSNA member communications, commercial or promotional purposes.

NO SMOKING POLICY

Smoking is not permitted during any meeting or event.

PARTNERING WITH YOU FOR A CHILDHOOD SPENT AT HOME — NOT IN A HOSPITAL

Shilla™ Growth Guidance System
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Further, Together

LEVELS OF EVIDENCE FOR PRIMARY RESEARCH QUESTIONS

Types of Studies				
	Therapeutic Studies— Investigating the Results of Treatment	Prognostic Studies— Investigating the Effect of a Patient Characteristic on the Outcome of Disease	Diagnostic Studies— Investigating a Diagnostic Test	Economic and Decision Analyses— Developing an Economic or Decision Model
Level I	<ul style="list-style-type: none"> High-quality randomized controlled trial with statistically significant difference or no statistically significant difference but narrow confidence intervals Systematic review² of Level-I randomized controlled trials (and study results were homogeneous³) 	<ul style="list-style-type: none"> High-quality prospective study⁴ (all patients were enrolled at the same point in their disease with ≥80% follow-up of enrolled patients) Systematic review² of Level-I studies 	<ul style="list-style-type: none"> Testing of previously developed diagnostic criteria in series of consecutive patients (with universally applied reference "gold" standard) Systematic review² of Level-I studies 	<ul style="list-style-type: none"> Sensible costs and alternatives; values obtained from many studies; multiway sensitivity analyses Systematic review² of Level-I studies
Level II	<ul style="list-style-type: none"> Lesser-quality randomized controlled trial (e.g., <80% follow-up, no blinding, or improper randomization) Prospective⁴ comparative study⁵ Systematic review² of Level-II studies or Level-I studies with inconsistent results 	<ul style="list-style-type: none"> Retrospective⁶ study Untreated controls from a randomized controlled trial Lesser-quality prospective study (e.g., patients enrolled at different points in their disease or <80% follow-up) Systematic review² of Level-II studies 	<ul style="list-style-type: none"> Development of diagnostic criteria on basis of consecutive patients (with universally applied reference "gold" standard) Systematic review² of Level-II studies 	<ul style="list-style-type: none"> Sensible costs and alternatives; values obtained from limited studies; multiway sensitivity analyses Systematic review² of Level-II studies
Level III	<ul style="list-style-type: none"> Case-control study⁷ Retrospective⁶ comparative study⁵ Systematic review² of Level-III studies 	<ul style="list-style-type: none"> Case-control study⁷ 	<ul style="list-style-type: none"> Study of nonconsecutive patients (without consistently applied reference "gold" standard) Systematic review² of Level-III studies 	<ul style="list-style-type: none"> Analyses based on limited alternatives and costs; poor estimates Systematic review² of Level-III studies
Level IV	Case series ⁸	Case series	<ul style="list-style-type: none"> Case-control study Poor reference standard 	<ul style="list-style-type: none"> No sensitivity analyses
Level V	Expert opinion	Expert opinion	Expert opinion	Expert opinion

- A complete assessment of the quality of individual studies requires critical appraisal of all aspects of the study design.
- A combination of results from two or more prior studies.
- Studies provided consistent results.
- Study was started before the first patient enrolled.
- Patients treated one way (e.g., with cemented hip arthroplasty) compared with patients treated another way (e.g., with cementless hip arthroplasty) at the same institution.
- Study was started after the first patient enrolled.
- Patients identified for the study on the basis of their outcome (e.g., failed total hip arthroplasty), called "cases," are compared with those who did not have the outcome (e.g., had a successful total hip arthroplasty), called "controls."
- Patients treated one way with no comparison group of patients treated another way.

This chart was adapted from material published by the Centre for Evidence-Based Medicine, Oxford, UK. For more information, please see www.cebm.net.

2018 POSNA ANNUAL MEETING

PROGRAM AT A GLANCE

TUESDAY, MAY 8

Board of Directors Meeting	7:30 AM–2:00 PM	Room 502-503
Registration	4:00 PM–6:00 PM	JW Grand Foyer
POPS Meeting	8:00 AM–5:30 PM	JW Grand Ballroom 1-2

WEDNESDAY, MAY 9

Fellowship Directors Meeting	6:30 AM–7:30 AM	Room 502-503
Registration	6:30 AM–5:00 PM	JW Grand Foyer
Pre-Course Breakfast	7:00 AM–8:00 AM	JW Grand Foyer
Pre-Course	8:00 AM–12:00 PM	JW Grand Ballroom 5-8
Lunch	12:00 PM–1:00 PM	<i>(On Your Own)</i>
Scientific Program	1:00 PM–5:06 PM	JW Grand Ballroom 5-8
Coffee Break/Exhibits	2:46 PM–3:06 PM	JW Grand Ballroom 1-4
Evening		
Opening Ceremony	6:30 PM–8:00 PM	JW Grand Ballroom 5-8
Welcome Reception	8:00 PM–9:30 PM	Lone Star Ballroom DE

THURSDAY, MAY 10

Registration	6:30 AM–3:30 PM	JW Grand Foyer
Breakfast/Exhibits	6:30 AM–7:30 AM	JW Grand Ballroom 1-4
Accompanying Person Breakfast	8:00 AM–9:30 AM	Lone Star Ballroom E
Scientific Program	7:30 AM–9:38 AM	JW Grand Ballroom 5-8
Distinguished Achievement Award	9:38 AM–9:53 AM	JW Grand Ballroom 5-8
Coffee Break/Exhibits	9:54 AM–10:14 AM	JW Grand Ballroom 1-4
Concurrent Session – Spine	10:21 AM–11:56 AM	Lone Star Ballroom F-H
Concurrent Session – Sports	10:21 AM–11:56 AM	Lone Star Ballroom AB
Lunch	12:00 PM–1:30 PM	<i>(On Your Own)</i>
Member Business Meeting*	12:15 PM – 1:15 PM	JW Grand Ballroom 5-8
Symposia Program		
POPS	1:30 PM–3:30 PM	Room 303-304
Practice Management	1:30 PM–3:30 PM	Lone Star Ballroom D
Research	1:30 PM–3:30 PM	Lone Star Ballroom C
Pain Management	1:30 PM–3:30 PM	Lone Star Ballroom F-H
COUR	1:30 PM–3:30 PM	Lone Star Ballroom E
Physician Wellness	1:30 PM–3:30 PM	Lone Star Ballroom AB
Young Member Forum	5:00 PM–6:30 PM	Lone Star Ballroom D

FRIDAY, MAY 11

Registration	6:30 AM–5:00 PM	JW Grand Foyer
Breakfast/Exhibits	6:30 AM–7:30 AM	JW Grand Ballroom 1-4
Accompanying Person Breakfast	8:00 AM–9:30 AM	Lone Star Ballroom E
Scientific Program	7:30 AM–11:30 AM	JW Grand Ballroom 5-8
Award Papers	7:35 AM–10:38 AM	JW Grand Ballroom 5-8
Coffee Break/Exhibits	9:35 AM–9:50 AM	JW Grand Ballroom 1-4
Presidential Speaker	10:39 AM–10:59 AM	JW Grand Ballroom 5-8
2019 Meeting Highlights	11:00 AM–11:05 AM	JW Grand Ballroom 5-8
Presidential Transfer	11:06 AM–11:25 AM	JW Grand Ballroom 5-8
Lunch	11:30 AM–1:30 PM	(On Your Own)
Member Business Meeting*	12:00 PM–1:00 PM	JW Grand Ballroom 5-8
Subspecialty Day		
Trauma	1:30 PM–5:40 PM	Lone Star Ballroom D
Sports	1:30 PM–5:40 PM	Lone Star Ballroom C
Hip	1:30 PM–5:40 PM	Lone Star Ballroom F-H
Spine	1:30 PM–5:40 PM	Lone Star Ballroom AB
Lower Extremity/ Neuromuscular	1:30 PM–5:40 PM	Lone Star Ballroom E
Upper Extremity	1:30 PM–5:40 PM	Room 303-304
Evening		
Closing Reception	7:30 PM–11:00 PM	Austin City Limits Live

SATURDAY, MAY 12

Registration	6:30 AM–12:00 PM	JW Grand Foyer
Breakfast	7:00 AM–8:00 AM	JW Grand Foyer
Accompanying Person Breakfast	8:00 AM–9:30 AM	Lone Star Ballroom E
2nd Board Meeting	8:00 AM–9:00 AM	Room 502-503
Scientific Program	8:00 AM–12:12 PM	JW Grand Ballroom 5-8
Coffee Break	9:47 AM–10:07 AM	JW Grand Foyer

ANNUAL BUSINESS MEETINGS

*Lunch will be served at the Member Business Meeting

All POSNA members are urged to attend the Annual Business Meetings held in Grand Ballroom 5-8 of the J.W. Marriott. The meetings will be held Thursday, May 10th from 12:15 PM-1:15 PM and Friday, May 11th from 12:00 PM-1:00 PM. Lunch will be provided.

2018 NOMINATING COMMITTEE

In May 2017, the membership elected five members by ballot to serve on the 2018 Nominating Committee. President, Richard M. Schwend, MD appointed the Chair of Nominating Committee.

The members of the 2018 Nominating Committee are: James McCarthy, MD, Chair Peter O. Newton, MD Jack M. Flynn, MD Ellen M. Raney, MD Gregory A. Mencio, MD James O. Sanders, MD (alternate)

The 2018 Nominating Committee will present its slate of nominees for each vacancy during the first business meeting, Thursday, May 10th.

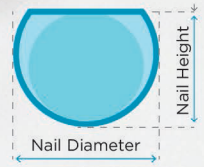
2019 NOMINATING COMMITTEE

Nominations for the 2019 Nominating Committee will be accepted from the floor during the second business meeting on Friday. New this year, all members will receive an electronic ballot after the 2018 Annual Meeting, with an opportunity to cast their votes for nominees to fill the elected positions on the 2019 Nominating Committee.

BYLAWS COMMITTEE

Proposed amendments to the POSNA Bylaws were circulated to the membership in March 2018. The Bylaws Committee will present the proposed amendments to the membership during the first business meeting on Thursday, March 11th.

Section of an MJ-FLEX Nail

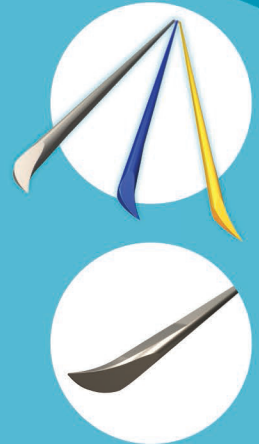


MJ-FLEX™
THE NEW METAIZEAU NAIL

Traditional Elasticity, New Strength

Patient Benefits

- ✓ Stability of the osteosynthesis in all planes due to the superior medullary canal filling compared to standard cylindrical nails.¹
- ✓ Developed to limit X-ray exposure during insertion due to the unique shape that allows visual control of nail orientation.
- ✓ Minimal invasiveness of the device.



¹ Bah M, Suchier Y, Denis D, Metaizeau JD (2017) *Pre-clinical analysis of the performance of a new elastic stable intramedullary nail design*. Orthopaedic Proceedings vol. 99-B no. SUPP 3 24

PRE-COURSE

WEDNESDAY, MAY 9, 2018
8:00 AM – 12:00 PM

Natural History in Pediatric Orthopaedics: How Good is the Data on Which We Base our Decisions?

Chair: Wudbhav N. Sankar, MD

DESCRIPTION

Proper knowledge of the natural history of pediatric orthopaedic conditions is essential to providing high quality care. Without an understanding of how patients' conditions would evolve untreated, one is unable to accurately evaluate the relative benefits of a given form of treatment. In spite of this, the natural history of many pediatric orthopaedic conditions is poorly understood.

The purpose of this pre-course is to draw attention to the data that is known and the data that is unknown about several common pediatric orthopaedic conditions. This will inform our membership and provide a springboard for discussion about future directions in research and registry development.

LEARNING OBJECTIVES

Upon completion of this program, participants should be able to:

- Objective 1: To appreciate what is known and unknown about the natural history of several common pediatric orthopaedic conditions including issues related to lower extremity alignment, hip pathology, spinal deformity, and traumatic sports injuries.
- Objective 2: To appreciate how the natural history of a given condition directly impacts a decision on whether or not to recommend surgery.
- Objective 3: To understand how future research could be designed to improve our understanding of the natural history of pediatric orthopaedic conditions.

ACCREDITATION

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the American Academy of Orthopaedic Surgeons and the Pediatric Orthopaedic Society of North America. The American Academy of Orthopaedic Surgeons is accredited by the ACCME to provide continuing medical education for physicians.

CONTINUING MEDICAL EDUCATION

The American Academy of Orthopaedic Surgeons designates this live activity for a maximum of 3.75 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity. .45 hours may be used for external trauma-related CMEs.

PRE-COURSE

Natural History in Pediatric Orthopaedics: How Good is the Data on Which We Base our Decisions?

J.W. Marriott, Austin, Texas

WEDNESDAY, MAY 9

8:00 AM–8:02 AM **OPENING WELCOME**
POSNA President: *Richard Schwend, MD*
Pre-Course Chair: *Wudbhav N. Sankar, MD*

8:02 AM–8:14 AM **KEYNOTE SPEAKER**
Importance of Natural History
Stuart Weinstein, MD

SESSION 1

Natural History of LE Deformity

Presider: *Mark Seeley, MD*

Moderator: *James Kasser, MD*

8:15 AM–8:23 AM **Mild Leg Length Discrepancy**
Eric Gordon, MD

8:24 AM–8:32 AM **Angular Deformities of the Lower Extremity**
Philip McClure, MD

8:33 AM–8:41 AM **Rotational Malalignment of the Lower Extremity**
Ira Zaltz, MD

8:42 AM–8:50 AM **Debate: Miserable Malalignment Surgery Pro vs. Con**
Peter Stevens, MD vs. Michelle Caird, MD

8:50 AM–8:58 AM Questions

Natural History of Hip Conditions

Presider: *Mark Seeley, MD*

Moderator: *Dennis Wenger, MD*

8:59 AM–9:07 AM **Acetabular Dysplasia**
Daniel Cooperman, MD

9:08 AM–9:16 AM **◆ SCFE Deformity**
A. Noelle Larson, MD

9:17 AM–9:25 AM **Femoroacetabular Impingement**
Young-Jo Kim, MD, PhD

9:26 AM–9:34 AM **Spastic Hip**
Benjamin Shore, MD, MPH, FRCSC

9:35 AM–9:43 AM **Debate: Surgery for Mild Acetabular Dysplasia in the Skeletally Immature**
Ernest Sink, MD vs. Kishore Mulpuri, MD

9:43 AM–9:51 AM **Questions**

9:52 AM–10:12 AM **Break**

◆ Indicates those faculty presentations in which the FDA has not cleared the drug and/or medical device for the use described (ie. the drug or medical device is being discussed for an "off label" use).

SESSION 2

Natural History of Spine Conditions

Presider: Nirav Pandya, MD

Moderator: Laurel Blakemore, MD

- 10:13 AM–10:21 AM **Early Onset Scoliosis**
Lori Karol, MD
- 10:22 AM–10:30 AM **AIS**
Stuart Weinstein, MD
- 10:31 AM–10:39 AM **Spondylolisthesis**
Patrick Cahill, MD
- 10:40 AM–10:48 AM **Kyphosis/Sagittal Plane Disorders**
Firoz Miyajni, MD, FRCSC
- 10:49 AM – 10:57 AM **Debate: Surgery for the 50 Degree Curve Pro vs. Con**
David Skaggs, MD vs. Timothy Ward, MD
- 10:57 AM–11:05 PM **Questions**



Natural History of Sports Conditions

Presider: Nirav Pandya, MD

Moderator: Theodore Ganley, MD

- 11:06 AM–11:14 AM  **ACL Deficient Knee**
Kevin Shea, MD
- 11:15 AM–11:23 AM  **Traumatic Shoulder Instability**
Jennifer Weiss, MD
- 11:24 AM–11:32 AM  **Meniscal Deficient Knee**
Henry G. Chambers, MD
- 11:33 AM–11:41 AM  **Debate: Medial Epicondyle Fracture Surgery Pro vs. Con**
J. Todd Lawrence, MD, PhD vs. Stephanie Mayer, MD
- 11:41 AM–11:49 AM **Questions**

WRAP-UP/FUTURE

- 11:50 AM–12:00 PM **What it Would Take to Answer these Natural History Questions:
The Role of Registries and Study Groups**
Colin Moseley, MD

POSNA extends sincere appreciation to

NuVasive

for their support for the production of the Pre-Course program.

 may be used for external trauma-related CMEs.

OPENING CEREMONY

J.W. Marriott, Austin, Texas

WEDNESDAY, MAY 9

- 6:30 PM–6:40 PM **WELCOME**
POSNA President: *Richard M. Schwend, MD*
Local Hosts: *Jay Shapiro, MD* and *John Williams, MD*
- 6:40 PM–6:50 PM **INTRODUCTIONS OF DISTINGUISHED GUESTS**
- ◆ International Presidents
 - ◆ New Members (2017)
 - ◆ Distinguished Achievement Award Recipient
 - ◆ Presidential Guest Speaker
 - ◆ APPOS and SLAOTI Traveling Fellows
 - ◆ POSNA Traveling Fellows
 - ◆ COUR Visiting Scholars
- 6:50 PM–7:15 PM **PRESENTATION POSNA AWARDS**
St. Giles Young Investigator Award – *Donald R. Huene, MD*
Arthur H. Huene Award – *Donald R. Huene, MD*
Angela S.M. Kuo Memorial Award – *Ken Kuo, MD*
POSNA Humanitarian Award – *Richard M. Schwend, MD*
POSNA Special Effort and Excellence Award – *Richard M. Schwend, MD*
- 7:15 PM–7:30 PM **RECOGNITION OF INDUSTRY SPONSORS**
Richard M. Schwend, MD
- 7:30 PM **INTRODUCTION STEEL LECTURER**
John Williams, MD
- 7:35 PM–8:00 PM **2018 STEEL LECTURE**
Mr. Evan Smith, Chief Executive Officer-Texas Tribune
“The Future is Texas (unless we screw it up).”
- 8:00 PM–9:30 PM **WELCOME RECEPTION**

SPEAKERS and AWARD RECIPIENTS



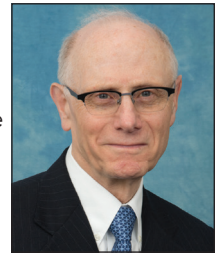
JAMES W. ROACH, MD **DISTINGUISHED ACHIEVEMENT AWARD**

James W. Roach MD retired in 2016 as a Professor of Orthopaedic Surgery at the University of Pittsburgh where he held the William F. and Jean W. Donaldson Endowed Chair in Pediatric Orthopaedics.

Dr. Roach, a Texan, graduated from Texas Tech University with a degree in Chemistry, attended law school at the University of Texas, graduated from Georgetown University School of Medicine and attained an MBA at Duke University. His internship and residency were at Tripler Army Medical Center, Honolulu, Hawaii and his fellowship at Texas Scottish Rite Hospital.

Dr. Roach held several academic and business positions during his career. Prior to joining the University of Pittsburgh, he had been the Assistant Chief of Staff at the Texas Scottish Rite Hospital for 13 years, the Director of Pediatric Orthopaedic Surgery and Vice-Chairman of the Cook-Fort Worth Children's Health Care System for 9 years, Chief of Staff of Shriners Hospitals for Children Salt Lake City for 10 years and the Medical Director of Shriners Hospitals for Children Erie for 6 years. He had special interests in the treatment of complex spinal deformities, developmental dysplasia of the hip, outcomes research, and pediatric trauma. He published 96 articles, book chapters, and textbooks and has presented his research findings at 199 national and international meetings. He was a member of the American Academy of Orthopaedic Surgery, the Pediatric Orthopaedic Society of North America, and the Scoliosis Research Society. He served as an Associate Editor of Spine Deformity and as a reviewer for the *Journal of Pediatric Orthopaedics*, *Spine*, and the *Journal of AAOS*. He was the Director of the University of Pittsburgh Pediatric Orthopaedic Fellowship Program and in 2010-2011, President of the Pediatric Orthopaedic Society of North America.

MICHAEL MILLIS, MD **2018 PRESIDENTIAL GUEST SPEAKER**



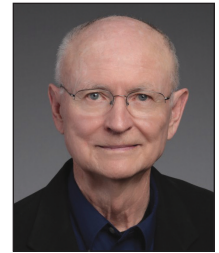
Dr. Millis is a graduate of Harvard Medical School and the Harvard Combined Orthopaedic Residency Program. He was Chief Resident under Dr John Hall at the Boston Children's Hospital. After 2 years in the US Navy in Charleston, he returned to a faculty position with Dr. Hall in Boston. Following a fellowship with Professor Heinz Wagner, in Germany, he has pursued a career-long interest in developmental hip conditions and their evolution through adolescence and adulthood, with a particular interest in hip preservation surgery. He was the Founding Director of the Adolescent and Young Adult Hip Unit at Boston Children's Hospital and is Professor of Orthopaedic Surgery at Harvard Medical School. He began the continuing series of Instructional Courses on Hip Osteotomies and Hip Preservation at the AAOS Annual Meetings in 1984. He, Dr John Clohisy, and Dr Perry Schoenecker founded the ANCHOR Group. He and Dr Young-Jo Kim established the Children's Hospital Hip Fellowship in 2003. He is a member of POSNA, EPOS, the American Hip Society and the International Hip Society. Dr. Millis received the Pro Maximis Meritis Award from EPOS in 2017.



DEREK M. KELLY, MD
SPECIAL EFFORTS AND EXCELLENCE AWARD

Derek M. Kelly, MD is a Professor of Orthopaedic Surgery for the University of Tennessee-Campbell Clinic Department of Orthopaedic Surgery. He serves as the Campbell Clinic Pediatric Orthopedic Fellowship Director, and the Campbell Clinic Assistant Orthopaedic Residency Program Director. After graduation from medical school and orthopaedic surgery residency at the University of Arkansas for Medical Sciences in Little Rock, AR, he completed the Dorothy and Bryant Edwards Fellowship in Pediatric Orthopaedic and Spine Surgery at Texas Scottish Rite Hospital for Children in Dallas, TX. He currently practices pediatric orthopaedics and spinal deformity surgery at Campbell Clinic and Le Bonheur Children's Hospital in Memphis, TN. He is active in a number of professional societies, including the American Academy of Orthopaedic Surgeons (AAOS), American Orthopaedic Association (AOA), Scoliosis Research Society (SRS), and the Pediatric Orthopedic Society of North America (POSNA) where he has served on multiple committees and currently chairs the POSNA Publications Committee. He also serves as the Deputy Editor for Review Articles for the Journal of Pediatric Orthopaedics. He is an active member of the International Perthes Study Group (IPSG) where he serves as Chair of the Membership Committee. He was a POSNA/EPOS Traveling Fellow in 2016. He has contributed over 65 peer-reviewed scientific articles to the orthopaedic literature, as well as numerous chapters to orthopaedic textbooks. He has been married to Hallie for 13 years and has two daughters, Muriel (6) and Anabel (4).

LYNN T. STAHELI, MD
HUMANITARIAN AWARD



Dr. Lynn Staheli is a Professor Emeritus from the University of Washington. He graduated from the University of Utah Medical School with AOA Honor Society membership (1959), and served three years as medical doctor in the United States Air Force (1960-1963). He completed his residency in orthopaedics at the University of Washington (1969), and was one of five to receive the AOA Outstanding Resident Award. During his thirty-year practice at Seattle Children's Hospital, Dr. Staheli served Director of Research and Education (1970-1977) and Department Director (1977-1992). The Staheli Chair for Research in Pediatric Orthopaedics was established at Seattle Children's Hospital in Seattle (2002). He also started three annual lectures that still continue to this day.

Dr. Staheli received a Carl Berg Traveling Scholarship (1971). Before POSNA was established, he served as President of Pediatric Orthopedic Study Group (1979). He is the Founding Editor (1981-2002) and Editor Emeritus (2002-present) of the *Journal of Pediatric Orthopedics*, and Founder of the International Scholarship of Pediatric Orthopaedics (1982). His research, talks, and publications are credited with changing the management of developmental variations in children and dispelling the myth of the "corrective shoe." For this contribution, he received the first Distinguished Service Award from the American Academy of Pediatrics (1995). Later he received the Distinguished Achievement Award from POSNA (2002), a Merit of Honor Award from the University of Utah (2004), the AACPD Humanitarian Award (2010), and was the Presidential Guest Speaker at POSNA (2004). Over his career, Dr. Staheli has taught in 40 countries and has published 85 papers, 10 chapters, and 18 books.

Dr. Staheli founded Global HELP Organization (2002) and served as Volunteer Director (2002-present). Global HELP provides free medical publications and videos worldwide (180 publications and 175 videos in total). PDFs are available in up to 35 languages and have been downloaded from Global HELP's website over 22 million times in over 190 countries. Global HELP has since added two sub-sites, Pediatric Orthopaedic Academy (POA) in English and Spanish, and provides free and open access to all materials. The organization created and published Clubfoot: Ponseti Management (2.5 million PDF downloads, 30,000 printed copies, available in 31 languages) and has contributed to sustainable club-foot projects in Uganda and Bangladesh.



**EVAN SMITH
STEEL LECTURE**

Evan Smith is the CEO and co-founder of The Texas Tribune, a pioneering nonprofit, nonpartisan digital news organization whose deep coverage of Texas politics and public policy can be found at its website, texastribune.org, in newspapers and on TV and radio stations across the state, and in the print and online editions of the Washington Post. Since its launch in 2009, the Tribune has won international acclaim and numerous honors, including a Peabody Award, thirteen national Edward R. Murrow Awards from the Radio Television Digital News Association and three general excellence awards from the Online News Association. Evan is also the host of "Overheard with Evan Smith," a weekly half-hour interview program that airs on PBS stations around the country. Previously he spent nearly 18 years at Texas Monthly, including eight years as the magazine's editor and a year as its president and editor in chief.



Pediatric Orthopaedic Surgery Career Opportunity

The Department of Pediatric Orthopaedic Surgery at Joe DiMaggio Children's Hospital is seeking an eighth full-time BE/BC fellowship-trained Pediatric Orthopaedist to join our extremely collegial, rapidly expanding practice. Subspecialty interest in upper extremity, sports, oncology or non-operative is a strong plus, but not required. This is an excellent opportunity to join a regional referral, tertiary care practice at a large freestanding and full-service children's hospital. This is an academic-style practice with strong subspecialty programs in spinal deformity, sports medicine, limb deformity, tumors and hip surgery. Our extensive referral base includes four counties in South Florida (population nearly six million) and the Caribbean. An active transport team provides rotary, fixed-wing and ground transport (regional and international).

This is a full-time employed position with the multi-specialty Memorial Physician Group. The position offers competitive benefits and a compensation package that is commensurate with training and experience. Professional malpractice and medical liability is covered under sovereign immunity.

About Joe DiMaggio Children's Hospital

Joe DiMaggio Children's Hospital opened in 1992 and has grown to be the leading children's hospital in Broward and Palm Beach counties. With 226 beds, an 84-bed Level II and III NICU, 30-bed PICU and 12-bed intermediate care unit, Joe DiMaggio Children's Hospital combines leading-edge clinical excellence with a child- and family-friendly environment that emphasizes the Power of Play. In addition, our team specializes in treating young athletes through our [U18] Sports Medicine program.

Located in the heart of South Florida, a region whose quality of life attracts new residents from all over the country and around the world, Joe DiMaggio Children's Hospital offers a comprehensive range of healthcare services – delivered with kindness, dedication and compassion. In addition, Florida has **no state income tax**.

For more information about the division, please visit www.kidbones.net. Interested candidates should submit their CV to Michael Jofe, MD at mjofe@mhs.net.



kidbones.net

memorialphysician.com

Super-specialized pediatric orthopedic care.



Akron Children's
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dedicated to:

Brachial Plexus Palsy
Clubfoot
Early Onset Scoliosis
Neuromuscular Disease
Osteogenesis Imperfecta
Skeletal Dysplasia

Our Department of Pediatric Orthopedics may be known for its multidisciplinary expertise, but we really specialize in one thing – kids. Akron Children's is committed to advancing pediatric orthopedic care through dedicated clinics and many research projects currently in progress. It's just one of the many ways we're 100% focused on kids and their unique needs.

For more information, referring physicians can call 330-543-3500.

akronchildrens.org



Akron Children's Hospital

2018 POSNA ANNUAL MEETING

PODIUM PRESENTATIONS

WEDNESDAY, MAY 9, 2018

1:00 PM–1:09 PM Introduction and Opening Remarks

QUALITY, SAFETY AND VALUE

Moderator: *A. Noelle Larson, MD*

eModerator: *Kerwyn Jones, MD*

Presider: *Brian K. Brighton, MD*

- Paper 1 1:10 PM–1:14 PM
Hospitalist Co-management of Pediatric Orthopedic Patients Improves Outcomes and Quality Processes
Rita Fleming, MD; Anjna Melwani, MD; Matthew Oetgen, MD
Children's National Health System, Washington, DC
- Paper 2 1:15 PM–1:19 PM
Operating Room (OR) Personnel Factors Determine Efficiency for Pediatric Spinal Fusions for Scoliosis: Does The Surgeon Influence This?
Jeffrey Sawyer, MD; Jacob Hartline, BS; Vikki Nolan, MPH; Benjamin Sheffer, MD; David Spence, MD; William Warner, MD; Derek Kelly, MD
Campbell Clinic Orthopedics, Memphis, TN
- Paper 3 1:20 PM–1:24 PM
Decision-Support Appointment Optimization System Significantly Increases Surgeon Mean Billings and Collections
John Crawford, MD; Russell Zaretski, PhD
Knoxville Orthopaedic Clinic, Knoxville, TN
- 1:25 PM–1:33 PM Discussion
- Paper 4  1:34 PM–1:38 PM
A Novel, Low-Cost, High-Fidelity Surgical Simulation Tool for Pinning Supracondylar Humerus Fractures
John Urwin, BS; Eileen Storey, BA; Christopher Brusalis, BA; Christopher Gajewski, BA; J. Todd Lawrence, MD, PhD
Children's Hospital of Philadelphia, Philadelphia, PA
- Paper 5  1:39 PM–1:43 PM
Treatment Adherence to AAOS Appropriate Use Criteria for Type III Supracondylar Humerus Fractures Among Pediatric Orthopedic Surgeons
Elisa Emanuelli, BS; Ognjen Stevanovic, MD; Jeffrey Klott, MD; Mason Uvodich, BS; Ashley Sherman, MA; Richard Schwend, MD
Children's Mercy Hospital, Kansas City, MS

Paper 6



1:44 PM–1:48 PM

Surgical Treatment of Supracondylar Humerus Fractures in A Free Standing Ambulatory Surgery Center is as Safe, Faster and More Cost Effective Than in A Children's Hospital

Jeffrey Sawyer, MD; Victor Hong; Timothy Westbrook, BS; Carson Rider, MD; Jiaying Wang; Benjamin Sheffer, MD; Derek Kelly, MD; David Spence, MD
Campbell Clinic Orthopedics, Memphis, TN

1:49 PM–1:57 PM

Discussion

Paper 7

1:58 PM–2:02 PM

Two for One: A Change in Hand Positioning During Low-Dose Spinal Stereoradiography Allows for Concurrent, Reliable Sanders' Skeletal Maturity Staging

Taylor Jackson; Daniel Miller, MD; Susan Nelson, MD; Patrick Cahill, MD;
John (Jack) Flynn, MD
Children's Hospital of Philadelphia, Philadelphia, PA

Paper 8

2:03 PM–2:07 PM

Intraoperative CT Scan Verification of Pedicle Screw Placement in AIS to Prevent Malpositioned Screws: A Cost Benefit Analysis

Jennifer Bauer, MD; Jeffrey Moore, MD; Brian Gibbs, BA; Rajiv Rangarajan; Petya Yorgova, MS; Geraldine Neiss, PhD; Kenneth Rogers, PhD; Peter Gabos, MD; Suken Shah, MD
Nemours Al duPont Hospital for Children, Wilmington, DE

Paper 9

2:08 PM–2:12 PM

Intraoperative CT-Guided Navigation Reduced Return to OR for Screw Malposition Compared to Free/Fluoroscopic Techniques for Pediatric Spine Patients

A. Noelle Larson, MD; Anthony Stans, MD; Fady Baky; Scott Echternacht, BA; Todd Milbrandt, MD
Mayo Clinic, Rochester, MN

2:13 PM–2:21 PM

Discussion

Paper 10

2:22 PM–2:26 PM

Telemedicine Utilization in a Pediatric Sports Medicine Clinic: Decreased Wait Times and Cost with Increased Satisfaction

Alfred Atanda, MD; Peter Fabricant, MD; Suken Shah, MD; Nicholas Slamon, MD
Alfred I DuPont Hospital for Children, Wilmington, DE

Paper 11



2:27 PM–2:31 PM

Venous Thromboembolism in Pediatric Orthopedics: Are We Talking About the Same Patients and Risk Factors?


Benjamin Shore, MD, MPH, FRCSC; Samuel Scott; Emily Rademacher, BS; Patricia Miller, MS; Eric Jordan; Cameron Trenor, MD; Eduardo Novais, MD; Daniel Hedequist, MD; James Kasser, MD
Boston Children's Hospital, Boston, MA

Paper 12 2:32 PM–2:36 PM
**The Addition of Continuous Nerve Blockade to General Anesthesia:
An Effective Tool to Reduce Pain and Length of Stay in Pediatric Patients
Undergoing Orthopedic Surgery**
*Anas Minkara, BS; Reid Chambers; Joel Kolmodin, MD; John Seif, MD;
Ryan Goodwin, MD*
Cleveland Clinic, Cleveland, OH


2:37 PM–2:45 PM Discussion

TRAUMA


Moderator: *Eric W. Edmonds, MD*
eModerator: *Amy McIntosh, MD*
Presider: *Todd F. Ritzman, MD*

Paper 13  3:07 PM–3:11 PM
**Is Less More? Assessing the Value of Early Clinical and
Radiographic Follow-up for Operative Supracondylar Humerus Fractures**
*Rachel Thompson MD; Elizabeth Walker Hubbard MD; Marilyn Elliott;
Anthony Ian Riccio MD; Daniel J. Sucato, MD, MS*
Texas Scottish Rite Hospital for Children, Dallas, TX


Paper 14  3:12 PM–3:16 PM
**Lateral Condyle Fractures of the Humerus in Children – Does Fixation
Type Matter?**
*Rekha Ganeshalingam, MD; Alice Donnan; Owain Evans; Monsurul Hoq;
Mark Camp, FRCSC; Leo Donnan, MD*
Royal Children's Hospital, Melbourne, Australia

Paper 15  3:17 PM–3:21 PM
**Prophylactic Fixation or Surveillance: Predicting Subsequent Displacement of
Lateral Humerus Condyle Fracture**
*Wu Chean Lee, MBChB; Suraya Zainul Abidin, MD; Yu Heng Kwan, BS;
Kai Yet Lam, MD; Arjandas Mahadev, MD*
KK Women's and Children's Hospital, Singapore, Singapore

3:22 PM–3:30 PM Discussion


Paper 16  3:31 PM–3:35 PM
**Infantile (Less than 2-years-old) Supracondylar Humeral Fractures: Twice as
Common in Females and High Rate of Malunion with Lateral Column Only Fixation**
*Charles Mehlman, DO; Michael Fisher, DO; Jaime Denning, MD;
James McCarthy, MD, MHCM*
Cincinnati Children's Hospital, Cincinnati, OH

Paper 17  3:36 PM–3:40 PM
**High Volume Hospitals have Lower Open Reduction Rates for Pediatric
Supracondylar Humerus Fractures**
*Brendan Striano, BA; Divya Talwar, MPH; John (Jack) Flynn, MD;
Apurva Shah, MBA, MD*
Children's Hospital of Philadelphia, Philadelphia, PA

- Paper 18  3:41 PM–3:45 PM
Utility of Follow Up Radiographs After Pin Removal in Supracondylar Humerus Fractures
Natalie Zusman, MD; Nicole Barney; Matthew Halsey, MD; Scott Yang, MD
Oregon Health & Science University, Portland, OR


3:46 PM–3:54 PM Discussion


- Paper 19  3:55 PM–3:59 PM
Hospital and Physician Type are Associated with Application of Evidence-based Recommendations for Low-risk Distal Radius Fractures Treated in Ontario Emergency Departments
Tara Baxter, MD; Andrew Howard, MD; Mark Camp, FRCSC; Teresa To, PhD; Maria Chiu
University of Toronto, Toronto, Ontario, Canada


- Paper 20  4:00 PM–4:04 PM
Compartment Syndrome in Pediatric Monteggia Fractures and Equivalents
John Kopriva, BS; John Awowale, MD; Paul Whiting, MD; Andrew Livermore, MD; Alexander Siy, BS; Ken Noonan, MD
University of Wisconsin School of Medicine and Public Health, Madison, WI

- Paper 21  4:05 PM–4:09 PM
The Learning Curve of Pediatric Forearm Fracture Treatment: High Early Failure Rate and Rapid Resident Mastery - Implications for Training
Brett Shannon, MD; Brian Sullivan, BS; Dawn LaPorte, MD; Paul Sponseller, MD
Johns Hopkins University, Baltimore, MD

4:10 PM–4:18 PM Discussion

- Paper 22  4:19 PM–4:23 PM
Physeal Fractures of the Distal Femur: Is More Surgery Better?
Alexander Adams, BS; Mahmoud Abo Elmagd; Lawrence Wells, MD; John (Jack) Flynn, MD; Alexandre Arkader, MD
Children's Hospital of Philadelphia, Philadelphia, PA

- Paper 23  4:24 PM–4:28 PM
Pediatric Floating Knee: A Multicenter Review
Jason B. Anari, MD; Benjamin Shore, MD, MPH, FRCSC; G. Li, MD; Jaclyn Hill, MD; Scott Rosenfeld, MD; Keith Baldwin, MD, MSPT, MPH
Children's Hospital of Philadelphia, Philadelphia, PA

- Paper 24  4:29 PM–4:33 PM
Outcomes of Tibial Shaft Fracture Treatment in Skeletally Mature or Near-skeletally Mature Adolescents: Casting versus Rigid Intramedullary Nailing
Benton Heyworth, MD; Colyn Watkins, MD; Emily Rademacher, BS; Patricia Miller, MS; Collin May, MD; Benjamin Shore, MD, MPH, FRCSC
Boston Children's Hospital, Boston, MA

4:34 PM–4:42 PM Discussion

Paper 25



4:43 PM–4:47 PM

**Long-term Outcomes Following Mid-Shaft Clavicle Fractures in Adolescents:
Does Internal Fixation Improve Outcomes?**

*Ishaan Swarup, MD; Steven Orr, MD; Kunal Agarwal, MS; Daniel Green, MD;
John Blanco, MD; Shevaun Doyle, MD; Emily Dodwell, MD, MPH, FRCSC
Hospital for Special Surgery, New York, NY*

Paper 26



4:48 PM–4:52 PM

Pediatric Fractures: Vitamin D May not Play a Role

*Selina Poon, MD; Alexa Karkenny, MD; Jahn Avarello, MD; Ashley Burlage, MD;
Rocio Crabb; Kelly McNally, BS; Jacob Schulz, MD; Sara Merwin, MPH
Northwell Health, New Hyde Park, NY*

Paper 27



4:53 PM–4:57 PM

**Management of Fasciotomy Incisions after Acute Compartment Syndrome:
Is Delayed Primary Closure More Feasible in Children Compared to Adults?**

*Collin May, MD; Emily Rademacher, BS; Eric Jordan; Patricia Miller, MS;
Michael Glotzbecker, MD; Daniel Hedequist, MD; Donald Bae, MD;
Benjamin Shore, MD, MPH, FRCSC
Boston Children's Hospital, Boston, MA*

4:58 PM–5:06 PM

Discussion

THURSDAY, MAY 10, 2018

7:30 AM–7:34 AM Welcome and Remarks

HAND/UPPER EXTREMITY

Moderator: *Christine Ho, MD*
 eModerator: *Roger Cornwall, MD*
 Presider: *Apurva Shah, MBA, MD*

Paper 28 7:34 AM–7:38 AM
Long-term Results of Isolated Latissimus Dorsi Transfer in Brachial Plexus Birth Palsy
Andrew Price, MD; Lauren Santiesteban, MD
NYU Langone Orthopedics Hospital, New York, NY

Paper 29 7:39 AM–7:43 AM
The Mental Health Implications of Obstetric Brachial Plexus Injuries (OBPI) on Parents
Karan Dua, MD; Catherine Miller; Joshua M. Abzug, MD
University of Maryland School of Medicine, Baltimore, MD

Paper 30 7:44 AM–7:48 AM
Functional versus Perceived Outcomes in Brachial Plexus Birth Palsy
Matthew Topley, BS; Stephanie Russo, MD; R. Tyler Richardson, PhD;
Elizabeth Rapp Van Roden MS; Scott Kozin, MD; Dan Zlotolow, MD;
James Richards, PhD
Shriners Hospital for Children, Philadelphia, PA

7:49 AM–7:57 AM Discussion

Paper 31 7:58 AM–8:02 AM
Anatomy versus Activity: A Comparison of Capitellar Osteochondritis Dissecans in Gymnasts and Baseball Players
Philip Wilson, MD; Paul Tavakolian, MD; Charles Wyatt, NP; Meagan Sabatino, BA;
Henry Ellis, MD
Texas Scottish Rite Hospital for Children, Dallas, TX

Paper 32 8:03 AM–8:07 AM
A Matched Quantitative CT Analysis of Three Surgical Approaches for Osteochondral Reconstruction of the Capitellum
Peter Fabricant, MD; Christine Johnson, MD; Susanne Roberts, MD;
Douglas Mintz, MD; Robert Hotchkiss, MD; Aaron Daluiski, MD
Hospital for Special Surgery, New York, NY

Paper 33 8:08 AM–8:12 AM
Quantifying the Location of the Radial Nerve in Children for Intraoperative Use
Ena Nielsen, BA; Lindsay Andras, MD; David Skaggs, MD
Children's Hospital Los Angeles, Los Angeles, CA

8:13 AM–8:21 AM Discussion

- Paper 34 8:22 AM–8:26 AM
Treatment of Congenital Brachymetacarpia by Callotaxis with Monoplanar External Fixator in Children
Roman Capdevila, MD; Blanca Reyes Huerta, MD
Shriners Hospital for Children, Mexico City, Mexico
- Paper 35 8:27 AM–8:31 AM
Pulling the Trigger: What Factors to Consider when Operating on Pediatric Trigger Thumbs
Alison Dittmer, MD; Olivia Grothaus, BA; Cale Jacobs, PhD; Ryan Muchow, MD; Henry Iwinski, MD; Scott Riley, MD
Lexington Shriners Hospital, Lexington, KY
- Paper 36 8:32 AM–8:36 AM
Suture Osteosynthesis in the Bony Reconstruction of Thumb Polydactyly
Kenneth Wong, FRCS (Ortho); Ee Ming Darryl Chew, MBBS; Christopher Chan, MBBS; Lam Chuan Teoh, FRCS
KK Women's and Children's Hospital, Singapore, Singapore

8:37 AM–8:45 AM Discussion

GENERAL INFECTION/TUMORS

Moderator: *Lawson Copley, MD*
eModerator: *Alexandre Arkader, MD*
Presider: *Pooya Hosseindah, MD*

- Paper 37 8:51 AM–8:55 AM
The Introduction of a Pre-Operative MRI Protocol Significantly Reduces Unplanned Return to the Operating Room in the Treatment of Pediatric Osteoarticular Infections
Joseph Khoury, MD; Branum Gage Griswold, BS; Shawn R. Gilbert, MD; Evan Sheppard, MD; Charlie Pitts, MD
University of Alabama, Birmingham, Birmingham, AL
- Paper 38 8:56 AM–9:00 AM
Risk Assessment of Deep Venous Thrombosis Among Children with Osteomyelitis to Promote Early Recognition and Treatment
Lawson Copley, MD; John Ligon, MD; Eduardo Lindsay, MD; Janna Journeycake; Shellie Josephs, MD; Naureen Tareen, MPH; Chan-Hee Jo, PhD
Children's Health System of Texas, Dallas, TX
- Paper 39 9:01 AM–9:05 AM
Low Platelet Count At Presentation Predicts Disease Severity, VTE and Hospital Outcomes in Children with Musculoskeletal Infection
Jonathan Schoenecker, MD, PhD; Tanya Marvi; Isaac Thomsen, MD
Vanderbilt University Medical Center, Nashville, TN

9:06 AM–9:15 AM Discussion

Thursday, May 10, 2018, continued

- Paper 40 9:15 AM–9:19 AM
The Effect of Antibiotic Timing on Surgical Culture Yield in Pediatric Osteoarticular Infection
Michael Van Der Merwe, MBChB; Katie Rooks, MD; Haemish Crawford; Matthew Boyle, FRACS
Starship Children's Hospital, Auckland, New Zealand
- Paper 41 9:20 AM–9:24 AM
Clinical Evolution of Osteofibrous Dysplasia: Should We Worry about Progression to Adamantinoma ?
Georges Basile, MD; Megan Anderson, MD; Mark Gebhardt, MD; Antonio Perez-Atayde; Emily Rademacher, BS
Boston Children's Hospital, Boston, MA
- Paper 42 9:25 AM–9:29 AM
Does Pathologic Fracture Affect Prognosis in Osteosarcoma of the Extremities?
Megan Anderson, MD; Mark Gebhardt, MD; Santiago Lozano Calderon
Boston Children's Hospital, Boston, MA

9:30 AM–9:38 AM Discussion

9:38 AM–9:53 AM **DISTINGUISHED ACHIEVEMENT AWARD**
James W. Roach, MD

9:54 AM–10:14 AM Break

CONCURRENT SESSION I: SPINE

Moderator: *Lindsay Andras, MD*
eModerator: *Nicholas D. Fletcher, MD*
Presider: *Robert Murphy, MD*

- Paper 43 10:21 AM–10:25 AM
AIS Functional Outcomes, their Relationship to LIV, Subsequent Spine Surgery, and Patient Factors at Average 45 Years after Instrumented Fusion
Sarah Lander, MD; Caroline Thirukumaran; Krista Noble, BS; Ahmed Saleh, MD; Addisu Mesfin, MD; Paul Rubery, MD; James Sanders, MD
University of Rochester, Rochester, NY
- Paper 44 10:26 AM–10:30 AM
Continued Deterioration in Pulmonary Function at Minimum 18-year Follow-up from Early Thoracic Fusion in Non-neuromuscular Scoliosis
Daniel Bouton, MD; Lori Karol, MD; Kiley Poppino, BS; Charles E. Johnston II, MD
Texas Scottish Rite Hospital for Children, Dallas, TX
- Paper 45 10:31 AM–10:35 AM
Intermediate Term Progression of Adolescent Idiopathic Scoliosis Curves after Reaching 40 Degrees
W. Timothy Ward, MD; James Roach, MD; Tanya Kenkre, PhD; Maria Brooks, PhD; Patrick Bosch, MD; Ozgur Dede, MD; Bryan Rynearson, MD; Joanne Londino, RN
Children's Hospital of Pittsburgh of UPMC, Pittsburgh, PA

10:36 AM–10:44 AM Discussion

Paper 46 10:45 AM–10:49 AM
Can Sanders 7 be Utilized as a Stand-alone Criterion for Discontinuation of a TLSO in AIS?
Peter Gabos, MD; Megan Dempsey; Alicia McCarthy, NP; Kenneth Rogers, PhD; Abigail Mantica, MD; Suken Shah, MD
Nemours/A.I. duPont Hospital for Children, Wilmington, DE


Paper 47 10:50 AM–10:54 AM
Risk Factors for Prolonged Narcotic Use Following Adolescent Scoliosis Surgery
Scott Yang, MD; Brian Werner, MD
Oregon Health & Science University, Portland, OR

Paper 48 10:55 AM–10:59 AM
46% Reoperation Rate in Adolescents with Spondylolisthesis
Ena Nielsen, BA; Lindsay Andras, MD; Nicole Michael, BA; Sumeet Garg, MD; Michael Paloski, DO; Brian Brighton, MD; Emmanuelle Ferrero; Keyvan Mazda; Brice Ilharborde, MD; David Skaggs, MD
Children's Hospital Los Angeles, Los Angeles, CA

11:00 AM–11:08 AM Discussion

Paper 49 11:09 AM–11:13 AM
◆ Outcome Measurement of Vertebral Body Tethering for Adolescent Idiopathic Scoliosis
Daniel Hoernschemeyer, MD; Nicole Tweedy, NP; John Worley, BA; Christopher Loftis, MD; Dana Duren, PhD; Christina Holzhauser; Sumit Gupta, MD; Madeline Robertson, MD
Missouri Orthopedic Institute, Columbia, MO

Paper 50 11:14 AM–11:18 AM
◆ 2-Year Outcomes of Anterior Spinal Growth Tethering vs. Posterior Spinal Fusion for Scoliosis – Flexibility vs. Reliability
Peter Newton, MD; Dylan Kluck, MD; Wataru Saito; Burt Yaszay, MD; Carrie Bartley, MA; Tracey Bastrom, MA
Rady Children's Hospital, San Diego, CA

Paper 51  11:19 AM–11:23 AM
Pediatric Cervical Spine Clearance: A Multi-Disciplinary Consensus Statement and Algorithm from the Pediatric Cervical Spine Clearance Working Group
Martin Herman, MD; Jonathan H. Phillips, MD
St. Christopher's Hospital for Children, Philadelphia, PA

11:24 AM–11:32 AM Discussion

◆ Indicates those faculty presentations in which the FDA has not cleared the drug and/or medical device for the use described (ie. the drug or medical device is being discussed for an "off label" use).

Thursday, May 10, 2018, continued

- Paper 52 11:33 AM–11:37 AM
Is There an Improvement in Quality of Life with Early Onset Scoliosis Managed with Traditional Growing Rods Converted to Magnetically Controlled Growing Rods?
Jennifer Bauer, MD; Petya Yorgova, MS; Geraldine Neiss, PhD; Kenneth Rogers, PhD; Peter Sturm, MD; Paul Sponseller, MD; Scott Luhmann, MD; Jeff Pawelek; Suken Shah, MD; Growing Spine Study Group Nemours/Alfred I. duPont Hospital for Children, Wilmington, DE
- Paper 53 11:38 AM–11:42 AM
EDF Casting Preserves Pulmonary Function in Early Onset Scoliosis - A Follow-up
Shyam Kishan, MD; Cody Shafer, MD; Kimberly Sundblad; Randall Loder, MD Riley Hospital for Children, Indiana University, Indianapolis, IN
- Paper 54 11:43 AM–11:47 AM
Magnetically Controlled Growing Rods have a High Rate of Complications and Return to OR
Chun Wai Hung; Megan Campbell, BA; Hiroko Matsumoto, MA; David Roye, MD; Michael Vitale, MD, MPH; Benjamin Roye, MD Columbia University Medical Center, New York, NY
- 11:48 AM–11:56 AM Discussion

CONCURRENT SESSION II: SPORTS

Moderator: *Kevin Shea, MD*
eModerator: *David Spence, MD*
Presider: *Jennifer Beck, MD*

- Paper 55 10:21 AM–10:25 AM
Athletic Activity in Children and Adolescents Decreases with Age: A Cross-Sectional Study of 2,002 American Youth
Peter Fabricant, MD; Joash Suryavanshi, BA; Jacob Calcei, MD; Robert Marx, MD; Roger Widmann, MD; Daniel Green, MD Hospital for Special Surgery, New York, NY
- Paper 56 10:26 AM–10:30 AM
Magnetic Resonance Imaging Abnormalities in Asymptomatic Little League Baseball Player's Shoulders
Andrew Pennock, MD; Jerry Dwek, MD; Emily Levy; Philip Stearns; John Manning, MD; M. Morgan Dennis, BS; Amanda Davis-Juarez, BS; Tracey Bastrom, MA; Kenneth Taylor, MD Rady Children's Hospital, San Diego, CA
- Paper 57 10:31 AM–10:35 AM
Which Factors Increase the Risk of Re-Operation After Meniscus Surgery in the Skeletally Immature?
Neeraj Patel, MD; Surya Mundluru, MD; Nicholas Beck, MD; Theodore Ganley, MD The Children's Hospital of Philadelphia, Philadelphia, PA
- 10:36 AM–10:44 AM Discussion

Paper 58 10:45 AM–10:49 AM
Risk Factors for Recurrent Patellar Instability in Children and Adolescents
Ronen Sever, MD; Noah Kirschner, BA; Kristin Twomey, MD; Regina Hanstein, PhD;
Eric Fornari, MD
Children's Hospital at Montefiore, Bronx, NY

Paper 59 10:50 AM–10:54 AM
Medial Patellofemoral Ligament Reconstruction versus Medial Retinaculum Plication: A Comparison Study
Eric Davis, BS; Robert Spang, MD; Natasha Trentacosta, MD; Frances Tepolt, MD;
Mininder Kocher, MD, MPH
Boston Children's Hospital, Boston, MA

Paper 60 10:55 AM–10:59 AM
Redislocation Rate in Children Undergoing Surgery for Patella Instability with Osteochondral Defects: Should a Concomitant Ligament Reconstruction be Performed?
Jason Pedowitz, BS; Eric Edmonds, MD; **Henry G. Chambers, MD**;
M. Morgan Dennis, BS; Tracey Bastrom, MA; Andrew Pennock, MD
Rady Children's Hospital, San Diego, CA

11:00 AM–11:08 AM Discussion

Paper 61 11:09 AM–11:13 AM
ACL Growth with Age in the Skeletally Immature: An MRI Study
Danielle Putur, MD; Miguel Pelton, MD; Niharika Patel, MPH; **Emily Niu, MD**
Children's National Medical Center, Washington, DC

Paper 62 11:14 AM–11:18 AM
How Do Race and Insurance Status Affect the Care of Pediatric Anterior Cruciate Ligament Injuries?
Nakul Talathi, BS; Joshua Bram, BS; **Neeraj Patel, MD**;
Christopher DeFrancesco, BS; Theodore Ganley, MD
The Children's Hospital of Philadelphia, Philadelphia, PA

Paper 63 11:19 AM–11:23 AM
Acute Opioid Consumption Affected by Graft Type Following Adolescent Anterior Cruciate Ligament Reconstruction
Jennifer Beck, MD; Kelly Cline, MD; Sophia Sangiorgio, PhD; Rebecka Serpa;
Kendall Shifflett, BS; Richard Bowen, MD
Orthopedic Institute for Children, Los Angeles, CA

11:24 AM–11:32 AM Discussion

Paper 64 11:33 AM–11:37 AM
Allograft Augmentation of Hamstring Anterior Cruciate Ligament Grafts is Associated with Increased Graft Failure
Crystal A. Perkins, MD; Michael Busch, MD; Melissa Christino, MD;
Samuel Willimon, MD
Children's Healthcare of Atlanta, Atlanta, GA

Thursday, May 10, 2018, continued

Paper 65 11:38 AM–11:42 AM
Adolescents with Quadriceps and Patellar Tendon Autografts Exhibit Greater Deficiencies in Drop Jump Landing Biomechanics than Patients with Hamstring Tendon Autografts
Nicole Mueske, MS; Curtis Vandenberg, MD; James Pace, MD; Mia Katzel, DPT; Ricardo Padilla; Tishya Wren, PhD
Children's Hospital Los Angeles, Los Angeles, CA

Paper 66 11:43 AM–11:47 AM
Return to Sport and Reoperation Rates in Patients Under the Age of 20 Following Primary Anterior Cruciate Ligament Reconstruction: Risk Profile Comparing Three Patient Groups Predicated Upon Skeletal Age
Daniel Green, MD; Frank Cordasco, MD; Sheena Black, MD; Meghan Price, BS; Colleen Wixted, BS; Michael Heller, ATC; Lori Asaro, PA; Joseph Nguyen, MPH
Hospital for Special Surgery, New York, NY

11:48 AM–11:56 AM Discussion

SYMPOSIA PROGRAM

POPS Symposium

1:30 PM – 3:30 PM

Co-Chairs: *Christi Abeln, APN, B.C.P.N.P*
Colleen Ditro, DNP, RN, CPNP

The Safety, Health and Wellness of the Orthopaedic Pediatric Patient

This 90-minute symposium will involve discussions on the safety, health and wellness of the pediatric patient during their orthopaedic care. Dr. Reid Nichols will discuss the preparation of the orthopaedic patient for surgery from a health and wellness perspective. The symposium will end with a discussion from Dr. Jessica Peck on how the Advanced Practice Provider can identify possible risk factors for child trafficking and initiate prompt intervention in the orthopaedic clinic.

Moderator(s): *Christi Abeln, APN, B.C.P.N.P*
Colleen Ditro, DNP, RN, CPNP

- | | |
|-----------------|--|
| 1:30 PM–2:15 PM | The Orthopaedic Perspective on the Health and Wellness of the Pediatric Patient
<i>L. Reid Nichols, MD</i> |
| 2:15 PM–2:25 PM | Discussion |
| 2:25 PM–3:20 PM | Children in Human Trafficking
<i>Jessica Peck, DNP, RN, MSN, CPNP-CP</i> |
| 3:20 PM–3:30 PM | Discussion |

PRACTICE MANAGEMENT Symposium

1:30 PM – 3:30 PM

Chair: *John Lovejoy, MD*

Telemedicine

Telemedicine is rapidly becoming a prominent offering for many medical practices. At a time when medical costs are rising and the demand for immediate access to medical professionals is increasingly expected by the public, telemedicine has been touted as a possible lower cost solution to providing specific types of care directly to patients at their convenience. This symposium will start by addressing the definition of telemedicine and then explore how it is utilized by some of the members of POSNA. We will explore areas such as the variations in state regulation, concerns over billing, the ethical issues that can occur, and how telemedicine might be best structured into a pediatric orthopaedic practice.

Moderator(s): *John Lovejoy, MD*
Pooya Hosseinzadeh, MD

- 1:30 PM–1:40 PM **Introduction**
John Lovejoy, MD
- 1:40 PM–1:55 PM **Incorporating Telehealth in Your Pediatric Orthopedic Practice**
Carey Officer
- 1:55 PM–2:15 PM **Telemedicine: How to Receive Proper Reimbursement**
Betty Hovey, CCS-P, CPC, CPMA, CPCD, CPB, COC, CPC-I, CDIP
Consultant, KarenZupko & Associates
- 2:15 PM–2:40 PM **Telemedicine: When, Where, and How to Use It Effectively**
Alfred Atanda Jr, MD
- 2:40 PM–3:00 PM **A Review of the Ethics of Telehealth and Telemedicine**
Wade Shrader, MD
- 3:00 PM–3:15 PM **POSNA Telemedicine Survey Results**
Pooya Hosseinzadeh, MD
- 3:15 PM–3:30 PM **Panel Discussion and Q&A**
Philip Wilson, MD; M. Wade Shrader, MD; Anthony Scaduto, MD;
Michael Albert, MD; Joseph Gerardi, DO; Carey Officer

RESEARCH Symposium: Evidence Based Practice Workshop

1:30 PM – 3:30 PM

Co-Chairs: *Theodore Ganley, MD; Corinna Franklin, MD;
Matthew Milewski, MD; Paul Sponseller, MD*

The Evidence-Based Practice and the Research Committees of POSNA have worked collaboratively to present our membership with a combined program. Our society's thought leaders will address ways to improve your practice both now and in the future by addressing state of the art evidence-based medicine principles and techniques. Colleagues will also show how they have applied those principles by briefly presenting their award-winning research initiatives that have been funded by POSNA-supported grants.

PERIOD 1

Evidence Based Practice Design and Debate

Moderator(s): *Paul Sponseller, MD
Scott McKay, MD*

- 1:30 PM–1:37 PM **The Mission - What is the Roadmap of Guidelines, Appropriate Use Criteria, and Performance Measures and How Does that Lead to Value?**
Kevin Shea, MD
- 1:38 PM–1:45 PM **A Debate - Is Evidence Based Medicine the "Enemy of Personalized Medicine" or the "Path to Quality, Value and Safety"?**
John (Jack) Flynn, MD
- 1:46 PM–1:53 PM **Study Design – Formulating a Translational Research Question**
Jonathan Schoenecker, MD, PhD
- 1:55 PM–2:02 PM **Data Collection - Can Electronic Capture Systems - Help or Hurt Us in Collecting Data, Incentivizing Patients and Improving Follow up?**
Keith Baldwin, MD, MSPT, MPH
- 2:03 PM–2:10 PM Discussion

PERIOD 2

POSNA Supported Research Highlights

Moderator(s): *Jonathan Schoenecker, MD, PhD
Phillip Nowicki, MD*

- 2:11 PM–2:17 PM **2016 Zimmer/Biomet Spine Research Grant**
Lori A. Dolan, PhD
"To Brace or Not to Brace: Development of an AIS Patient Decision Aid"
- 2:18 PM–2:24 PM **2016 St Giles Award**
Vidyadhar V. Upasani, MD
"The Effects of Intra-capsular Pressure on Femoral Head Perfusion: A Porcine Model"

**RESEARCH Symposium:
Evidence Based Practice Workshop, continued**

- 2:25 PM–2:31 PM **2016 Angela M Kuo Memorial Award**
Matthew A. Halanski, MD
"Non-invasive Limb Lengthening: Histotripsy-Mediated Periosteal
Transection in a Rabbit Model"
- 2:32 PM–2:38 PM **2016 Arthur Huene Memorial Research Award**
Frances A. Farley, MD
"Role of the Hypoxia Signaling Pathway in Spine Development"
- 2:39 PM–2:45 PM Discussion

PERIOD 3

Putting Evidence Into Practice

Moderator(s): *Brian Brighton, MD*
Michael Schmitz, MD

- 2:46 PM–2:53 PM **Funds – What are Funding Opportunities and Funding Needs for
Evidence Based Practice Initiatives?**
Sumeet Garg, MD
- 2:54 PM–3:01 PM **Levels of Evidence: Where are We in 2018?**
Mininder Kocher, MD, MPH
- 3:02 PM–3:09 PM **Best Practice Guidelines and Intra-operative Neuromuscular Monitoring**
Michael Vitale, MD, MPH
- 3:10 PM–3:30 PM Discussion



Opioid Epidemic in 2018: Strategies for Pediatric Orthopaedic Patients Symposium

1:30 PM – 3:30 PM

Co-Chairs: *Harold van Bosse, MD; Kerwyn Jones, MD*

Prescription Opioids and Children: The Best Use to Prevent Misuse, While Bringing Pain to Truce

This symposium was developed in response to the growing concern of opioid misuse, particularly as related to children and teenagers, and how to safeguard our patients as best possible, while appropriately managing their post-operative or injury related pain. The goals of the session will be to understand the extent of the opioid epidemic in children, including nationwide demographics on the non-medical use of prescription opioids by children, the physiologic factors that place children at risk for opioid abuse, and prescribing practices that may contribute to the problem. Physiology of pain and how it can be altered, practice strategies and alternatives to opioid pain medications will be discussed, as well as possible future directions for POSNA-led studies in this field.

Moderator(s): *Harold van Bosse, MD
Kerwyn Jones, MD*

- 1:30 PM–1:35 PM  **Welcome/Introduction**
*Kerwyn Jones, MD
Harold van Bosse, MD*
- 1:35 PM–1:45 PM  **Pre-Test**
- 1:45 PM–2:15 PM  **Pain Relief and the Opioid Crisis in the US and Canada**
David C. Ring, MD
- 2:15 PM–2:30 PM  **◆ Neurobiology of Pain**
Harold van Bosse, MD
- 2:30 PM–2:45 PM  **Differences in Opioid Response/Metabolism at Different Ages**
Kerwyn Jones, MD
- 2:45 PM–3:00 PM  **Recommendations for Outpatient Opioid Prescriptions for Children/Teens**
Susan T. Mahan, MD, MPH
- 3:00 PM–3:15 PM  **Alternative Strategies**
-  **Peri-operative**
*Robert H. Cho, MD
Anthony Cooper, MD, FRCS*
-  **Non-Opioid Outpatient Medications**
Ellen Raney, MD
-  **Cognitive and Emotional Strategies**
Ellen Raney, MD
- 3:15 PM–3:30 PM Question and Answer Panel

◆ Indicates those faculty presentations in which the FDA has not cleared the drug and/or medical device for the use described (ie. the drug or medical device is being discussed for an "off label" use).

Children's Orthopaedics in Under-Resourced Environments (COUR) Symposium

1:30 PM – 3:30 PM

Chair: *Coleen Sabatini, MD, MPH*

We Must Not Forget - Caring for Those with Polio and the Emerging Polio-Like Syndromes

The world is not yet polio free, and may never be. Places long-thought to be free of polio have recently been the site of new polio-like syndromes...this includes the USA. As the generation of surgeons that learned to care for polio has aged beyond their teaching roles, younger surgeons are at risk of repeating the mistakes of the past while caring for those with these polio-like syndromes, especially since the care of polio is no longer taught in our training programs.

This symposium brings together world experts in polio care who will cover the current state of polio and the polio-like syndromes, including epidemiology, surgical management, non-operative management and the future of orthopedic care for those with polio and polio-like syndromes.

Moderator(s): *Norgrove Penny, MD, FRCS(C)*

- 1:30 PM–1:35 PM **Welcome/Introductions**
Coleen Sabatini, MD, MPH
- 1:35 PM–2:00 PM **Polio and Polio-Like Syndromes – History, Current Epidemiology and Understanding New Conditions**
Hugh Watts, MD
- 2:00 PM–2:10 PM **Acute Flaccid Myelitis: The Austin Experience**
Donald Murphey, MD
- 2:10 PM–2:20 PM **Still on the Front Lines – Caring for Those with Polio in 2018**
Mathew Varghese, MBBS, MS

Lessons Learned – What We Must not Forget from Polio as We Now Face Polio-like Syndromes

- 2:20 PM–2:30 PM **Upper Extremity**
Hugh Watts, MD
- 2:30 PM–2:50 PM **Lower Extremity**
Mathew Varghese, MBBS, MS
- 2:50 PM–3:00 PM **Non-Operative Care**
Sharon K. DeMuth, MS, DPT

Caring for Patients in the Future

- 3:00 PM–3:20 PM **Case Discussions and Interactive Session**
Sharon K. DeMuth, MS, DPT, Donald Murphey, MD, Norgrove Penny, MD, FRCS(C), Sanjeev Sabharwal, MD, MPH, Mathew Varghese, MBBS, MS, Hugh Watts, MD
- 3:20 PM–3:30 PM **The Future of Polio and the Polio-Like Syndromes**
Sanjeev Sabharwal, MD, MPH

PHYSICIAN WELLNESS Symposium

1:30 PM – 3:30 PM

Co-Chairs: *Jennifer Weiss, MD;*
Henry G. Chambers, MD

Spouses are welcome
to attend this session.

The leadership of POSNA has given us an opportunity to begin an incredibly important conversation about physician wellness and compassion for ourselves, our colleagues, our patients and our families. This session will provide an introduction to physician wellness and compassion at all stages of our career. Put the oxygen mask on yourself so that you can help others...

Moderator(s): *Jennifer Weiss, MD;*
Henry G. Chambers, MD

- 1:30 PM–1:35 PM **Welcome and Introduction**
Jennifer Weiss, MD and
Henry G. Chambers, MD
- 1:35 PM–1:50 PM **Physician Burnout**
Michael J. Goldberg, MD
- 1:50 PM–2:10 PM **Mindfulness and Tips and Tricks for Conversations about the Toxicity in the Coal Mine**
Leah Weiss, PhD
- 2:10 PM–2:30 PM **Priorities in Different Stages of Career**
Colin F. Moseley, MD
- 2:30 PM–2:45 PM **Support Systems (Real Life and Virtual):
What Can We Learn from the Women of Orthopedics?**
Jennifer Weiss, MD
- 2:45 PM–3:00 PM **Performance Enhancement**
John (Jack) Flynn, MD
- 3:00 PM–3:30 PM **Question and Answer Panel**
Henry G. Chambers, MD; Samara Friedman, MD;
Carrie Baron, MD; Leah Weiss, PhD;
Michael Goldberg, MD

2018 POSNA ANNUAL MEETING

Thursday, May 10, 2018

YOUNG MEMBER FORUM

FOURTH ANNUAL ARABELLA LEET, MD YOUNG MEMBER FORUM

5:00 PM – 6:30 PM

Moderator: *Martin Herman, MD*

5:00 PM – 5:03 PM **Introduction – Brief Biography of Arabella Leet**
Moderator: *Martin Herman, MD*



SESSION 1

Responsible Economics

5:03 PM–5:10 PM **Office Billing: Honest and Fruitful Coding Strategies**
Michael Wolf, MD

5:11 PM–5:18 PM **Partnering with Industry: Avoiding Conflicts, Protecting Your Credibility**
Robert H. Cho, MD

5:19 PM–5:26 PM **Planning Your Financial Future: You Are Not as Rich as You Think**
Mark A. Erickson, MD

5:27 PM–5:37 PM Q&A

SESSION 2

Priorities in Practice

5:38 PM–6:03 PM **Balancing Your Clinical and Academic Lives: What Are the Priorities?**
Round Table Discussion

Moderator: *Martin Herman, MD*

Panelists: *Craig P. Ebersson, MD, Thomas G. McPartland, MD,
Mark A. Erickson, MD, Robert H. Cho, MD*

SESSION 3

Looking into the Future

6:04 PM–6:09 PM **Pediatric Orthopedic Workforce: 2030 and Beyond**
Jeffrey Sawyer, MD

6:10 PM–6:20 PM **Changing the Face of Pediatric Orthopedics:
The Importance of Promoting Diversity**
Corinna C. Franklin, MD

6:21 PM–6:30 PM Q&A

FRIDAY, MAY 11, 2018

7:30 AM–7:34 AM Welcome and Remarks

CLINICAL AWARD SESSION

Moderator: *Steven Frick, MD*
 eModerator: *Matthew Dobbs, MD*
 Presider: *Matthew Oetgen, MD*

Paper 67 7:35 AM–7:40 AM
Three-Dimensional Characterization of Acetabular Deficiency in Patients with Developmental Dysplasia of the Hip (DDH)
Raghav Badrinath, MD; Megan Jeffords, MS; James Bomar, MPH; Syed Ahmed, MD; Andrew Pennock, MD; Dennis Wenger, MD; Vidyadhar Upasani, MD
Rady Children’s Hospital, San Diego, San Diego, CA

7:41 AM–7:46 AM Discussion

Paper 68 7:47 AM–7:52 AM
Disc Degeneration in Unfused Caudal Motion Segments Ten Years Following Surgery for Adolescent Idiopathic Scoliosis
Baron Lonner, MD; Yuan Ren, PhD; Michelle Marks, PT; Peter Newton, MD; Randal Betz, MD; Amer Samdani, MD; Karen Chen; Harry Shufflebarger, MD; Suken Shah, MD; Daniel Lefton, MD; Hussein Nasser, MD; Colin Dabrowski, BS
Mount Sinai Hospital, New York, NY

7:53 AM–7:58 AM Discussion

Paper 69 7:59 AM–8:04 AM
Outcome of Microsurgery for BPBP Before Versus After 6 Months of Age: Results of the Multicenter TOBI Study
Andrea Bauer, MD; Leslie Kalish; Peter Waters, MD
Boston Children’s Hospital, Boston, MA

8:05 AM–8:10 AM Discussion

Paper 70  8:11 AM–8:16 AM
Displaced Distal Radius Fractures in Children Younger than 11 Years Old: A Randomised Controlled Trial Comparing Two Treatment Methods
Adriana Hernandez, MD; Aurelio Martinez, MD
Hospital Universitario “Jose Eleuterio Gonzalez”, Nuevo León, Mexico

8:17 AM–8:22 AM Discussion

Paper 71 8:23 AM–8:28 AM
A Dedicated Pediatric Spine Deformity Team Significantly Reduces Surgical Time and Cost
John (Jack) Flynn, MD; Brendan Striano, BA; Wallis Muhly, MD; Blair Kraus; Wudbhav N. Sankar, MD; Vaidehi Mehta; Barbara Dezayas; Jeffrey Feldman, MD; Ron Keren
Children’s Hospital of Philadelphia, Philadelphia, PA

8:29 AM–8:34 AM Discussion

Paper 72

8:35 AM–8:40 AM

**Non-Operative Management of Femoroacetabular Impingement:
A Prospective Study**

*Andrew Pennock, MD; James Bomar, MPH; Kristina Parvanta; Vidyadhar Upasani, MD
Rady Children's Hospital, San Diego, San Diego, CA*

8:41 AM–8:46 AM Discussion

Paper 73

8:47 AM–8:52 AM

**Anterior Vertebral Body Tethering for the Treatment of Idiopathic Scoliosis:
Feasibility, Outcomes, and Complications**

*Firoz Miyanji, MD, FRCSC; Luigi Nasto, MD; Eva Habib, BS; Andrea Simmonds, MD
BC Children's Hospital, Vancouver, BC, Canada*

8:53 AM–8:58 AM Discussion

Paper 74



8:59 AM–9:04 AM

**Characterization of Postoperative Pain and Opioid Use in Children with
Supracondylar Humerus Fractures Using Automated Mobile Phone Text Messaging**

*Susan Nelson, MD; Alexander Adams, BS; Matthew Buczek, BS;
Christopher Anthony, MD; Apurva Shah, MBA, MD
Children's Hospital of Philadelphia, Philadelphia, PA*

9:05 AM–9:10 AM Discussion

Paper 75

9:11 AM–9:16 AM

**Internal Brace ACL Repair is Associated with a High Failure Rate in the First
Two Years Post-Surgery**

*Alexia Gagliardi, BA; Ariel Kiyomi Daoud; Patrick Carry, MS; Harin Parikh, BS;
Jay Albright, MD
Children's Hospital Colorado, Aurora, CO*

9:17 AM–9:22 AM Discussion

Paper 76



9:23 AM–9:28 AM

**Standardization of the Surgical Treatment of Uncomplicated Supracondylar
Humerus Fractures: Using Quality Improvement Methodology to Implement
Evidence-Based Medicine**

*Jaime Denning, MD; Setenay Kara, PhD; Laura Brower, MD; Nathan Hanlon;
Sandra Singleton, MBA; Matthew Frazier
Cincinnati Children's Hospital, Cincinnati, OH*

9:29 AM–9:34 AM Discussion

9:35 AM–9:50 AM Break

BASIC SCIENCE AWARD SESSION

Moderator: *Jonathan Schoenecker, MD, PhD*

eModerator: *Shawn R. Gilbert, MD*

Presider: *Matthew A. Halanski, MD*

Paper 77 9:51 AM–9:55 AM

◆ **Pediatric OI Patients: Can their Bone Samples in a Xenograft Model Translate to New Anabolic Treatments?**

*Rachel Surowiec, MSc; Michelle Caird, MD; Ken Kozloff, PhD
University of Michigan, Ann Arbor, MI*

Paper 78 9:56 AM–10:00 AM

Intraosseous Needle Technique to Wash Out Necrotic Cell Debris from the Femoral Head following Ischemic Osteonecrosis

*Harry Kim, MD; Felipe Do Monte; Olumide Aruwajoye, PhD
Texas Scottish Rite Hospital for Children, Dallas, TX*

Paper 79 10:01 AM–10:05 AM

Mobile Application That Reconstruct 3D Femur from Two Un-Calibrated Radiographs

*Kibeom Youn; Moon Seok Park, MD, PhD; Jehhee Lee, PhD
Seoul National University Bundang Hospital, Sungnam, Gyeonggi, Republic of Korea*

10:06 AM–10:14 AM Discussion

Paper 80 10:15 AM–10:19 AM

A Low-frequency Missense Variant in SLC39A8 Associated with Severe Idiopathic Scoliosis

*Matthew Dobbs, MD; Gabriel Haller, PhD; Supak Jenkitkasemwong, PhD;
Momchil Nikolov, MSc; Julia Whittle, BS; Zachary Upshaw; Erin Baschal, PhD;
Carlos Cruchaga, PhD; Matthew Harms, MD; Cathleen Raggio, MD;
Jose Morcuende, MD; Philip Giampietro; Nancy Miller, MD;
Carol Wise, PhD; Mitchell Knutson; Christina Gurnett
Washington University School of Medicine, St. Louis, MO*

Paper 81 10:20 AM–10:24 AM

Novel Biological Role of Epigenetic MicroRNA in the Etiopathogenesis of Adolescent Idiopathic Scoliosis

*Jack C-Y Cheng, MD; Wayne Y. Lee, PhD; Jiajun Zhang; Tsz Ping Lam, MBBS;
Bobby Kin Wah Ng, MD; Yong Qiu, MD; Jian Feng
The Chinese University of Hong Kong, Hong Kong, Hong Kong*

Paper 82 10:25 AM–10:29 AM

Topical Vancomycin Eliminates Staphylococcus Epidermidis in a Chronic Spinal Implant-associated Infection Model

*Chenghao Zhang, MD; Melissa Karau, BS; Andre Van Wijnen; Thomas Boyce;
Robin Patel, MD; A. Noelle Larson, MD; Todd Milbrandt, MD
Mayo Clinic, Rochester, MN*

10:30 AM–10:38 AM Discussion

◆ Indicates those faculty presentations in which the FDA has not cleared the drug and/or medical device for the use described (ie. the drug or medical device is being discussed for an "off label" use).

Friday, May 11, 2018, continued

10:39 AM–10:59 AM **PRESIDENTIAL GUEST SPEAKER**
Michael Millis, MD

11:00 AM–11:05 AM **2019 Meeting Highlights**

11:06 AM–11:25 AM **Presidential Transfer**



SUBSPECIALTY DAY

HIP SUBSPECIALTY DAY

1:30 PM – 5:40 PM

Chairs: *Kishore Mulpuri, MD and Salil Upasani, MD*

The 2018 POSNA hip subspecialty program will be divided into 3 periods. The first period will include 10 podium presentations on a variety of hip related topics. The second period will cover case discussions for two controversial topics. First, we will discuss three treatment options for moderate to severe stable slipped capital femoral epiphysis (SCFE), followed by three treatment options to address healed residual femoral head deformity in patients with Perthes disease. Finally, there will be 7 Master's techniques presentations on less commonly performed hip procedures such as the Colonna procedure, femoral neck osteotomy for healed SCFE and clinical application of biologics for Perthes disease.

PERIOD 1

Free Papers

- Paper 83** 1:30 PM–1:34 PM
Closed vs. Open Reduction in Developmental Dysplasia of the Hip: The Effect on Acetabular Remodeling
Oussama Abousamra, MD; David Deliberato, DO; Satbir Singh, BS; Kevin Klingele, MD
Nationwide Children's Hospital, Columbus, OH
- Paper 84** 1:35 PM–1:39 PM
Inter- and Intraobserver Reliability of the Radiographic Diagnosis of Avascular Necrosis of the Femoral Head in Developmental Dysplasia of the Hip
Emily Schaeffer, PhD; Wudbhav N. Sankar, MD; Harry Kim, MD; Simon Kelley, MBChB; Peter Cundy; Charles Price, MD; Nicholas Clarke, FRCS; John Wedge, MD; R-IHDI Study Group; Kishore Mulpuri, MBBS
BC Children's Hospital, Vancouver, British Columbia, Canada
- Paper 85** 1:40 PM–1:44 PM
Femoral Nerve Palsy in Brace Treatment for Developmental Dysplasia of the Hip: Incidence and Outcomes in a Prospective International Cohort
Emily Schaeffer, PhD; Judy Wu, BS; Nicholas Clarke, FRCS; Simon Kelley, MBChB; Nicole Williams; R-IHDI Study Group; Kishore Mulpuri, MBBS
BC Children's Hospital, Vancouver, British Columbia, Canada

1:45 PM–1:54 PM

Discussion

- Paper 86 1:55 PM–1:59 PM
Avascular Necrosis Following Operative Treatment of Unstable Slipped Capital Femoral Epiphysis: Fifteen Year Experience with Positional or Open Reduction
Craig Louer, MD; Zachary Meyer, MD; Samantha Katz; Gregory Landers, BS; Mark Miller, MD; J. Gordon, MD; Perry Schoenecker, MD; Jeffrey Nepple, MD
Washington University School of Medicine, St. Louis, MO
- Paper 87 2:00 PM–2:04 PM
Patients with Sequelae of Slipped Capital Femoral Epiphysis have a Specific Pattern of Cartilage Wear at the Acetabulum and Femoral Head
Perajit Eamsobhana, MD; John Clohisy, MD; Jeffrey Nepple, MD; Karla Crook, BS; James Egan, BA; Cecilia Pascual-Garrido, MD
Washington University in St. Louis, St. Louis, MO
- Paper 88 2:05 PM–2:09 PM
Effect of Skeletal Maturity on Proximal Femoral Deformity After Prophylactic Screw Fixation of the Uninvolved Hip Contralateral to a Unilateral Slipped Capital Femoral Epiphysis
Aaron Boyles, DO; Vedant Kulkarni, MD; Jacob Carl, MD; Benjamin Wilson, MD; Ryan Muchow, MD; Jennette Boakes, MD; Anita Bagley, PhD
Shriners Hospitals for Children - Northern California, Sacramento, CA
- 2:10 PM–2:19 PM Discussion
- Paper 89 2:20 PM–2:24 PM
Modified Waldenstrom Classification Less than II-B Associated with Better Surgical Results in Severe Legg-Calve-Perthes Disease
Charles Mehlman, DO; Ayesha Yahya, DO; Junichi Tamai, MD; Emily Eismann, MS; Alvin Crawford, MD
Cincinnati Children's Hospital Medical Center, Cincinnati, OH
- Paper 90 2:25 PM–2:29 PM
Is Visual Inspection of Perfusion MRI as Reliable as MRI Analysis Software in Estimating Perfusion of the Femoral Head in Children with Legg-Calvé-Perthes Disease?
Harry Kim, MD; A. Noelle Larson, MD; Simon Thomas; David Neal, MD; Benjamin Shore, MD, MPH, FRCSC; Judson Karlen, MD; Pablo Castaneda, MD; David Wilkes, MD; Molly Dempsey, MD; Pamela Nurenberg, MD; Yassine Kanaan, MD; Tianyi Luo, MD; Jamie Burgess, PhD; Chan-Hee Jo, PhD
For the International Perthes Study Group
Texas Scottish Rite Hospital for Children, Dallas, TX
- Paper 91 2:30 PM–2:34 PM
Do Focal Chondral Defects Lead to Worse Outcomes after Periacetabular Osteotomy?
Michael Hellman, MD; Jeffrey Nepple, MD; Cecilia Pascual-Garrido, MD; ANCHOR Study Group; John Clohisy, MD
Washington University in St. Louis, St. Louis, MO
- Paper 92 2:35 PM–2:39 PM
Pre-operative Mental Health Status is a Significant Predictor of Post-operative Outcomes in Adolescents Treated with Hip Preservation Surgery
David Podeszwa, MD; Heather Richard; Shelby Parker, MA; Adriana De La Rocha, PhD
Texas Scottish Rite Hospital for Children, Dallas, TX

2:40 PM–2:50 PM Discussion

2:50 PM–3:10 PM Break

PERIOD 2

Case Discussion

3:10 PM–3:45 PM **Moderate to Severe Stable SCFE**
SCFE Panel

In Situ Screw Fixation +/- Osteochondroplasty
Jeffrey Nepple, MD

In Situ Fixation with Combined Osteochondroplasty and Imhauser Osteotomy
Kevin E. Klingele, MD

Modified Dunn Procedure
Eduardo V. Novais, MD

3:45 PM–4:20 PM **Healed Residual Deformity with Pain**
Perthes Panel

Surgical Dislocation with Osteochondroplasty
Wudbhav N. Sankar, MD

Relative Neck Lengthening
Young-Jo Kim, MD, PhD

Femoral Head Reduction
Daniel J. Sucato, MD, MS

4:20 PM–4:30 PM Break

PERIOD 3

Master's Techniques

4:30 PM–4:40 PM **Shelf Procedure for Perthes**
William Mackenzie, MD

4:40 PM–4:50 PM **Pelvic Osteotomies for Bladder Exstrophy**
Paul Sponseller, MD

4:50 PM–5:00 PM **Colonna (Capsular Arthroplasty) Procedure**
Travis Matheney, MD

5:00 PM–5:10 PM **Periacetabular Osteotomy**
Ira Zaltz, MD

5:10 PM–5:20 PM **Dega Procedure with Closed Tri-radiate**
Vineeta Swaroop, MD

5:20 PM–5:30 PM **Femoral Neck Osteotomy for Healed SCFE**
Prasad Gourineni, MD

5:30 PM–5:40 PM **◆ Clinical Application of Biological Treatments for Perthes Disease**
Harry Kim, MD

◆ Indicates those faculty presentations in which the FDA has not cleared the drug and/or medical device for the use described (ie. the drug or medical device is being discussed for an "off label" use).

TRAUMA SUBSPECIALTY DAY

1:30 PM – 5:40 PM

Upper Extremity Challenges and Adolescent Trauma

Chairs: *Brian Scannell, MD and Andrew Howard, MD*

The 2018 POSNA Trauma Subspecialty day will cover two main topics in addition to the free paper session. The first session will be on “Upper Extremity Challenges” including the management of supracondylar malunions, late presentations of elbow fractures, and stiff elbows after trauma. The second session will discuss controversial topics involving trauma in the adolescent patient. This will include adolescent supracondylar humeral fractures, managing growth arrests, and treatment of adolescent tibia fractures. Both sessions will have case presentations and a panel discussion.



PERIOD 1
Free Papers

Paper 93



1:30 PM–1:34 PM

Flexible Intramedullary Nailing of Femoral Shaft Fractures: Closed Versus Open Reduction

James Beaty, MD; Derek Kelly, MD; Spencer Richardson; James Dove; Benjamin Sheffer, MD; David Spence, MD; Jeffrey Sawyer, MD; William Warner, MD
Campbell Clinic Orthopedics, Germantown, TN

Paper 94



1:35 PM–1:39 PM

Risk Factors for Adverse Radiographic Outcomes after Elastic Intramedullary Nailing of Tibial Shaft Fractures in Children

Andrew Pennock, MD; Jason Pedowitz, BS; Dell McLaughlin, MD; Tracey Bastrom, MA; Nirav Pandya, MD; Vidyadhar Upasani, MD
Rady Children's Hospital, San Diego, CA

Paper 95



1:40 PM–1:44 PM

Rate of Concurrent, Ipsilateral Tibia Shaft and Distal Tibia Fractures in Pediatric Patients

Derek Kelly, MD; Benjamin Sheffer, MD; Mims Ochsner, MD; Eric Villarreal, BA; Jeffrey Sawyer, MD; William Warner, MD; James Beaty, MD; David Spence, MD
Campbell Clinic Orthopedics, Memphis, TN

1:45 PM–1:54 PM

Discussion

Paper 96



1:55 PM–1:59 PM

Similar Outcomes following both Operative and Non-Operative Treatment of Medial Epicondyle Fractures in Athletes

Derek Axibal, MD; Patrick Carry, MS; Anne Skelton, BS; Stephanie Mayer, MD
Children's Hospital Colorado, Aurora, CO


Paper 97




2:00 PM–2:04 PM

The Utility of Intra-Operative Arthrogram in the Management of Pediatric Lateral Condyle Fractures of the Humerus


John Vorhies, MD; Shawn Funk, MD; Marilyn Elliott; Anthony Riccio, MD; Brandon Ramo, MD
Texas Scottish Rite Hospital for Children, Dallas, TX


Paper 98  2:05 PM–2:09 PM
Delayed Unions and Functional Outcomes of Pediatric Lateral Condyle Humerus Fractures: A Prospective Study
Alexander Nazareth, MS; Curtis Vandenberg, MD; Rachel Goldstein, MD; Nina Lightdale-Miric, MD; Lindsay Andras, MD; Paul Choi, MD; James Pace, MD; David Skaggs, MD
Children's Hospital Los Angeles, Los Angeles, CA

2:10 PM–2:19 PM Discussion

Paper 99  2:20 AM–2:24 PM
Complications after Titanium Elastic Nailing of the Forearm
Matthew Abbott, MD; G. Li, MD; Michelle Caird, MD; Frances Farley, MD
University of Michigan, Ann Arbor, MI


Paper 100  2:25 PM–2:29 PM
Clinical and Radiographic Comparison of Sugar Tong Splint to Long Arm Cast Immobilization for Unstable Pediatric Forearm Fractures
Robert Murphy, MD; Leah Plumblee, MD; Brian Sleasman, MD; William Barfield, PhD; James Mooney, MD
Medical University of South Carolina, Charleston, SC


Paper 101  2:30 PM–2:34 PM
Long-term Outcomes Following Distal Clavicle Fractures in Adolescents: Does Internal Fixation Improve Outcomes?
Ishaan Swarup, MD; Steven Orr, MD; Kunal Agarwal, MS; Peter Fabricant, MD; Roger Widmann, MD; David Scher, MD; Emily Dodwell, MD, MPH, FRCSC
Hospital for Special Surgery, New York, NY


Paper 102  2:35 PM–2:39 PM
Are Patients Equally Satisfied with Advanced Practice Providers Compared to Surgeons in a Pediatric Fracture Clinic?
Christine Ho, MD
Children's Medical Center, Dallas, TX

2:40 PM–2:50 PM Discussion

2:50 PM–3:10 PM Break

 PERIOD 2
 Upper Extremity Challenges

3:10 PM–3:25 PM  **Elbows Diagnosed Late in the Fracture Clinic - Lateral Condyle Non-union, Supracondylar Malunion**
Joshua M. Abzug, MD

3:25 PM–3:40 PM  **The Proximal Radioulnar Joint and Its Woes (Late presenting Monteggia Fracture-Dislocations and Complex Radial Neck Fractures)**
Mark W. Camp, MD


3:40 PM–3:50 PM  **Stiff Elbows**
Hilton Gottschalk, MD

Friday, May 11, 2018, continued


3:50 PM–4:20 PM  **Case Presentation and Panel Discussion**
Andrew Howard, MD

4:20 PM–4:30 PM Break

PERIOD 3 Trauma in the Adolescent

4:30 PM–4:40 PM  **Adolescent Supracondylar Humerus Fractures**
Brian Scannell, MD

4:40 PM–4:50 PM  **Managing Growth Arrests – A Frame Surgeon’s Perspective**
Simon P. Kelley, FRCS

4:50 PM–5:05 PM  **The Adolescent Tibia – Nails, Frames, or Casts?**
Brian Brighton, MD and Christopher Iobst, MD

5:05 PM–5:20 PM  **Case Presentations and Panel Discussion**
Christopher D. Souder, MD

LOWER EXTREMITY/NEUROMUSCULAR SUBSPECIALTY DAY 1:30 PM – 5:40 PM

Chairs: *M. Wade Shrader, MD and
Emily Dodwell, MD, MPH, FRCSC*

The lower extremity/neuromuscular subspecialty program covers a range of clinically relevant and in some cases controversial topics. Our afternoon starts with the neuromuscular section; a debate on hip resection versus total hip arthroplasty for painful degenerative hips in cerebral palsy. We will then explore models for transitioning care for young adults with cerebral palsy, and how to perform gait analysis without a gait lab, followed by a Master Technique session on the management of pelvic obliquity. The lower extremity section starts with another debate; lengthening vs shortening for a 5cm leg length discrepancy. We will review the most meaningful pediatric lower extremity literature published this past year, and review the newest biologic treatments for pediatric orthopedic conditions. This will be followed by a Master Technique session on the management of congenital vertical talus.

PERIOD 1 Neuromuscular

1:30 PM **Welcome**
M. Wade Shrader, MD

1:30 PM–1:45 PM **Salvage Debate in GMFCS IV/V Hips: Hip Resection vs. Arthroplasty**
M. Wade Shrader, MD vs. David M. Scher, MD

1:45 PM–2:00 PM Audience Discussion

2:00 PM–2:10 PM **Models for Transition**
David P. Roye, MD

2:10 PM–2:20 PM **Master Technique: Management of Pelvic Obliquity**
Kirk W. Dabney, MD, MHDS

2:20 PM–2:30 PM **Gait Analysis without a Lab**
Vedant A. Kulkarni, MD

2:30 PM–2:40 PM Q&A

2:40 PM–3:00 PM Break

PERIOD 2
Free Papers

Paper 103 3:00 PM–3:04 PM
Assessing Health Related Quality of Life (HRQoL) in Cerebral Palsy (CP) Following Scoliosis Surgery: Is the CPCHILD Measuring What We Want?
Firoz Miyanji, MD, FRCSC; Luigi Nasto, MD; Tracey Bastrom, MA; Paul Sponseller, MD; Suken Shah, MD; Amer Samdani, MD; Michelle Marks, PT; Unni Narayanan MBBS, MSc, FRCSC; Peter Newton, MD
BC Children's Hospital, Vancouver, British Columbia, Canada

Paper 104 3:05 PM–3:09 PM
Does Planned Pain Management Enhance the Peri-Operative Experience in Children Undergoing Lower Extremity Orthopedic Surgery?
Francisco Valencia, MD; Peter Lichtenthal, MD; Helen Chan, MD; Olivia Valencia, BA
University of Arizona, Tucson, AZ

Paper 105 3:10 PM–3:14 PM
Incidence of Pediatric Venous Thromboembolism After Elective Spine and Lower Extremity Surgery in Children with Neuromuscular Complex Chronic Conditions: Do We Need Prophylaxis?
Benjamin Shore, MD, MPH, FRCSC; Matt Hall, PhD; Travis Matheney, MD; Brian Snyder, MD; Cameron Trenor, MD; Michael Glotzbecker, MD; Jay Berry
Boston Children's Hospital, Boston, MA

3:15 PM–3:24 PM Discussion

Paper 106 3:25 PM–3:29 PM
First Metatarsal Longitudinal Epiphyseal Bracket and Pre-axial Polydactyly of the Foot
Anna Acosta, MD; Viviana Bompadre, PhD; Vincent Mosca, MD
Seattle Children's Hospital, Seattle, WA

Paper 107 3:30 PM–3:34 PM
Morphology and Outcome in Congenital Fibular Deficiency Associated Clubfoot
Stephan Zmugg, MD; John Birch, MD, FRCSC; Isabel Hernandez, BA; Shelby Parker, MA; Chan-Hee Jo, PhD
Texas Scottish Rite Hospital for Children, Dallas, TX

Paper 108 3:35 PM–3:39 PM
How Effective is Surgery for Pes Planovalgus in Ambulatory Children with Cerebral Palsy? Multi-segment Foot Motion Analysis, Physical Examination and Radiographic Changes
Nikolas Nahm, MD; Sue Sohrweide; Roy Wervej, BS; Michael Schwartz, PhD; Tom Novacheck, MD
Gillette Children's Specialty Healthcare, St. Paul, MN

Friday, May 11, 2018, continued

3:40 PM–3:49 PM Discussion

- Paper 109 3:50 PM–3:54 PM
Amputation Outcomes in Congenital Pseudarthrosis of the Tibia
*David Westberry, MD; Ashley Carpenter, BS; Jocelyn Tisch, BS;
J. Michael Wattenbarger, MD*
Shriners Hospital for Children, Greenville, SC
- Paper 110 3:55 PM–3:59 PM
Congenital Pseudarthrosis of the Tibia: Results at Skeletal Maturity of Treatment by the Charnley-Williams Method
Charles E. Johnston II, MD; Dustin Singer, BA
Texas Scottish Rite Hospital, Dallas, TX
- Paper 111 4:00 PM–4:04 PM
Outcomes of Anterior Distal Femoral Hemiepiphysiodesis in Children with Musculoskeletal Disorders
Robert Kay, MD; Alexander Nazareth, MS; Michael Gyorfí, BS; Susan Rethlefsen, PT; Benjamin Wiseley, MD; Ken Noonan, MD
Children's Hospital Los Angeles, Los Angeles, CA
- Paper 112 4:05 PM–4:09 PM
Gait Analysis Parameters and Physical Activity Measures Pre and Post Operatively in Youth with Cerebral Palsy Undergoing Single Event Multilevel Surgery
Julianne Sees, DO; Nancy Lennon, PT; Kristen Nicholson, PhD; Chris Church, PT; Freeman Miller, MD
Nemours Alfred I. duPont Hospital for Children, Wilmington, DE

4:10 PM–4:20 PM Discussion

4:20 PM–4:30 PM Break

PERIOD 3 Lower Extremity

- 4:30 PM–4:45 PM **Growth Modulation vs. Lengthening for Projected 5 cm LLD**
Roger F. Widmann, MD vs. Christopher Iobst, MD
- 4:45 PM–5:00 PM Audience Discussion
- 5:00 PM–5:10 PM **Most Meaningful Literature in Lower Extremity 2016-17**
Emily Dodwell, MD, MPH, FRCSC
- 5:10 PM–5:20 PM ♦ **New Biological Treatments for Pediatric Ortho Conditions**
Klane K. White, MD
- 5:20 PM–5:30 PM **Master Technique: Management of CVT**
Matthew B. Dobbs, MD
- 5:30 PM–5:40 PM Q&A

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UPPER EXTREMITY SUBSPECIALTY DAY

1:30 PM – 5:40 PM

Chairs: *Christine Ho, MD and Apurva Shah, MBA, MD*

Learn from the Masters! Surgical techniques for treatment of neonatal brachial plexus palsy injury and congenital hand deformity will be discussed by world-class experts, with special attention to “How I Do It.” Case presentations will enhance discussion of nerve and muscle transfers, open shoulder reduction, osteotomies, cleft hand, radial dysplasia, and macrodactyly.

PERIOD 1

Masters Techniques in Brachial Plexus Birth Injury

Moderator: *Roger Cornwall, MD*

- | | |
|-----------------|--|
| 1:30 PM–1:40 PM | Technique Presentation 1: Spinal Accessory Nerve Transfer (Including Technical Pearls for Posterior Approach)
<i>Peter M. Waters, MD</i> |
| 1:40 PM–1:50 PM | ◆ Technique Presentation 2: Uncommon Nerve Transfers
<i>Scott Kozin, MD</i> |
| 1:50 PM–1:55 PM | Q&A |
| 1:55 PM–2:05 PM | Technique Presentation 3: Open Reduction and Tendon Transfers of the Dislocated Shoulder
<i>Christopher Stutz, MD</i> |
| 2:05 PM–2:15 PM | Technique Presentation 4: Glenoid Anteversion Osteotomy
<i>Sevan Hopyan, MD</i> |
| 2:15 PM–2:20 PM | Q&A |
| 2:20 PM–2:40 PM | Cases with Panel Members |
| 2:40 PM–3:00 PM | Break |

PERIOD 2

Free Papers


- | | |
|-----------|---|
| Paper 113 | 3:00 PM–3:04 PM
Postoperative Loss of Midline Function in Brachial Plexus Birth Palsy
<i>Dustin Greenhill, MD; Arianna Trionfo, MD; Frederick Ramsey, PhD; Scott Kozin, MD; Dan Zlotolow, MD</i>
<i>Shriner's Hospital - Philadelphia, Philadelphia, PA</i> |
| Paper 114 | 3:05 PM–3:09 PM
Results of Modified Outerbridge-Kashiwagi Procedure for Elbow Flexion Contractures in Brachial Plexus Birth Palsy
<i>Andrew Price, MD; Herbert Valencia, RN; John Grossman</i>
<i>NYU Langone Orthopedic Hospital, New York, NY</i> |


- ◆ Indicates those faculty presentations in which the FDA has not cleared the drug and/or medical device for the use described (ie. the drug or medical device is being discussed for an “off label” use).

- Paper 115 3:10 PM–3:14 PM
The Incidence and Comorbidities Associated with Neonatal Brachial Plexus Palsy in the United States - Are We Improving?
*Paul Navo, MPH; Ram Alluri, MD; Gabriel Bouz, BA; Milan Stevanovic; Alidad Ghiassi, MD; **Nina Lightdale-Miric, MD***
Keck School of Medicine of the University of Southern California, Los Angeles, CA


3:15 PM–3:24 PM Discussion

- Paper 116  3:25 PM–3:29 PM
Body Mass Index Does not Affect Cast Index but Increases Risk of Complication Associated with Treatment of Distal Forearm Fractures
*Geoffrey Marano, MD; Denver Burton, BS; Xuan Qiu, MD; Jacob Schulz, MD; **Jaime Gomez, MD**; Regina Hanstein, PhD; Norman Otsuka, MD*
Children's Hospital at Montefiore, Bronx, NY


- Paper 117  3:30 PM–3:34 PM
Childhood Obesity Associated with Different Patterns of Upper Extremity Physal Fractures
*Derek Nhan, BS; Walter Klyce, BA; Adam Margalit, MD; Paul Sponseller, MD; **Rushyuan Lee, MD***
Johns Hopkins Bloomberg Children's Center, Baltimore, MD

- Paper 118  3:35 PM–3:39 PM
What Caregivers Want - Immobilization Preferences for Pediatric Buckle Fractures of the Wrist
***Brendan Williams, MD**; Sarah Molinari, MPH; Robert Matthias, MD; Sarah Offley, MD; Laurel Blakemore, MD; Noel Palumbo, BS*
University of Florida, Gainesville, FL

3:40 PM–3:49 PM Discussion

- Paper 119  3:50 PM–3:54 PM
Can We Estimate the Amount of Malrotation in Supracondylar Humerus Fractures After CRPP?
***Christine Ho, MD**; Pooja Prabhakar; William Pierce; Karen Standefer, BS*
Texas Scottish Rite Hospital for Children, Dallas, TX

- Paper 120  3:55 PM–3:59 PM
Predictors of Non-operative Treatment Failure in Pediatric Lateral Condyle Fractures of the Humerus
***Daniel Bland, MD**; M. Morgan Dennis, BS; Andrew Tennant Pennock, MD; Vidyadhar Vinayak Upasani, MD; Burt Yaszay, MD; Eric William Edmonds, MD*
Rady Children's Hospital San Diego, San Diego, CA

- Paper 121  4:00 PM–4:04 PM
Trends in the Patient Reported Outcomes Instrument System (PROMIS) after Percutaneous Pinning of Supracondylar Humerus Fractures in Pediatric Patients
*Lindley Wall, MD; **Brian Kelly, MD**; Pooya Hosseinzadeh, MD; Lauren Davis, MPH; Mark Miller, MD; J. Gordon, MD; Perry Schoenecker, MD; Scott Luhmann, MD; Matthew Dobbs, MD; Charles Goldfarb, MD; Jeffrey Nepple, MD*
Washington University School of Medicine, St. Louis, MO

Paper 122



4:05 PM–4:09 PM

Transphyseal Humeral Separations: What Can We Learn?

Arun Hariharan, MD; Christine Ho, MD; Andrea Bauer, MD; Charles Mehlman, DO;
Nathan O'Hara; Paul Sponseller, MD; **Joshua M. Abzug, MD**
University of Maryland School of Medicine, Baltimore, MD

4:10 PM–4:20 PM

Discussion

4:20 PM–4:30 PM

Break

PERIOD 3

Master Techniques in Congenital Hand Deformity

Moderator: *Joshua M. Abzug, MD*

Radial Dysplasia

4:30 PM–4:40 PM

Technique Presentation 1: Vikki Transfer

Scott Oishi, MD, FACS

4:40 PM–4:50 PM

Technique Presentation 2: Lengthening/Centralization

Charles A. Goldfarb, MD

Cleft Hand

4:50 PM–5:00 PM

Technique Presentation 3: Miura

Terry Light, MD

5:00 PM–5:10 PM

Technique Presentation 4: Snow Littler

Michelle A. James, MD

Macroductyly

5:10 PM–5:20 PM

Technique Presentation 5: Debulking / Ray Resection

Scott Oishi, MD, FACS

5:20 PM–5:40 PM

Q&A and Case Presentations

SPINE SUBSPECIALTY DAY

1:30 PM – 5:40 PM

Chairs: *Matthew Oetgen, MD* and *Lindsay Andras, MD*

The POSNA 2018 spine specialty program is designed to update surgeons on current cutting-edge topics and provide tips and tricks on a range of issues related to adolescent idiopathic scoliosis. The first session is entitled Cutting Edge Debates and will feature pro and con debates on subjects including the efficacy of Schroth physical therapy, optimal use of braces, the role of surgical techniques and technology such as anterior spinal tethering, Ponte osteotomies, and magnetic controlled growing rods. The second session entitled "Top 3 in 5" is a new format which will feature three tips for treating a variety of common issues encountered in AIS. Topics addressed will include choosing implant positions, leveling the shoulders, optimizing OR teams, managing neuromonitoring changes, treating the draining spine, and more.

PERIOD 1

Cutting Edge Debates

Moderator: *Lindsay Andras, MD*

1:30 PM–1:40 PM **Schroth PT: Affect on Curve Progression**
Pro: *Brian G. Smith, MD* vs. Con: *Nicholas D. Fletcher, MD*

1:40 PM–1:45 PM Discussion

1:45 PM–1:55 PM **TLSO all the Time vs. Night Time Bracing Only**
Amy McIntosh, MD vs. *Stefan Parent, MD*

1:55 PM–2:00 PM Discussion

2:00 PM–2:10 PM ♦ **Tether vs. Selective PSF for Young Lenke 1**
Patrick J. Cahill, MD vs. *Brandon Ramo, MD*

2:10 PM–2:15 PM Discussion

2:15 PM–2:25 PM **Pontes for Everyone vs. Selective Use**
Suken A. Shah, MD vs. *Daniel J. Sucato, MD, MS*

2:25 PM–2:30 PM Discussion

2:30 PM–2:40 PM **MCGR for Everyone vs. TGR in Some Cases**
Laurel Blakemore, MD vs. *Charles E. Johnston II, MD*

2:40 PM–3:00 PM Break

♦ Indicates those faculty presentations in which the FDA has not cleared the drug and/or medical device for the use described (ie. the drug or medical device is being discussed for an "off label" use).

PERIOD 2

Top 3 in 5 for AIS

Moderator: *Matthew Oetgen, MD*

Idiopathic Scoliosis-Preoperative Planning

3:00 PM–3:05 PM ♦ **Choosing Implant Positions**
A. Noelle Larson, MD

3:05 PM–3:10 PM **Leveling the Shoulders**
Michael Vitale, MD, MPH

3:10 PM–3:15 PM **Choosing LIV**
Robert H. Cho, MD

3:15 PM–3:23 PM Discussion

Idiopathic Scoliosis- Intraoperative

3:23 PM–3:28 PM **Optimizing OR Team**
John (Jack) Flynn, MD

3:28 PM–3:33 PM **Peri-operative Blood Management Strategies**
Matthew A. Halanski, MD

3:33 PM–3:38 PM **Improving Surgical Efficiency with Power**
David Skaggs, MD

3:38 PM–3:46 PM Discussion

Idiopathic Scoliosis- Complications

3:46 PM–3:51 PM **Neuromonitoring Changes-Checklists and Beyond**
Lindsay Andras, MD

3:51 PM–3:56 PM **The Draining Spine**
Michael P. Glotzbecker, MD

3:56 PM–4:01 PM **Junctional Issues**
Ron El-Hawary, MD

4:01 PM–4:10 PM Discussion

4:10 PM–4:20 PM Break

PERIOD 3

Free Papers

Paper 123 4:20 PM–4:24 PM
Biplanar Imaging Unlocks 3D Deformity in a 30-Year Follow-up Cohort of AIS Patients
Michael Yaszemski, MD; Chenghao Zhang, MD; David Polly, MD; Clayton Cowl; A. Noelle Larson, MD
Mayo Clinic, Rochester, MN

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Paper 124 4:25 PM–4:29 PM
A Novel 3D Parameter Can Guide Concave Rod Contour for the Correction of Lost Kyphosis in Adolescent Idiopathic Scoliosis
Peter Newton, MD; Dylan Kluck, MD; Thomas Sullivan, MD; Megan Jeffords, MS; Tracey Bastrom, MA; Fredrick Reighard, MPH; Burt Yaszay, MD
Rady Children's Hospital, San Diego, CA

Paper 125 4:30 PM–4:34 PM
Dedicated Spine Nurses and Scrub Technicians Improve Outcomes and Efficiency of Surgery for Adolescent Idiopathic Scoliosis
Rajan Murgai, BS; Ena Nielsen, BA; Lindsay Andras, MD; Hazel Gould; David Skaggs, MD
Children's Hospital Los Angeles, Los Angeles, CA

4:35 PM–4:44 PM Discussion

Paper 126 4:45 PM–4:49 PM
Minimally Invasive Versus Standard Surgery in Idiopathic Scoliosis Patients: A Comparative Study
Vishal Sarwahi, MBBS; Romain Dayer, MD; Charlotte Launay, MD; Stephen Wendolowski, BS; Jesse Galina, BS; Yungtai Lo, PhD; Terry Amaral, MD
Cohen Children's Medical Center, New Hyde Park, NY

Paper 127 4:50 AM–4:54 PM
The Lumbosacral Takeoff Angle (LSTOA) Can Be Used to Predict Residual Lumbar Cobb in Selective Thoracic Fusions
Keith Bachmann, MD; Edwin Lu, BS; Wendy Novicoff, PhD; Peter Newton, MD; Mark Abel, MD
University of Virginia, Charlottesville, VA

Paper 128 4:55 PM–4:59 PM
Clinical Outcomes of Surgically Treated High-grade Spondylolisthesis and their Relation to Spinal Deformity Study Group (SDSG) Classification
Daniel Bouton, MD; Daniel J. Sucato, MD, MS
Texas Scottish Rite Hospital for Children, Dallas, TX

5:00 PM–5:09 PM Discussion

Paper 129 5:10 PM–5:14 PM
Positive Predictors of Success in EDF Casting - The Role of Traction
Shyam Kishan, MD; Cody Shafer, MD; Kimberly Sundblad; Randall Loder, MD
Riley Hospital for Children, Indiana University, Indianapolis, IN

Paper 130 5:15 PM–5:19 PM
Comparison of Deformity Correction and Complications with Growth-friendly and Early Primary Posterior Spinal Fusion in 8-11 Year Old Children with Dcoliosis
Jaime Gomez, MD; Regina Hanstein, PhD; Jacob Schulz, MD; Tricia St. Hilaire, MPH; Klane K. White, MD; Ron El-Hawary, MD; Sumeet Garg, MD; Patrick Cahill, MD; Michael Vitale, MD, MPH; Gregory Redding, MD
Children's Hospital at Montefiore, Bronx, NY

Paper 131 5:20 PM–5:24 PM
Unplanned Return to OR for EOS Children: A Comprehensive Evaluation of all Diagnoses and Instrumentation Strategies
Jason B. Anari, MD; Patrick Cahill, MD; Michael Vitale, MD, MPH; John Smith, MD; Jaime Gomez, MD; Keith Baldwin, MD, MSPT, MPH; John (Jack) Flynn, MD
Children's Hospital of Philadelphia, Philadelphia, PA

Paper 132 5:25 PM–5:29 PM
Growth Guidance Constructs with Pedicle Screws (SHILLA) Results in 1/5th of Normal T1-S1 Growth
Alexander Nazareth, MS; David Skaggs, MD; Stefan Parent, MD; Suken Shah, MD; James Sanders, MD; Lindsay Andras, MD; Growing Spine Study Group
Children's Hospital Los Angeles, Los Angeles, CA

5:30 PM–5:40 PM Discussion

SPORTS SUBSPECIALTY DAY

1:30 PM – 5:40 PM

Chairs: *Benton E. Heyworth, MD and Jennifer M. Weiss, MD*

The 2018 POSNA sports medicine subspecialty program will cover three main topics: (1) pediatric ACL injuries, (2) controversial fractures in young athletes, and (3) QSVI in pediatric sports medicine. The first session will be divided up into two aspects central to the topic of pediatric and adolescent ACL injury management. Firstly, six different new techniques in the treatment of ACL injuries will be reviewed, followed by pitfalls and complications specific to treatment of ACL injury in this younger population of athletes. The second session will explore the literature, indications, and techniques for the treatment of fractures common to pediatric athletes, but which have controversial and/or variable treatment approaches. The third session will briefly review the history and future of QSVI initiatives, as they relate to pediatric sports medicine as a subspecialty, and within the larger spheres of pediatric orthopaedics, sports medicine, and general orthopaedics.

PERIOD 1A

New Techniques in Pediatric ACL Management

- | | |
|-----------------|---|
| 1:30 PM–1:36 PM | Suture-Based ACL Repair
<i>Jay Albright, MD</i> |
| 1:38 PM–1:44 PM | ◆ Bridge-Enhanced ACL Repair
<i>Yi-Meng Yen, MD</i> |
| 1:46 PM–1:52 PM | Quad Tendon ACL Reconstruction
<i>James Lee Pace, MD</i> |
| 1:54 PM–2:00 PM | ALL Reconstruction + ACL Reconstruction
<i>Theodore Ganley, MD</i> |
| 2:02 PM–2:08 PM | Iliotibial Band ACL Reconstruction
<i>Melissa Ann Christino, MD</i> |
| 2:10 PM–2:16 PM | All-Epiphyseal Reconstruction
<i>J. Todd Lawrence, MD, PhD</i> |
| 2:16 PM–2:22 PM | Q&A – <i>Entire ACL Panel</i> |

◆ Indicates those faculty presentations in which the FDA has not cleared the drug and/or medical device for the use described (ie. the drug or medical device is being discussed for an "off label" use).

PERIOD 1B

Pitfalls & Complications in Pediatric ACL Management

- 2:24 PM–2:30 PM [Growth Disturbance after ACL Reconstruction](#)
Peter D. Fabricant, MD
- 2:30 PM–2:40 PM [Arthrofibrosis after ACL Reconstruction](#)
Mininder Kocher, MD, MPH
- 2:40 PM–3:00 PM Break



PERIOD 2A

'Controversial' Fractures in Adolescent Athletes

- 3:00 PM–3:08 PM  [Medial Epicondyle](#)
Eric W. Edmonds, MD
- 3:10 PM–3:18 PM  [Ischial Tuberosity](#)
Andrew T. Pennock, MD
- 3:20 PM–3:28 PM  [Midshaft Clavicle](#)
Nirav Kiritkumar Pandya, MD
- 3:30 PM–3:38 PM  [Jones Fx /5th MT](#)
Henry B. Ellis, MD
- 3:40 PM–3:48 PM  [Type 2 Tibial Spine](#)
Stephanie W. Mayer, MD
- 3:50 PM–3:58 PM  [Lateral Malleolus/SER 2](#)
Dennis E. Kramer, MD

PERIOD 2B

- 4:00 PM–4:10 PM [QSVI in Sports Medicine: Where Are We Heading and How Can We Do It Right?](#)
Kevin Shea, MD
- 4:10 PM–4:20 PM Break

PERIOD 3

Free Papers

- Paper 133 4:20 PM–4:24 PM
[Outcomes of Medial Patellar Tendon Transfer with Proximal Realignment in Young Skeletally Immature Children with Patellar Instability](#)
Jeffrey Nepple, MD; Samantha Katz; Lauren Davis, MPH; Perry Schoenecker, MD; Scott Luhmann, MD
Washington University School of Medicine, St. Louis, MO
- Paper 134 4:25 PM–4:29 PM
[The Role of Hemiepiphyodesis and Guided Growth in the Treatment of Lateral Patellar Instability in Pediatric and Adolescent Patients](#)
Ryan Fallon; Eric Davis, BS; Mininder Kocher, MD, MPH; Benton Heyworth, MD
Boston Children's Hospital, Boston, MA

- Paper 135 4:30 PM–4:34 PM
The Role of Abnormal Tibiofemoral Rotation in Pediatric and Adolescent Patellar Instability
David Bernholt, MD; Joseph Lamplot, MD; Eric Eutsler, MD; Jeffrey Nepple, MD
 Washington University School of Medicine, St. Louis, MO
- 4:35 PM–4:44 PM Discussion
- Paper 136 4:45 PM–4:49 PM
A Retrospective Review of the Evaluation and Management of Discoid Meniscus in the Pediatric Population
Catherine Logan; Frances Tepolt, MD; Mininder Kocher, MD, MPH
 Boston Children's Hospital, Boston, MA
- Paper 137 4:50 PM–4:54 PM
The Sensitivity and Specificity of Pre-Operative History, Physical Examination, and Magnetic Resonance Imaging to Predict Articular Cartilage Injuries in Symptomatic Discoid Lateral Meniscus
Nirav Pandya, MD; Brian Lau, MD
 UCSF Benioff Children's Hospital, Oakland, CA
- Paper 138 4:55 PM–4:59 PM
Is the Incidence of Pediatric Stress Fractures on the Rise? Trends in New York State from 2000 to 2015
Neeraj Patel, MD; David Mai, MD; Austin Ramme, MD; Mara Karamitopoulos, MD; Pablo Castaneda, MD; Alice Chu, MD
 NYU Langone Medical Center, New York, NY
- 5:00 PM–5:09 PM Discussion
- Paper 139 5:10 PM–5:14 PM
 ♦ **Outcomes of ACL Reconstruction (Ipsilateral and Contralateral Failure) Using Biologic Augmentation in the Adolescent Patient**
Paul Fleissner, MD
 Crystal Clinic Orthopaedic Center, Akron, OH
- Paper 140 5:15 PM–5:19 PM
Comparison of Bone-Tendon-Bone Versus Hamstring Autografts for Anterior Cruciate Ligament (ACL) Reconstruction in the Adolescent Population
Nirav Pandya, MD
 UCSF Benioff Children's Hospital Oakland, Oakland, CA
- Paper 141 5:20 PM–5:24 PM
All-Epiphyseal Anterior Cruciate Ligament Reconstruction does not Increase the Risk of Complications Compared to Pediatric Transphyseal Reconstruction
Neeraj Patel, MD; Christopher Defrancesco, BS; Nakul Talathi, BS; Joshua Bram, BS; Theodore Ganley, MD
 The Children's Hospital of Philadelphia, Philadelphia, PA

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Paper 142 5:25 PM–5:29 PM

Dynamic Functional Deficits Continue 9 Months After Adolescent Anterior Cruciate Ligament Reconstruction

Jennifer Beck, MD; Kelly E. Cline, MD; Jay I. Semel, DPT; Rebecka Serpa; Kendall Anne Shifflett, BS; Edward Ebramzadeh, PhD; Richard E. Bowen, MD
Orthopedic Institute for Children, Los Angeles, CA

5:30 PM–5:40 PM

Discussion

POSNA CLOSING NIGHT AT AUSTIN CITY LIMITS LIVE

Location: 310 Willie Nelson Blvd.,
Austin

Date: May 11, 2018

Time: 7:30 PM – 11:00 PM

7:30 pm	Doors open
8:00 – 9:30 pm	Dinner
8:45 – 9:15 pm	Country and Western line dancing instruction
9:30 – 10:30 pm	Asleep at the Wheel
10:30 – 11:00 pm	Country and Western line dancing



The Friday closing event will be at ACL Live at the Moody Theater which is only four blocks from the JW Marriott.

Austin City Limits Live at The Moody Theater (ACL Live) is a state-of-the-art, 2,750-person capacity live music venue that hosts approximately 100 concerts a year. It serves as the permanent home for the taping of the acclaimed KLRU-TV produced PBS series, Austin City Limits, the longest running music series in American television history.

Dinner will be provided by Terry Black's BBQ, recognized by Texas Monthly as one of the state's top 50 BBQ restaurants.

Nine-time Grammy winner Ray Benson and Asleep at the Wheel will be your entertainment for the evening.

Attire: Texas Semiformal – coat, no tie, jeans, and boots.

Women's: Texas Semiformal – Cocktail Dress, boots optional

Get ready to eat and two step the night away.

*Included with attendee registration. Accompanying Persons must be registered to attend. Ticket includes dinner, entertainment, and two drink tickets.

*A ticket will be provided with your registration badge for this event. Your ticket is required for entry to ACL and will be exchanged at the event for your two drink tickets.

SATURDAY, MAY 12, 2018

8:00 AM–8:05 AM **Welcome and Remarks**

QSVI Award Paper Presented by: Peter Armstrong, MD
Trauma Paper Award / Best Paper Awards

FOOT/ANKLE

Moderator: *Derek Kelly, MD*
eModerator: *Natasha O'Malley, MD*
Presider: *Jennifer Laine, MD*

Paper 143 8:06 AM–8:10 AM
Duration of Brace Wear in Clubfoot Treatment—A Prospective Randomized Trial, Multicenter Trial
Matthew Dobbs, MD; Steven Frick, MD; Vincent Mosca, MD; Ellen Raney, MD; Joel Lerman, MD; Vishwas Talwalkar, MD; Christina Gurnett Washington University School of Medicine, St. Louis, MO

Paper 144 8:11 AM–8:15 AM
Ponseti Clubfoot Bracing: 8 Hours Each Night Will Result in Success
B. Stephens Richards III, MD; Shawne Faulks, RN; Kevin Felton Texas Scottish Rite Hospital for Children, Dallas, TX

Paper 145 8:16 AM–8:20 AM
Patient Reported Outcomes of the Ponseti Method for Untreated Idiopathic Clubfeet in Nepalese Patients Treated Between 1 to 5 Years of Age at a Minimum of 10 Years Follow-up
Bibek Banskota, MBBS; Prakash Yadav, MPH; Tarun Rajbhandari, MS; Om Shrestha; Divya Talwar, MPH; Ashok Banskota; David Spiegel, MD The Children's Hospital of Philadelphia, Philadelphia, PA

8:21 AM–8:30 AM Discussion

Paper 146 8:30 AM–8:34 AM
Plantar Pressures in Patients with Symptomatic Flexible Flatfoot: How are They Different than Adolescents with Asymptomatic Flatfoot?
Kirsten Tulchin-Francis, PhD; Anthony Riccio, MD; Ashley Erdman, BS Texas Scottish Rite Hospital for Children, Dallas, TX

Paper 147 8:35 AM–8:39 AM
Growth Modulation of Juvenile Hallux Valgus in Skeletally Immature Children
Ming Hung Chiang, MD; Kuan-Wen Wu, MD; Ting-Ming Wang, MD; Ken Kuo, MD National Taiwan University Hospital, Taipei, Taiwan

Paper 148 8:40 AM–8:44 AM
Posterior Ankle Impingement – The Most Under-diagnosed, Treatable Cause of Posterior Ankle Pain in Pediatric and Adolescent Patients?
Indranil Kushare, MD; Sachin Allahabadi, MD; Lee Haruno, BS; Ifeoma Inneh Texas Children's Hospital, Houston, TX

8:45 AM–8:53 AM Discussion

HIP

Moderator: Ernest Sink, MD
eModerator: Eduardo Novais, MD
Presider: Megan Gresh, MD

Paper 149 8:59 AM–9:03 AM
Changes of Contrast Enhancement and Diffusion in Legg-Calvé-Perthes Hips and Optimal Timing of Evaluation
Won Joon Yoo, MD; Chang Ho Shin; Jung-Eun Cheon, MD; Tae-Joon Cho; In Choi, MD
Seoul National University Children's Hospital, Seoul, Republic of Korea

Paper 150 9:04 AM–9:08 AM
A Pilot Study to Assess Dynamic Deformation of the Femoral Head During Weight Bearing in Perthes Disease
Anthony Cooper, MD, FRCS; Ryan Lohre, MD; Alexander Aarvold; Harpreet Chhina, MSc; Angela Eugenio; David Wilson, PhD; Chris Reilly, MD; Kishore Mulpuri, MBBS
BC Children's Hospital, Vancouver, British Columbia, Canada

Paper 151 9:09 AM–9:13 AM
Validity of Selected Patient-Reported Outcomes Measurement Information System (PROMIS) Measures in Patients with Legg-Calvé-Perthes Disease
Joshua Hyman, MD; Hiroko Matsumoto, MA; Anas Minkara, BS; Fay Callejo, MPH; Rebecca Dieckmann, BS; Hitesh Shah; Wudbhav N. Sankar, MD; Paul Choi, MD; Jennifer Laine, MD; Joseph Janicki, MD; Mihir Thacker, MD; Tim Schrader, MD; Derek Kelly, MD; Charles Mehlman, DO; Scott Rosenfeld, MD; Harry Kim, MD
Columbia University Medical Center, New York, NY

9:14 AM–9:22 AM Discussion

Paper 152 9:23 AM–9:27 AM
Childhood Obesity and Failure of the Proximal Femoral Physis: A Nationwide Population-based Cohort of Children Demonstrating Evidence for Causality Between Childhood Obesity and Slipped Capital Femoral Epiphysis
Daniel Perry, FRCS (Ortho); Steven Lane; Steve Turner
Alder Hey Children's Hospital, Liverpool, UK, United Kingdom

Paper 153 9:28 AM–9:32 AM
Reliability and Accuracy of the Peritubercle Epiphyseal Edema Sign on MRI and Peritubercle Lucency Sign on Radiographs for the Early Diagnosis of Slipped Capital Femoral Epiphysis
Daniel Maranhó, MD; Sarah Bixby, MD; Patricia Miller, MS; Eduardo Novais, MD
Boston Childrens Hospital, Boston, MA

Paper 154 9:33 AM–9:37 AM
Improved Clinical Outcomes, Better Radiographic Correction and Lower Complications after the Modified Dunn Procedure in Comparison to In-situ Pinning with Subsequent Proximal Femoral Osteotomy in Severe Stable SCFE
Eduardo Novais, MD; Young-Jo Kim, MD, PhD; Daniel Maranhó, MD; Michael Millis, MD; Patrick Carry, MS; Courtney O'Donnell, MD
Boston Childrens Hospital and Colorado Childrens Hospital, Boston, MA and Denver, CO

9:38 AM–9:46 AM Discussion

9:47 AM–10:07 AM Break

Paper 155 10:08 AM–10:12 AM
Relative Femoral Neck Lengthening for the Treatment of Complex Proximal Femoral Deformities: Deformity Correction, Complications, Clinical Outcomes and Osteoarthritis Progression
Perry Schoenecker, MD; Cecilia Pascual-Garrido, MD; Perajit Eamsobhana, MD; Jeffrey Nepple, MD; Karla Crook, BS; James Egan, BA; John Clohisy, MD
Washington University in St. Louis, St. Louis, MO

Paper 156 10:13 AM–10:17 AM
Proximal Femur Guided Growth for Spastic Hip Displacement in Cerebral Palsy Children - 5 Years Results
Weichun Lee, MD; Wen-E Yang, MD; Hsuan Kai Kao, MD; Chia-Hsieh Chang, MD
Chang Gung Memorial Hospital, Taipei, Taiwan

Paper 157 10:18 AM–10:22 AM
Growth and Remodelling of the Femoral Neck after in situ Fixation with a Growing Screw Construct
Ashlee Dobbe, FRCSC; David Little, MD, MBBS, FRACS, PhD; Oliver Birke, MD; Paul Gibbons
Westmead Children's Hospital, Westmead, New South Wales, Australia

10:23 AM–10:31 AM Discussion

Paper 158 10:32 AM–10:36 AM
3D Ultrasound in the Management of Developmental Dysplasia of the Hip
Niamul Quader; Emily Schaeffer, PhD; Kishore Mulpuri, MBBS; Anthony Cooper, MD, FRCS; Antony Hodgson, PhD; Rafeef Abugharbieh, PhD
BC Children's Hospital, Vancouver, British Columbia, Canada

Paper 159 10:37 AM–10:41 AM
Influence of Prior Hip Salvage Surgery on Outcomes after Total Hip Arthroplasty in Young Patients
Jaiben George, MBBS; Evan Miller, BA; Carlos Higuera Rueda, MD; Thomas Kuivila, MD; Michael Mont, MD; Ryan Goodwin, MD
Cleveland Clinic, Cleveland, OH

Paper 160 10:42 AM–10:46 AM
Shape of the Hip Joint in Avascular Necrosis to Predict Outcome
Virginie Pollet, MD; Joshua Bonsel, MSc; Jan Waarsing; Ralph Sakkera
Erasmus Medical Center, Sophia Children's Hospital, Rotterdam, Netherlands

10:47 AM–10:55 AM Discussion

CONGENITAL/SYNDROMES/NEUROMUSCULAR/LOWER EXTREMITY

Moderator: *Ellen Raney, MD*
eModerator: *Klane K. White, MD*
Presider: *Vinitha Shenava, MD*

Paper 161 11:01 AM–11:05 AM
Planned Fibular Non-Union for the Treatment of Genu Varum in Achondroplasia: Results Through Skeletal Maturity
Dennis Weiner, MD; Gabriel Mirhaidari, BS; Melanie Morscher, BS; Michael Gothard, MS; David Jonah, MA; Mark Adamczyk, MD
Akron Children's Hospital, Akron, OH

Paper 162 11:06 AM–11:10 AM
Is Growth Modulation Effective in Skeletal Dysplasia?
William Mackenzie, MD; Amit Nemade, MS; Mihir Thacker, MD; Kenneth Rogers, PhD; Colleen Ditro, NP
A. I. duPont Hospital for Children, Wilmington, DE

Paper 163 11:11 AM–11:15 AM
The Relationship of the Femoral Head and Acetabulum in Congenital Femoral Deficiency
David Feldman, MD; Murteza Kazim; Dror Paley, MD, FRCSC; Aaron Huser, DO; Juan Loaiza, BS
Paley Institute, West Palm Beach, FL

11:16 AM–11:24 AM Discussion

Paper 164 11:25 AM–11:29 AM
MRI of the Spine in Idiopathic Toe Walking – Is There A Role?
Collin May, MD; Clarissa Cheng; Brian Yang, BA; Susan Mahan, MD; Samantha Spencer, MD; James Kasser, MD; Benjamin Shore, MD, MPH, FRCSC
Boston Children's Hospital, Boston, MA

Paper 165 11:30 AM–11:34 AM
Best Predicting Future Growth–Paley Age Based Compared to PHV Determined Multipliers
James Sanders, MD; Lauren Karbach, MD; Xueya Cai, PhD; Shan Gao, MS; Raymond Liu, MD; Daniel Cooperman, MD
University of Rochester, Rochester, NY

Paper 166 11:35 AM–11:39 AM
Timing of Epiphysiodesis to Correct Leg Length Discrepancy: A Comparison of Prediction Methods
John Birch, MD, FRCSC; Marina Makarov; Taylor Jackson; Connor Smith, MD; Chan-Hee Jo, PhD
Texas Scottish Rite Hospital for Children, Dallas, TX

11:40 AM–11:48 AM Discussion

- Paper 167 11:49 AM–11:53 AM
Long-term Outcomes over 10 Years after Femoral Derotation Osteotomy in Ambulatory Children with Cerebral Palsy
Cho Seong Hee; Ki Hyuk Sung, MD; Chin Youb Chung, MD; Joohee Cho, PhD; Gyeonghee Cho; Moon Seok Park, MD
Seoul National University Bundang Hospital, Sunnam, Gyeonggi, Republic of Korea
- Paper 168 11:54 AM–11:58 AM
Predicting Complications After Hip Reconstructive Surgery in Non-Ambulatory Children with Cerebral Palsy
Eric Davis, BS; Patricia Miller, MS; Jodie Shea; Travis Matheney, MD; Laurie Glader, MD; Brian Snyder, MD; **Benjamin Shore, MD, MPH, FRCSC**
Boston Children's Hospital, Boston, MA
- Paper 169 11:59 AM–12:03 PM
Hip Status and Long-term Functional Outcomes in Spina Bifida
Rachel Thompson, MD; Joanna Foley, NP; Luciano Dias, MD; Vineeta Swaroop, MD
Ann & Robert H Lurie Childrens Hospital of Chicago, Chicago, IL

12:04 PM–12:12 PM Discussion

Poster 1

◆ **Anti-interleukin-6 Therapy (Tocilizumab) Improves Chronic Hip Synovitis and Bone Healing in a Piglet Model of Ischemic Osteonecrosis of the Femoral Head**

*Harry Kim, MD; Olumide Aruwajoye, PhD; Thomas Mitchell; Michael Kutschke, BS; Vishal Gokani, BS; Naga Suresh Adapala, MBBS
Texas Scottish Rite Hospital for Children, Dallas, TX*

Poster 2

**Organ System Anomalies Associated with Congenital Scoliosis:
A Retrospective Study of 310 Cases**

*Ryan Furdock; Brian Kelly, MD; Scott Luhmann, MD
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**Validation Study of the Thumb Ossification Composite Index (TOCI) in Idiopathic Scoliosis –
A Stage to Stage Correlation with Classic Tanner Whitehouse and Sander’s Simplified Skeletal
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*Alec Hung, MD; Simon Chow, PhD; Wai Wang Chau, MSc; Tsz Ping Lam, MBBS; Bobby Ng, MD;
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Economic Burden of Pediatric Musculoskeletal Infection

*Jonathan Schoenecker, MD; Ryan Koehler, MD; Keith Baldwin, MD, MSPT, MPH; Joshua Murphy, MD;
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Gram Stain is Not Clinically Relevant in Management of Pediatric Septic Arthritis

*Joshua Bram, BS; Keith Baldwin, MD, MSPT, MPH; Todd Blumberg, MD
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**Autologous Chondrocyte Implantation as Treatment for Unsalvageable Osteochondritis
Dissecans: 10- to 25- year Follow Up**

*Kevin Shea, MD; James Carey, MD; Haris Vasiliadis, MD; Carl Lindahl; Lars Peterson, MD;
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◆ Indicates those faculty presentations in which the FDA has not cleared the drug and/or medical device for the use described (ie. the drug or medical device is being discussed for an “off label” use).

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Major Complications following Surgical Correction of Spine Deformity in 253 Patients with Cerebral Palsy

*Burt Yaszay, MD; Carrie Bartley, MA; Paul Sponseller, MD; Patrick Cahill, MD; Suken Shah, MD; Firoz Miyanji, MD, FRCSC; Amer Samdani, MD; Mark Abel, MD; Peter Newton, MD
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Comparison of the Results of Primary versus Repeat Hamstrings Surgical Lengthening in Cerebral Palsy

*Mauro de Moraes Filho, MD; Francesco Blumetti, MD; Catia Kawamura, PT; Marcelo Matias, MD; Marcelo Fujino; Jose Augusto Lopes, MSc; Daniella Neves
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Addition of Dexmedetomidine and Aprepitant to a Multimodal Postoperative Pain Regimen Reduces Narcotic Requirements, Emesis and Length of Stay in Treating Adolescent Idiopathic Scoliosis

*Andrew Tice, MD; Heather Kent; Dong-Phuong Tran, MS; Chan-Hee Jo, PhD; Brandon Ramo, MD
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Are We Getting Value for Our Research Money? Impact of POSNA Grants on Scholarly Productivity and Future Funding Success

*Derek Nhan, BS; Jonathan Schoenecker, MD; Paul Sponseller, MD
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The Effectiveness of Intrathecal Morphine Compared to Oral Methadone for Postoperative Pain Control after Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis

*Benjamin Martin, MD; Matthew Oetgen, MD; Shannon Kelly, MD; Jeffrey Hanway, MD; Sophie Pestieau, MD; Jessica Cronin, MBA; Karen Thomson
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Challenge Accepted – Results of the 2016 POSNA Quality, Safety, and Value Initiative (QSVI) Challenge

*Lindsay Stephenson, MD; Daniel Miller, MD; Patrick Cahill, MD; Joseph Janicki, MD; Paul Choi, MD
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*Jennifer Weiss, MD; Lisa Cannada, MD; Sharul Saxena
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*Kushal Khera; Emily Schaeffer, PhD; Neha Kodali; Kishore Mulpuri, MBBS
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*Tracey Bastrom, MA; Peter Newton, MD; Harms Study Group
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Building the Case for Optimal Prophylaxis for Growth-Friendly Surgery for Non-idiopathic Scoliosis: Using Vancomycin and Aminoglycosides

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Changes in Pediatric Spine Surgery Patterns Over the Last 10 Years Among ABOS Part II Candidates

*Ena Nielsen, BA; Lindsay Andras, MD; Pooya Hosseinzadeh, MD; Megan Mignemi, MD;
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Weight Gain Following ACL Reconstruction in Pediatric and Adolescent Patients

*Elle Macalpine; Divya Talwar, MPH; Eileen Storey BA; John Todd Lawrence, MD
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Unplanned Return to the Operating Room for Pediatric Diaphyseal Femoral Fractures

*Jigar Gandhi; Mahmoud Abo Elmagd; Alexandre Arkader, MD; Jack Flynn, MD
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*Jelle Homans, MD; Vyaas Baldew, BS; Tom Schlosser, MD; Moyo Kruyt, MD; Rene Castelein, MD
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Effectiveness of the Ponseti Method in Treating Foot Deformities in Children with Arthrogyposis

*Reid Nichols, MD; Chris Church, PT; Zafir Ahmed; Nancy Lennon, PT; John Henley, PhD;
Daveda Taylor, DPT; Maureen Donohoe, DPT; Kathryn Fazio, PA-C; Freeman Miller, MD
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*Perry Schoenecker, MD; Joseph Lamplot, MD; Cecilia Pascual-Garrido, MD; Jeffrey Nepple, MD;
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*Alvin Su, MD; Travis Hillen, MD; Eric Eutsler, MD; Asheesh Bedi, MD; James Ross, MD;
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Characterization of the Optimal Reduction Maneuver During Simulated Periacetabular Osteotomy

*Jeffrey Nepple, MD; James Ross, MD; Asheesh Bedi, MD; Sean Akers; John Clohisy, MD
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Pediatric Lyme Arthritis of the Hip: A Systematic Review and Meta-Analysis

*Aristides Cruz, MD; Jason Anari, MD; Jose Ramirez, MD; Wudbhav Sankar, MD;
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Samuel Willimon, MD; Michael Busch, MD; Tim Schrader, MD; Crystal Perkins, MD
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[Epidemiology and Surgical Trends of Pediatric Patellar Dislocations: A 16-year Review of Cases in New York State](#)

Alice Chu, MD; Shalen Kouk, MD; John Begly, MD; David Mai, MD; June Chanyasulkit, MD
NYU Langone Orthopedic Hospital, New York, NY

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[3D Knee Trochlear Morphology by Magnetic Resonance Imaging: Normal versus Patella Instability in Pediatric Patients](#)

Andrew Pennock, MD; Aileen Chang, MD; Josh Doan, MS; James Bomar, MPH; Eric Edmonds, MD
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Derrick Knapik, MD; James Buschbach, BA; Sanjeev Sabharwal, MD; Raymond Liu, MD
Rainbow Babies and Children's Hospital, Cleveland, OH

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Angela Eugenio; Harpreet Chhina, MSc; Anthony Cooper, MD, FRCS
BC Children's Hospital, Vancouver, British Columbia, Canada

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**Hulaimatu Jalloh, BA; David Skaggs, MD; Peter Stevens, MD; Stephanie Holmes, MD;
Victoria Heagy, BS; Lindsay Andras, MD**
Children's Hospital Los Angeles, Los Angeles, CA

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[Risk Factors Associated with Patellar Cartilage Damage in Children and Adolescents with Patellar Instability](#)

Rebecca Greenstein; Hee K. Kim; Paul Horn; Neil Rajdev, BA; Shital Parikh, MD
Cincinnati Children's Hospital Medical Center, Cincinnati, OH

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[The Use of Medical Scribes in Ambulatory Pediatric Orthopaedic Surgery Practice](#)

Melissa Bent, MD; Jen Birstler, BS; Steven Wheeler, BS; Ken J. Noonan, MD
University of Wisconsin Madison, Madison, WI

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[Minimal Clinically Important Difference \(MCID\) for CPCHILD Questionnaire following Scoliosis Surgery in Cerebral Palsy \(CP\)](#)

**Firoz Miyanji, MD, FRCSC; Luigi Nasto, MD; Paul Sponseller, MD; Tracey Bastrom, MA;
Suken Shah, MD; Amer Samdani, MD; Michelle Marks, PT; Burt Yaszay, MD; Unni Narayanan, MBBS;
Peter Newton, MD**
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ePoster 17**Do all Patients with Cerebral Palsy Require Postoperative Intensive Care Admission After Posterior Spinal Fusion?**

*Jaysson Brooks, MD; Burt Yaszay, MD; Tracey Bastrom, MA; Carrie Bartley, MA; Paul Sponseller, MD; Suken Shah, MD; Amer Samdani, MD; Patrick Cahill, MD; Firoz Miyanji, MD, FRCSC; Peter Newton, MD; Harms Study Group
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ePoster 18**Differences in Caregiver Perspective on Quality of Life of Children with Cerebral Palsy**

*Emily Schaeffer, PhD; Maria Juricic, PT; Stacey Miller, PT; Judy Wu, BS; Kishore Mulpuri, MBBS
BC Children's Hospital, Vancouver, British Columbia, Canada*

ePoster 19**Rectus Femoris Transfer versus Resection in Patients with Cerebral Palsy with Stiff Knee Gait**

*Julianne Sees, DO; Kathleen Maguire, MD; Freeman Miller, MD; Kenneth Rogers, PhD; Chris Church, PT; Geovanny Oleas-Santillán; John Henley, PhD; Nancy Lennon, PT
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ePoster 20**Comparison of Pediatric PROMIS CATs between Parent-Proxy and Patient Report Populations with Upper Extremity Fractures**

*Charles Goldfarb, MD; Ryan Calfee, MD; Ugochi Okoroafor, MD; William Gerull, BS; Jason Guattery, MS
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*Robert Lewis, MD; Omar Hariri; Marilyn Elliott, BS; Chan-Hee Jo, PhD; Anthony Riccio, MD; Brandon Ramo, MD
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*Ryan Neeley, DO; Satbir Singh, BS; Allan Beebe, MD; Christopher Iobst, MD; Kevin Klingele, MD
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*Kevin Smit, MD; Youjin Chang, MD; Ken Kontio, FRCSC; Sasha Carsen, MD
Children's Hospital of Eastern Ontario, Ottawa, Canada*

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*Sam Steiner, MD; Kirillos Gendi, MD; Matthew Halanski, MD; Ken Noonan, MD
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Utilization of Electronic Medical Records (EMR) Registries to Improve ACL Outcomes, Patient Compliance, and Lower Complications: A Quality Improvement Project

*Kristina Parvanta; Jacob Parker, BS; Andrew Pennock, MD
Rady Children's Hospital, San Diego, CA*

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High Mismatch Between Sanders and Risser Staging in Adolescent Idiopathic Scoliosis: Are We Guiding Treatment Using the Wrong Classification?

*Benjamin Roye, MD; Anas Minkara, BS; Hiroko Matsumoto, MA; Nicole Bainton, NP;
Masashi Tanaka, MD; Fay Callejo, MPH; Justin Kung; Christopher Deallie, BS; David Roye, MD;
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How Much will my Child's Operation Cost? Availability of Consumer Prices from US Hospitals for a Common Pediatric Orthopaedic Surgical Procedure

*Allison Racimo, MS; Nakul Talathi, BS; Nicole Zelenski, MD; Lawrence Wells, MD; Apurva Shah, MD
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An Enhanced Weight-Based Cefazolin Prophylaxis Bundle Reduces Surgical Site Infections Following Pediatric Spine Fusion

*Ryan Goodwin, MD; Ritika Coelho, MD; David Gurd, MD; Thomas Kuivila, MD; Charles Foster
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Do We Need Post-Operative Chest Radiographs Following Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis?

*Shawn Gilbert, MD; Gerald McGwin, PhD; Robert Esposito, BS; Michael Conklin, MD
University of Alabama Birmingham, Birmingham, AL*

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Transitional Care for Pediatric to Adult Special Needs Patients

*Philip Nowicki, MD; John Herring, MD
Helen DeVos Children's Hospital, Grand Rapids, MI*

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Establishing a Faculty-Funded Research Center Improves Research Productivity

*Robin Baschal, BA; Patrick Carry, MS; Erin Baschal, PhD; Mark Erickson, MD; James Carollo, PhD;
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Predictors of Cost for Posterior Spine Fusion Surgery in Adolescent Idiopathic Scoliosis

*William Shaughnessy, MD; Fady Baky; Todd Milbrandt, MD; Scott Echternacht, BA;
Hilal Maradit-Kremers, MD; Jeanine Ransom; Dirk Larson; Anthony Stans, MD;
A. Noelle Larson, MD
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ePoster 33**Standardizing Peri-operative Care of Supracondylar Humerus Fracture Saves Cost and Improves Trainees' Educational Experience***Alvin Su, MD; Mark Lee, MD**Connecticut Children's Medical Center, University of Connecticut, Hartford, CT***ePoster 34****How Do I Dispose of my Opioid Medication?***Christopher Iobst, MD; Satbir Singh, BS; Julie Samora, MD**Nationwide Children's Hospital, Columbus, OH***ePoster 35****The Cost of Physiologic Referrals to a Pediatric Orthopaedic Clinic***Christopher Loftis, MD; John Worley, BA; Daniel Hoernschemeyer, MD; Sumit Gupta, MD**University of Missouri, Columbia, MO***ePoster 36****High Scores on PROMIS Depression Scale Independently Correlated with Pain Scores in a Pediatric Orthopedic Population: Insights Gained from a Patient Reported Outcome (PRO) Program***Zhaomin Xu, MD; Judith Baumhauer, MD; P. Cook, MD; James Sanders, MD;**Natasha O'Malley, FRCS (Ortho)**University of Rochester Medical Center, Rochester, NY***ePoster 37****Quality of Casting Pediatric Tibial Shaft Fractures: Resident versus Resident with Experienced Assistants***Brandi Woo, BS; Tracey Bastrom, MA; Morgan Dennis, BS; Andrew Pennock, MD;**Vidyadhar Upasani, MD; Eric Edmonds, MD**Rady Children's Hospital, San Diego, CA***ePoster 38****Analysis of Cost and Variability in the Surgical Treatment of Adolescent Idiopathic Scoliosis Leads to Opportunities for Cost Savings***Suken Shah, MD; Rajiv Rangarajan; Kenneth Rogers, PhD; Peter Gabos, MD;**William Mackenzie, MD**Nemours/Alfred I duPont Hospital for Children, Wilmington, DE***ePoster 39****Improvement of Pulmonary Function Measured by Patient-Reported Outcomes in Patients with Non-Idiopathic Scoliosis after Growth-Friendly Instrumentation***Anas Minkara, BS; Hiroko Matsumoto, MA; Fay Callejo, MPH; Benjamin Roye, MD;**David Roye, MD; Michael Vitale, MD**Columbia University Medical Center, New York, NY***ePoster 40****Short Term HRQoL Results in MCGR and TGR Patients – Divergent from Long Term EOSQ Results in TGR Graduates***Charles Johnston, MD; Dong-Phuong Tran, MS**Texas Scottish Rite Hospital for Children, Dallas, TX*

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Patients' Perceptions of Breast Asymmetry Improve after Spinal Fusion for AIS

Megan Mignemi, MD; Amy McIntosh, MD

Texas Scottish Rite Hospital for Children, Dallas, TX

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Don't You Wish You Had Fused to the Pelvis the First Time: A Comparison of Reoperation Rate and Correction of Pelvic Obliquity

Ena Nielsen, BA; Lindsay Andras, MD; Laura Bellaire, MD; Nicholas Fletcher, MD; Anas Minkara, BS;

Michael Vitale, MD; Michael Troy, BS; Michael Glotzbecker, MD; David Skaggs, MD

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African-American Race is Associated with Increased Allogenic Blood Transfusion in Pediatric Scoliosis Surgery

Robert Lark, MD; Kwadwo Owusu-Akyaw, MD; Keila Maher; Mary Cooter; Allison Ross;

Brad Taicher, DO

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Does Decreased Surgical Stress Really Improve the Psychosocial Health of EOS Patients? A Comparison of TGR and MCGR Patients Reveals Disappointing Results

Cihan Aslan, MD; Z. Deniz Olgun, MD; Gökhan Ayik, MD; Remzi Karaokur; Seniz Ozusta;

Gokhan Demirkiran, MD; Fatih Unal, MD; Muharrem Yazici, MD

Hacettepe University, Ankara, Turkey

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Spinopelvic Alignment Affects Health-related Quality of Life (HRQoL) for Patients with Early Onset Scoliosis

Jaime Gomez, MD; Jacob Schulz, MD; Ozren Kubat, MD; Jen Hurry MSc;

Alexandra Soroceanu, MD; Tara Flynn; Mayra Tovar, MD; Regina Hanstein, PhD;

Virginie Lafage, PhD; Frank Schwab, MD; John Smith, MD; David Skaggs, MD; Ron El-Hawary, MD

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Evaluating the Use of Cross-links in Posterior Spinal Fusion in Cerebral Palsy Patients: Do they Affect Radiological Correction, Revision, Infections, and Implant Failures?

Mohammad Usmani, MSc; Suken Shah, MD; Burt Yaszay, MD; Amer Samdani, MD;

Patrick Cahill, MD; Peter Newton, MD; Michelle Marks, PT; Paul Sponseller, MD

Johns Hopkins University School of Medicine, Baltimore, MD

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Outcomes of Growing Rods for Severe Early Onset Scoliosis. A Matched Comparative Study with Typical Early Onset Scoliosis

Ilkka Helenius, MD; Hanna Oksanen, RN; Anna McClung, RN; Jeff Pawelek; Muharrem Yazici, MD;

Paul Sponseller, MD; John Emans, MD; Francisco Perez-Grueso, MD; George Thompson, MD;

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The Rate and Risk of Curve Progression in Moderate AIS Following Skeletal Maturity

Firoz Miyanji, MD, FRCSC; Tracey Bastrom, MA; Amer Samdani, MD; Suken Shah, MD;

Baron Lonner, MD; Randal Betz, MD; Peter Newton, MD

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Compliance with Scoliosis Specific Exercises in Adolescent Idiopathic Scoliosis Leads to Lower Risk of Curve Progression and Surgery

Anas Minkara, BS; Amelia Lindgren, MD; Kelly Grimes, DPT; Fay Callejo, MPH; Alexandra Khaleel, MA; Prachi Bakarania, DPT; Hagit Berdishevsky, PT; Hiroko Matsumoto, MA; Benjamin Roye, MD; David Roye, MD; Ahmad Bayomy, MD; **Michael Vitale, MD**
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Reducing Acute Post-Operative Spine Infections: What We Have Done to Make this a Zero Event

Amanda Whitaker, MD; Crystal Seilhamer, FNP-C; Pamela Horn, NP; Juan Mendoza, BS; Laura Gill, MD; Walter Samora, MD; Jan Klamar, MD; Allan Beebe, MD
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Pelvic Fixation in Cerebral Palsy Scoliosis: Differences Evident at 5 Year Follow Up

Oussama Abousamra, MD; Brian Sullivan, BS; Amer Samdani, MD; Burt Yaszay, MD; Patrick Cahill, MD; Peter Newton, MD; **Paul Sponseller, MD**
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Size Matters: Which Adolescent Patients are Most Likely to Require Surgical Decompression for Lumbar Disk Herniation?

Amy McIntosh, MD; Marcel Wiley, MD; Mohammed Khaleel, MD
Texas Scottish Rite Hospital for Children, Dallas, TX

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Side Plank Pose Exercises for Adolescent Idiopathic Scoliosis (AIS) Patients

Natalya Sarkisova, BS; Joshua Yang, BA; David Skaggs, MD; Tracy Zaslow, MD; Bianca Edison, MD; Paul Choi, MD; Vernon Tolo, MD; **Lindsay Andras, MD**
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Curve Rigidity is More Important than Curve Magnitude in Predicting Outcomes of Neuromuscular Spinal Deformity Surgery

Ena Nielsen, BA; David Skaggs, MD; Tracy Kovach, MD; **Lindsay Andras, MD**
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"Turning the Lights On" for Surgeons: Does It Improve Efficiency and Decrease Cost in the Operating Room for AIS Surgery?

Daniel Sucato, MD; Kaitlyn Brown, MS; Heather Caine, BS; Dong-Phuong Tran, MS
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Development of Consensus Based Best Practice Guidelines for Perioperative Management of Blood Loss in Patients Undergoing Posterior Spinal Fusion for Adolescent Idiopathic Scoliosis

Nicholas Fletcher, MD; Michelle Marks, PT; Jahangir Asghar, MD; Steven Hwang, MD; Paul Sponseller, MD; Peter Newton, MD
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High Satisfaction in AIS Patients on Accelerated Discharge Protocol

Joshua Yang, BA; David Skaggs, MD; Priscella Chan; Gabriela Villamor, BA; Paul Choi, MD; Vernon Tolo, MD; Catherine Kissinger, RN; Alison Lehman, PA-C; Lindsay Andras, MD
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Three-Dimensional Analysis of the Sagittal Profile in Surgically Treated Lenke 5 Adolescent Idiopathic Scoliosis

Peter Newton, MD; Kaiying Shen, MD; Burt Yaszay, MD; Madeline Cross, MPH; Megan Jeffords, MS; Carrie Bartley, MA; Tracey Bastrom, MA; Vidyadhar Upasani, MD
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A Novel Wound Closure Method in Nonidiopathic Scoliosis Significantly Reduces the Risk of Wound Complications

Michael Vitale, MD; Thomas Imahiyerobo, MD; Anas Minkara, BS; Hiroko Matsumoto, MA; Fay Callejo, MPH; June Ha; Benjamin Roye, MD; David Roye, MD
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VEPTR Treatment of Early Onset Scoliosis (EOS) in Children without Rib Abnormalities: Long-Term Results of a Prospective, Multicenter Study

Ron El-Hawary, MD; Kevin Morash, MD; Muayad Kadhim, MD; Michael Vitale, MD; John Smith, MD; Amer Samdani, MD; Jack Flynn, MD; Children's Spine Study Group
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Are There Any Associations Between Back Pain and Adolescent Idiopathic Scoliosis with the Possibility of an Underlying Pathology?

Norman Ramirez-Lluch, MD; Gerardo Olivella, MPH
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Reduced Physical Activity in Adolescents with Idiopathic Scoliosis Treated with Spinal Bracing Compared to Normal Controls

Todd Milbrandt, MD; Swati Chopra, PhD; A. Noelle Larson, MD; Joline Brandenburg, MD; Christine Huyber; Vickie Treder; Kenton Kaufman, PhD
Mayo Clinic, Rochester, MN

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Functional Motion and Balance Improve after Posterior Spinal Fusion in AIS

Robert Lark, MD; Camille Guzel, BA; Abigail Schmitt, MS; Robert Fitch, MD; Timothy Sell, PT; Benjamin Alman, MD
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Neuromonitoring for AIS: A 20-Year Analysis of AIS Patient Incidence of Critical Changes and Predictive Factors to Define Patients at Risk

Daniel Sucato, MD; Kiley Poppino, BS; Alec Thoveson; Steven Sparagana, MD; Patricia Rampy, MS; Ali Parsa, MD
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Occipital Plate Cervical Spine Fixation in the Pediatric Population

Daniel Hedequist, MD; Lara Cohen, BS; Brian Yang, BA; Michael Troy, BS; Leah DeWitt, BA; Lawrence Karlin, MD; Brian Snyder, MD; John Emans, MD; Michael Hresko, MD; Michael Glotzbecker, MD
Boston Children's Hospital, Boston, MA

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Two AIS Spine Surgeries on the Same Day by the Same Surgeon: Is Performance and Outcome the Same for the Second Patient?

Lorena Floccari, MD; Daniel Sucato, MD; Kiley Poppino, BS; Surya Mundluru, MD; Amy McIntosh, MD; Karl Rathjen, MD
Texas Scottish Rite Hospital for Children, Dallas, TX

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Evaluating the Volume-Value Relationship in Adolescent Idiopathic Scoliosis

Sergio Navarro, BS; Anthony Egger, MD; Prem Ramkumar, MD; **Ryan Goodwin, MD**
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Comparison of EOSQ-24 and SRS-22 Scores in Congenital Scoliosis

Ying Li, MD; Michelle Burke, BA; Joel Gagnier, PhD; Michelle Caird, MD; Matthew Abbott, MD; Frances Farley, MD
C.S. Mott Children's Hospital, University of Michigan, Ann Arbor, MI

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Planned Staged Surgery for Severe Pediatric Spinal Deformity Does Not Reduce Complications Within 90 Days of Surgery: A Prospective Matched Cohort Study

Sumeet Garg, MD; Nikki Bloch, BA; Patrick Carry, MS; Mark Erickson, MD; Patrick Cahill, MD; Amer Samdani, MD; Burt Yaszay, MD; Lawrence Lenke, MD; Brenda Sides, MA; Munish Gupta, MD
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The Impact of Spinal Deformity Surgery on PROMIS Scores in Adolescent Idiopathic Scoliosis Patients: Early Outcomes

Nichelle Enata, ATC; Kirsten Brouillet, BA; Brian Kelly, MD; Munish Gupta, MD; Keith Bridwell, MD; **Scott Luhmann, MD**
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Translaminar C2 Screw Fixation in the Pediatric Population

Brian Yang, BA; **Michael Glotzbecker, MD**; Michael Troy, BS; Daniel Hedequist, MD
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In Patients with Cerebral Palsy, Intrathecal Baclofen Correlates with Increased Scoliosis Progression Prior to Posterior Spinal Fusion, but not Scoliosis or Proximal Junctional Kyphosis Progression after Posterior Spinal Fusion

Matthew Halanski, MD; Anatoliy Nechyporenko, BS; Laura Lins ATC; Scott Hetzel, MS; Ken Noonan, MD
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Minimally Invasive Surgery in Neuromuscular Scoliosis: A Superior Approach for Severely Impaired Patients

Vishal Sarwahi, MBBS; Stephen Wendolowski, BS; Jesse Galina, BS; Francisco Laplaza, MD; Yungtai Lo, PhD; Terry Amaral, MD

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Risser 0 AIS Patients: Is There a Difference in Brace Effectiveness Between Lumbar and Thoracic Curves?

John Vorhies, MD; Lori Karol, MD; Daniel Sucato, MD; Donald Virostek; Lesley Butler, MPH; Kiley Poppino, BS; John Herring, MD

Texas Scottish Rite Hospital for Children, Dallas, TX

ePoster 75

Fusion Into the Lumbar Spine in Adolescent Idiopathic Scoliosis – The Implications of Disc Disease and Alterations in Lumbar Motion

Michelle Marks, PT; Tracey Bastrom, MA; Baron Lonner, MD; Maty Petcharaporn, BS; Yuan Ren, PhD; Hussein Nasser, MD; Amer Samdani, MD; Peter Newton MD

Setting Scoliosis Straight, San Diego, CA

ePoster 76

Middle Tract Pedicle Stimulation to Ascertain Pedicle Screw Placement

Ignacio Sanpera-Trigueros, MD; Luis Miguel Rodrigalvarez, PhD; Jesus Burgos-Flores
Hospital Universitari Son Esases, Palma de Mallorca, Spain

ePoster 77

The Discriminate Ability of the Pediatric Adolescent Shoulder Survey (PASS)

Tracey Bastrom, MA; Andrew Pennock, MD; Eric Edmonds, MD

Rady Children's Hospital, San Diego, CA

ePoster 78

Using the Medial and Lateral Humeral Lines to Guide Intraoperative Fixation of Distal Humerus Physeal Separations

Andrew Chou, BS; Ho Yin Wong, MBBS; Sumanth Gera, MBBS; Arjandas Mahadev, FRCS
KK Women's and Children's Hospital, Singapore, Singapore

ePoster 79

The AOSpine Thoracolumbar (TL) Spine Injury Classification System: Is It Useful In the Pediatric Spine Trauma Population?

Daniel Hedequist, MD; Michael Glotzbecker, MD; Andrew Mo, MD

Children's Hospital Boston, Boston, MA

ePoster 80

The Effect of the Type of Screw Fixation used in the Treatment of Slipped Capital Femoral Epiphysis

Katie Rooks, MD; Tyler Rudolph, MBChB; Michael Van Der Merwe, MBChB; Haemish Crawford
Starship Children's Hospital, Auckland, New Zealand

WELCOME TO AUSTIN

A panoramic view of the Austin skyline, featuring several prominent skyscrapers and modern buildings. In the foreground, a river flows, with a bridge crossing it. A small boat is visible on the water, and a rowing team is also present. The sky is blue with some clouds.

EXPLORE AUSTIN

While visiting Austin, take advantage of several distinct entertainment districts offering about 200 live music venues. There are many great restaurants, shops, and local attractions walking distance of the Marriott.

Visit: austintexas.org | 6street.com | raineystreetbars.com | 2ndstreetdistrict.com

RESTAURANTS

Fareground (located across from the JW Marriott)
Cooper's Old Time Pit Bar-B-Que Austin (next to hotel)
Terry Black's Barbecue
Matt's El Rancho
Maudie's
Jacoby's
Second Bar + Kitchen (across from hotel)

ENTERTAINMENT DISTRICTS

South Congress
Rainey Street
2nd Street/Warehouse District
West 6th Street
East 6th Street (East of IH-35)
South Lamar

LIVE MUSIC

Saxon Pub
Elephant Room
The Continental Club
Stubb's
Cedar Street Courtyard
Broken Spoke (Texas style Honky-Tonk)

MUSEUMS

Bullock Texas State History Museum
Lyndon Baines Johnson Library and Museum
Blanton Museum of Art
Texas State Capitol

SHOPPING

The Domain (upscale and mainstream retail and restaurants in outdoor setting)
South Congress Ave. (individual shops)
2nd Street District (boutiques and shops in Downtown)
San Marcos Premium Outlets (35 minute drive to San Marcos, TX)
[Western Wear:](#)
Allens Boots
Cavender's Boot City

VISIT Austin Convention Center District Restaurant Guide

MAP	RESTAURANT	ADDRESS	PHONE	WEBSITE	CUISINE
E14	Ill Forks 🍴 D \$\$\$	111 Lavaca St.	474-1776	3forks.com	Steakhouse
G9	1886 Bakery & Café, Driskill Hotel 🍴 B D \$\$\$	604 Brazos St.	391-7066	1886cafeandbakery.com	Bakery
G13	Annie's Cafe and Bar 🍴 B D \$\$\$	319 Congress Ave., Ste. C150	472-1884	anniescafebar.com	American
F9	Athenian Bar & Grill 🍴 L D \$\$\$	600 Congress Ave.	474-7775	athenianbargrill.com	Mediterranean
K11	Austin Taco Project, Hilton 🍴 D \$\$\$	500 E. Fourth St.	682-2739	austintacoproject.com	New Texan
I10	The Backspace 🍴 L D \$\$\$	507 San Jacinto Blvd.	474-9899	thebackspace-austin.com	Italian
N18	Banger's Sausage House & Beer Garden 🍴 B D \$\$\$	79 Rainey St.	386-1656	bangersaustin.com	American
E14	Bar Chi 🍴 L D LN \$\$\$	206 Colorado St.	382-5557	barchiaustin.com	Sushi
H9	BD Riley's Irish Pub 🍴 B D LN \$\$\$	204 E. Sixth St.	494-1335	bdrileys.com	Irish
F13	Bob's Steak and Chop 🍴 B D \$\$\$	301 Lavaca St.	222-2627	bobs-steakandchop.com	Steakhouse
F15	The Bonneville 🍴 D \$\$\$	202 W. Cesar Chavez St.	428-4643	thebonnevilleaustin.com	New American
G13	Burger Bar, JW Marriott 🍴 L D \$\$\$	110 E. Second St.	608-4822	burgerbaraustin.com	Burgers
J14	Cafe Blue 🍴 L D \$\$\$	340 E. Second St.	428-5796	cafebluetx.com	Seafood
K11	Cannon and Belle, Hilton 🍴 B D \$\$\$	500 E. Fourth St.	493-4900	cannonandbelle.com	American
F13	The Capital Grille 🍴 E B	117 W. Fourth St.	322-2005	thecapitalgrille.com	Steakhouse
H13	Cedar Door 🍴 B D LN \$\$\$	201 Brazos St.	473-3712	cedardooraustin.com	American
I11	Champions Sports Bar 🍴 B D \$\$\$	300 E. Fourth St.	473-0450	championsaustin.com	American
J10	Chez Nous 🍴 L D \$\$\$	510 Neches St.	473-2413	cheznousaustin.com	French
F11	Chinatown 🍴 L D \$\$\$	107 W. Fifth St.	637-8888	chinatown-downtown.com	Asian
G13	Cooper's Old Time Pit Bar-B-Que 🍴 E B	217 Congress Ave.	474-4227	coopersbbqaustin.com	Barbecue
G13	Corner, JW Marriott 🍴 L D \$\$\$	110 E. Second St.	608-4488	cornerrestaurantaustin.com	New Texan
G13	Counter 3, Five VII 🍴 E B	315 Congress Ave.	291-3327	counter3fivevii.com	New American
F15	Cru - A Wine Bar 🍴 B D \$\$\$	238 W. Second St., Ste. 13	472-9463	cruwinebar.com/locations_austin	New American
H10	The Driskill Grill 🍴 B D \$\$\$	604 Brazos St.	391-7162	driskillgrill.com	New Texan
M10	Easy Tiger 🍴 L D LN \$\$\$	709 E. Sixth St.	614-4972	easytigeraustin.com	German
I11	Eddie V's Steakhouse 🍴 B D LN \$\$\$	301 E. Fifth St.	472-1860	eddiev.com	Seafood & Steak
M18	El Naranjo 🍴 D \$\$\$	85 Rainey St.	474-2776	elnaranjo-restaurant.com	Mexican
M20	Emmer & Rye 🍴 B D \$\$\$	51 Rainey St., Ste. 110	366-5530	emmerandrye.com	New American
H10	Eureka! 🍴 L D LN \$\$\$	200 E. Sixth St.	735-1144	eurekarestaurantgroup.com	American
E12	Fadó Irish Pub 🍴 B D LN \$\$\$	214 W. Fourth St.	457-0172	fadorishpub.com/austin	Irish
C11	Five Austin's Southern House 🍴 B D \$\$\$	500 W. Fifth St.	888-9133	austinfive.com	New American
I13	Fleming's Prime Steakhouse 🍴 B D \$\$\$	320 E. Second St.	457-1500	flemingssteakhouse.com	Steakhouse
I13	Fogo de Chao 🍴 L D \$\$\$	309 E. Third St.	472-0220	fogodechao.com	South American
H14	Forthright 🍴 B L S	98 San Jacinto Blvd.	300-1948	forthrightcafe.com	American
F11	Frank 🍴 B D LN \$\$\$	407 Colorado St.	494-6916	hotdogscoldbeer.com	American
M20	G'Raj Mahal 🍴 B D LN \$\$\$	73 Rainey St.	480-2255	grajmahalaustin.com	Indian
L17	Geraldine's, Hotel Van Zandt 🍴 B D LN \$\$\$	605 Davis St.	476-4755	geraldinesaustin.com	New American
D9	Gloria's 🍴 L D \$\$\$	300 W. Sixth St.	833-6400	gloriasrestaurants.com	Mexican
I14	Gus's Fried Chicken 🍴 L D \$\$\$	117 San Jacinto Blvd.	474-4877	gusfriedchicken.com	Chicken
I9	Iron Cactus 🍴 L D LN \$\$\$	606 Trinity St.	472-9240	ironcactus.com	Mexican
K14	Iron Works 🍴 L D \$\$\$	100 Red River St.	478-4855	ironworksbbq.com	Barbecue
D13	Jo's Hot Coffee 🍴 B D \$\$\$	242 W. Second St.	469-9003	joscffee.com	Coffee House

MAP	RESTAURANT	ADDRESS	PHONE	WEBSITE	CUISINE
K9	Koriente 🍴 L D \$\$\$	621 E. Seventh St.	275-0852	koriente.com	Asian
C13	La Condesa 🍴 L D \$\$\$	400A W. Second St.	499-0300	lacondesaaustin.com	Mexican
F12	La Traviata 🍴 L D \$\$\$	314 N. Congress Ave.	479-8131	latraviata.net	Italian
C14	Lamberts BBQ 🍴 B L	401 W. Second St.	494-1500	lambertsaustin.com	Barbecue
H13	Le Café Crepe 🍴 B D L S	200 San Jacinto Blvd.	480-0084	cafecrepefaustin.com	French
C14	Leaf 🍴 L D \$\$\$	419 W. Second St.	474-5323	leafsalad.com	American
F11	Lonesome Dove 🍴 L D \$\$\$	419 Colorado St.	271-2474	lonesomedoveaustin.com	New Texan
I13	Mai Thai 🍴 L D \$\$\$	207 San Jacinto Blvd.	482-8244	maithaiaustin.com	Asian
E14	Mama Fu's 🍴 L D \$\$\$	100 Colorado St.	637-6774	mamafus.com	Asian
F12	Manuel's 🍴 B L D \$\$\$	310 Congress Ave.	472-7555	manuel.com	Mexican
I13	Max's Wine Dive 🍴 E B D \$\$\$	207 San Jacinto Blvd.	904-0111	maxswinedive.com austin	American
J16	Micheladas 🍴 L D \$\$\$	333 E. Second St.	320-0900	micheladasaustin.com	Mexican
L12	Moonshine 🍴 L D \$\$\$	303 Red River St.	236-9599	moonshinegrill.com	American
I10	Old Pecan Street Café 🍴 L D \$\$\$	504B Trinity St.	478-2491	oldpecanstreetcafe.com	American
J10	Old School Bar & Grill 🍴 L D \$\$\$	401 E. Sixth St.	722-6351	oldschoolaustin.com	American
G13	Osteria Pronto, JW Marriott 🍴 B D L S	110 E. Second St.	608-4490	oseriaprontoaustin.com	Italian
I14	P.F. Chang's China Bistro 🍴 L D \$\$\$	201 San Jacinto Blvd.	457-8300	pfchangs.com	Asian
I10	Parkside 🍴 L D LN \$\$\$	301 E. Sixth St.	474-9898	parkside-austin.com	American
K12	Pêche 🍴 D LN \$\$\$	208 W. Fourth St.	495-9669	pecheaustin.com	French
E8	Pelon's Tex Mex 🍴 L D \$\$\$	802 Red River St.	243-7874	pelonsaustin.com	Mexican
F8	Perry's Steakhouse & Grille 🍴 B	114 W. Seventh St.	474-6300	perryssteakhouse.com	Seafood & Steak
I14	Piranha Killer Sushi 🍴 L D \$\$\$	207 San Jacinto Blvd., Ste. 202	473-8775	piranhakillersushi.com	Asian
F12	RA Sushi 🍴 E B L D \$\$\$	117 W. Fourth St., Ste. 300	726-2130	rasushi.com	Asian
F12	Red Ash 🍴 B D \$\$\$	303 Colorado St.	379-2906	redashitalia.com	Italian
G8	Roaring Fork, InterContinental SFA 🍴 L D \$\$\$	701 Congress Ave.	583-0000	roaringfork.com	Southwestern
I11	Russian House 🍴 L D LN \$\$\$	307 E. 5th St.	428-5442	russianhouseofaustin.com	Russian
F10	Ruth's Chris Steak House 🍴 B D \$\$\$	107 W. Sixth St.	477-7884	ruthschris-austin.com	Steakhouse
E11	Searsucker 🍴 B D \$\$\$	415 Colorado St.	394-8000	searsucker.com	American
F13	Second Bar + Kitchen 🍴 B D LN \$\$\$	200 Congress Ave.	827-2750	congressaustin.com	New American
G8	Slake Cafe 🍴 B L S	120 E. 7th Str.	476-0060	slakecafe.com	American Bakery
D10	Sophia's 🍴 B D \$\$\$	500 W. Sixth St.	580-9990	sophiasaustin.com	Italian
L11	Stella San Jac. Westin 🍴 B D L S	310 E. Fifth St.	391-2333	stellasanjac.com	New Texan
I17	Stubb's BBQ 🍴 B L D LN \$\$\$	801 Red River St.	480-8341	stubbasaustin.com	Barbecue
E13	Sullivan's Steak House 🍴 L D \$\$\$	300 Colorado St.	495-6504	sullivansteakhouse.com	Steakhouse
G13	Swift's Attic 🍴 E B L D LN \$\$\$	315 Congress Ave.	482-8200	swiftsattic.com	American
H12	Taco Shack 🍴 B L S	402 Brazos St.	473-0101	tacoshack.com	Mexican
E14	Taverna Ristorante 🍴 B D L S	258 W. Second St.	477-1001	tavernabylobardi.com	Italian
D14	Trace at the W Hotel 🍴 L D LN \$\$\$	200 Lavaca St.	542-3660	traceaustin.com	American
H15	TRIO, The Four Seasons Austin 🍴 L D \$\$\$	98 San Jacinto Blvd.	685-8300	triorestaurantaustin.com	New American
E12	Trulucks 🍴 B D \$\$\$	400 Colorado St.	482-9000	trulucks.com	Seafood & Steak
H13	Uncle Julio's 🍴 L D \$\$\$	301 San Jacinto Blvd.	815-2100	unclejulios.com	Mexican
H12	Vince Young Steak House 🍴 B D \$\$\$	301 San Jacinto Blvd.	457-8325	vinceyoungsteakhouse.com	Steakhouse

KEY B = Breakfast L = Lunch D = Dinner LN = Late Night

\$ = \$5-14 \$\$ = \$15-25 \$\$\$ = \$26-50

🎵 = Music 🦽 = Wheelchair Accessible E = Elevator

*Area code is 512 for all phone numbers



EXHIBITOR LISTING

AquaCast Liner



AquaCast® Liner manufactures a complete line of waterproof cast padding and liners used in fracture care, replacing the old WL Gore Procel® and PANTALOOON® products. Our newly remodeled Hipster® protective liner, used for hip and shoulder spicas, femur fractures and other body casts, makes application quicker and easier, reduces skin excoriation, and improves patient satisfaction – while lowering overall costs simultaneously. Stop by our table to review the new design and also see why pediatric orthopaedic surgeons and non-operating doctors prefer our “easier-to-apply” rolls over the Gore® Procel.

Biogen



Through cutting-edge science, Biogen discovers, develops and delivers to patients worldwide therapies for the treatment of neurodegenerative and rare diseases.

Children’s Hospital of Los Angeles



The mission of Children’s Hospital Los Angeles is to create hope and build healthier futures. Founded in 1901, CHLA is the top-ranked children’s hospital in California and among the top 10 in the nation, according to the prestigious U.S. News & World Report Honor Roll of children’s hospitals for 2017-18. The hospital is home to The Saban Research Institute and is one of the few freestanding pediatric hospitals where scientific inquiry is combined with clinical care devoted exclusively to children. Children’s Hospital Los Angeles is a premier teaching hospital and has been affiliated with the Keck School of Medicine of the University of Southern California since 1932.

CURE International



We are a non-profit organization that operates charitable hospitals and programs in 29 countries worldwide where patients experience the life-changing message of God’s love for them, receiving surgical treatment regardless of gender, religion, or ethnicity. CURE’s efforts are focused on providing medical care to children suffering primarily from orthopedic and neurological conditions.

DIERS



DIERS Medical Systems is an innovative company offering a radiation-free system for assessment of the spine and trunk. Using surface topography, the DIERS formetric system can provide a 3-D reconstruction of the spine as a static measurement or while the spine is in motion. The addition of lower extremity video analysis and foot pressure measurements from the integrated treadmill turns the spine system into a fully functional compact gait lab. The DIERS formetric system provides reliable outcomes data for clinicians who treat patients with scoliosis, kyphosis, neuromuscular disorders, gait abnormalities, or sports injuries.

EXHIBITOR LISTING, CONTINUED

DePuy Synthes Companies



DePuy Synthes Companies part of the Johnson & Johnson family of companies provides the most comprehensive orthopaedic and neurological solutions in the world. The company offers an unparalleled breadth of products, services, programs and research and development capabilities. DePuy Synthes Companies' solutions in the specialties of joint reconstruction, trauma, neurological, craniomaxillofacial, spinal surgery and sports medicine are designed to advance patient care while delivering clinical and economic value to health care systems worldwide.

EOS Imaging



EOS imaging designs, develops and markets advanced imaging and image-based solutions for musculoskeletal pathologies and orthopedic surgical care. The EOS platform connects imaging to care by adding value along the entire patient care pathway from diagnosis to follow-up. Low dose and Micro Dose EOS exams provide full body, stereo-radiographic images in weight-bearing positions. The biplanar images are acquired simultaneously in less than 20 seconds without magnification. The accompanying sterEOS workstation generates patient-specific 3D models, calculates over 100 clinical parameters and offers customizable patient reports. EOS imaging also provides 3D Services and 3D surgical planning solutions for spine, hip and knee.

Global Help



Global HELP

Global HELP creates, distributes, and compiles free, relevant, non-commercial health-care information that prioritizes affordable and effective healthcare solutions and promotes sustainability. The organization's long-term goal is to create sustainable improvement in healthcare throughout the world by helping people help themselves.

Globus Medical



Globus Medical, Inc. is a leading musculoskeletal solutions company and is driving significant technological advancements across a complete suite of spinal products. Founded in 2003, Globus' single-minded focus on advancing spinal surgery has made it the fastest growing company in the history of orthopedics. Globus is driven to utilize superior engineering and technology to achieve pain free, active lives for all patients with spinal disorders.

Implanet



Implanet is a global company with a singular focus to provide novel solutions to complex spinal pathologies through the use of the JAZZ™ polyester band system. The JAZZ Band & Frame hybrid approach for complex deformity correction has been shown to reduce implant volume, decrease surgical cost, and reduce blood loss and OR time while demonstrating significant improvement in Sagittal Balance. JAZZ Lock is the first, and only, rodless band fixation device. JAZZ Lock allows for rapid posterior fixation of spinal fractures, is a low-profile tension band for top-of-construct protection and provides additional fixation options in compromised bone.

EXHIBITOR LISTING, CONTINUED

International Hip Dysplasia Institute



The International Hip Dysplasia Institute (IHDI) is a not-for-profit effort to improve the health and quality of life for those afflicted with hip dysplasia. The IHDI is supported by the Arnold Palmer Hospital Foundation in Orlando, Florida, with major sponsorship from Dan Whitney ("Larry the Cable Guy") and his wife, Cara. With this combined effort, we have joined forces with several noted medical centers around the world to promote prevention, diagnosis, and treatment of hip dysplasia.

Inion



Inion is a medical device company focused on the development and commercialization of innovative biodegradable and bioactive implants for Spinal, Specialty Orthopaedic and Craniomaxillofacial applications. Inion's proprietary blending technology enables application specific implants which have 'custom-fit' capabilities for patients that do not interfere with imaging.

Integrity Surgical Sales



Integrity surgical sales is the premier surgical distribution company in Texas, Louisiana and Mississippi. We are a surgical product distributor serving the medical and surgical community representing the Manufacturers' Alafair Biosciences Inc, who develops cross-linked polysaccharide hydrogel films for the post-surgical complication of adhesion or tethering between opposing tissue surfaces. Leica Microsystems is a manufacturer of optical microscopes, equipment for the preparation of microscopic specimens and related products. There are ten plants in eight countries with distribution partners in over 100 countries. Leica Microsystems has been thriving for the past 19 years. Leica Surgical Microscopes and 7D surgical Leading the way in image guided surgeries.

JCO



The *Journal of Children's Orthopaedics (JCO)* is the official journal of the European Paediatric Orthopaedic Society (EPOS) and is published by The British Editorial Society of Bone & Joint Surgery. It provides a forum for the advancement of the knowledge and education in paediatric orthopaedics and traumatology across geographical borders. *JCO* publishes high quality, peer-reviewed articles that focus on clinical practice, diagnosis and treatment of disorders unique to paediatric orthopaedics, as well as on basic and applied research. *JCO* is open access, and is abstracted/indexed in PubMed (with full text in PubMed Central), Google Scholar, SCOPUS and Web of Science, and is included in the Early Sources Citation Index (ESCI).

EXHIBITOR LISTING, CONTINUED

K2M



K2M Group Holdings, Inc. is a global leader of complex spine and minimally invasive solutions focused on achieving three-dimensional Total Body Balance™. Since its inception, K2M has designed, developed and commercialized innovative complex spine and minimally invasive spine technologies and techniques used by spine surgeons to treat some of the most complicated spinal pathologies. K2M has leveraged these core competencies into Balance ACS™, a platform of products, services, and research to help surgeons achieve three-dimensional spinal balance across the axial, coronal and sagittal planes, with the goal of supporting the full continuum of care to facilitate quality patient outcomes. The Balance ACS platform, in combination with the Company's technologies, techniques and leadership in the 3D-printing of spinal devices, enable K2M to compete favorably in the global spinal surgery market.

Medtronic



healthcare Further, Together.

As a global leader in medical technology, services and solutions, Medtronic improves the lives and health of millions of people each year. We use our deep clinical, therapeutic, and economic expertise to address the complex challenges faced by healthcare systems today. Let's take healthcare Further, Together. Visit our booth to learn more about our innovative solutions.

Merete Technologies, Inc.



Merete is Innovation. 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. We offer an increasing product portfolio for foot and ankle surgery, the treatment of major bone defects in oncology as well as trauma, hip revision and pediatric implants. Our latest innovation for simpler and faster guided growth and growth arrest is PediatrOS FlexTack™ and RigidTack™. These novel staples correct leg length discrepancies and angular deformities through improved temporary epiphysiodesis. Merete's PediatrOS staples offer a safer and more effective alternative for your patients.

NuVasive, Inc.



NuVasive is transforming spine surgery and beyond with minimally invasive, procedurally-integrated solutions designed to deliver reproducible and clinically-proven surgical outcomes. The Company's portfolio includes access instruments, implantable hardware, biologics, software systems for surgical planning, navigation and imaging solutions, magnetically adjustable implant systems for spine and orthopedics, and intraoperative monitoring service offerings.

OrthoPediatrics Corp.



Founded in 2006, OrthoPediatrics is an orthopedic company focused exclusively on providing a comprehensive product offering to the pediatric orthopedic market to improve the lives of children with orthopedic conditions. OrthoPediatrics currently markets 24 surgical systems that serve three of the largest categories within the pediatric orthopedic market. This offering spans trauma & 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 35 countries outside the United States.

EXHIBITOR LISTING, CONTINUED

Pega Medical



For more than two decades, Pega Medical has been offering innovative deformity correction solutions. Pega's family of IM Nails (Fassier-Duval Telescopic Rod, SLIM and GAP Endo-Exo Medullary Systems) are specifically designed for small bones, often seen with metabolic and genetic disease. Additional products such as the Hinge Plate and the Free-Gliding SCFE Screw complete our portfolio of growth modulating orthopedic devices. For limb deformity and length discrepancy, the Paley's Osteotomy System offers unique instrumentation for complex procedures. Our latest innovation: The Lollipop modular hip plating system, completes a portfolio of forward thinking technologies developed in collaboration with expert orthopedic surgeons from POSNA and from around the world.

Rubin Institute for Advanced Orthopaedics



Rubin Institute for
Advanced Orthopaedics

Rubin Institute for Advanced Orthopaedics (RIO) is home to some of the world's most renowned orthopedic surgeons and offers state-of-the-art treatment in a variety of orthopedic services for children and adults. The Institute hosts an annual CME-accredited course in limb deformity correction and lengthening. Clinical and research fellowship opportunities are available. The Multiplier and Bone Ninja apps were developed here. The RIO is located in Baltimore, Maryland, USA.

Setting Scoliosis Straight



Setting Scoliosis Straight is a not-for-profit charitable foundation that was established in 2008. Its purpose is to conduct fundraising efforts in support of the Harms Study Group, with a goal to further support and advance techniques in the treatment of spinal deformities in children and adolescents.

Spineart



Spineart is one of the fastest growing privately held spine companies, with a leading position in the European market and representation in more than 46 countries worldwide. Spineart established its US presence in 2009, providing to distributors, hospitals and surgeons a unique offer: Sterile-packed, barcoded implants and a compact set philosophy. Spineart introduced clinically validated technologies in Minimally Invasive Surgery, Motion Preservation, Fusion, Biologics, and Fractures Treatment.

Stryker Spine



Our Spine division offers a comprehensive portfolio for orthopaedic and neurosurgeons specializing in the surgical treatment of spinal pathologies. Our continually expanding portfolio features complete procedural solutions for the spine spanning from the occiput to the pelvis, including a full suite of LiTe (Less Invasive Technology) procedures such as the LiTe TLIF, LiTe LIF and LiTe ALIF. By teaming up with our sister divisions, we have been able to add navigation and power capabilities to many of our spinal fixation systems including Serrato, Xia 3, Xia 4.5 and ES2. We recently launched our first 3D printed porous titanium interbody devices, the Tritanium PL, TL and Tritanium C Cages. These cages are manufactured using Stryker's proprietary Tritanium In-Growth Technology, a novel highly porous titanium material designed for bone in-growth and biological fixation. We plan to expand the use of this unique technology over the next few years.

EXHIBITOR LISTING, CONTINUED

Ultragenyx



Ultragenyx Pharmaceutical Inc. is a clinical-stage biopharmaceutical company in Novato, California, founded in 2010 by Emil Kakkis, MD, PhD, committed to bringing to market novel products for the treatment of rare and ultra-rare diseases, with a focus on serious, debilitating genetic diseases. Our focus is on improving the lives of patients around

the world who have no approved therapies for their diseases through transforming good science into great medicine for rare diseases.

WishBone



WishBone Medical is a Warsaw, Indiana, based pediatric orthopedic company focused globally on the unmet needs of children suffering from orthopedic issues. Our commitment is to provide anatomically appropriate, innovative implants and instruments in sterile packed, single-use, disposable kits to surgeons and their patients who are still growing. Because KIDS are not just little adults.

Wolters Kluwer



Wolters Kluwer Health is a leading global provider of information and point of care solutions for the healthcare industry. Our solutions are designed to help professionals build clinical competency and improve

practice so that healthcare organizations can succeed in value-based care delivery models. Product solutions include Lippincott, Ovid®, and UpToDate®.

Wright Medical



Wright Medical Group N.V. is a global medical device company focused on Extremities and Biologics. We deliver innovative, value-added solutions improving quality of life for patients worldwide. We are a recognized

leader of surgical solutions for the upper extremities (shoulder, elbow, wrist and hand), lower extremities (foot and ankle) and biologics markets, three of the fastest growing segments in orthopaedics.

Zimmer Biomet



Zimmer Biomet Spine is a leader in restoring mobility, alleviating pain, and improving the quality of life for patients around the world by delivering surgeons a comprehensive portfolio of

quality spine technologies and procedural innovation, best-in-class training, and unparalleled service via a network of responsive team members and sales professionals.

POSNA ANTITRUST POLICY

It shall be the policy of the Pediatric Orthopaedic Society of North America (POSNA) to be in strict compliance with all Federal and State Antitrust laws, rules and regulations. Therefore: These policies and procedures apply to all membership, board, committee, and all meetings attended by representatives of the POSNA.

Discussions at POSNA meetings often cover a broad range of topics pertinent to the interests or concerns of orthopaedic surgeons. As a general rule, except as noted below, discussions at POSNA meetings can address topics without raising antitrust concerns if the discussions are kept scrupulously free of even the suggestion of private regulation of the profession. However, a number of topics that might be (and have been) discussed at POSNA meetings may raise significant complex antitrust concerns. These include:

- Membership admissions, rejections, restrictions, and terminations;
- 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 Nots

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.

POSNA ANTITRUST POLICY, CONTINUED

The Do's

1. Do adhere to 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.

2018 RESEARCH GRANT and AWARD WINNERS

2018 KUO MEMORIAL RESEARCH AWARD

Brandon A. Ramo, MD

"Health Related Quality of Life Outcomes in Patients with Early-Onset Scoliosis"

2018 HUENE MEMORIAL RESEARCH AWARD

Benjamin Roye, MD

"Bracing for AIS: What Makes the Difference? Examining the Reciprocity of Quality & Duration"

2018 ST. GILES RESEARCH AWARD

Anthony Cooper, MD, FRCS

"A Prospective Study to Assess Dynamic Deformation of the Femoral Head During Weight Bearing in Perthes Disease"

2018 POSNA CLINICAL TRIALS RESEARCH GRANT

Freeman Miller, MD

"Hip Surveillance in Children with CP: Developing POSNA Wide Consensus"

2018 POSNA REGISTRY GRANT

Harry K. W. Kim, MD

"Prospective, International Multi-centered Registry of Legg-Calve-Perthes Disease"

2018 POSNA DIRECTED RESEARCH GRANTS

Heather Kowalski, MD

"The Design & Validation of a Wire Navigation Simulator for Pediatric Supracondylar Humerus Fractures"

Pooya Hosseinzadeh, MD

"Outcomes of Operative and Non-operative Treatment of Displaced Proximal Humerus Fractures in Adolescents: Prospective Multicenter Study"

2018 POSNA BASIC SCIENCE RESEARCH GRANTS

Jay Albright, MD

"Prevention of Post Traumatic Osteoarthritis in an Animal Model with Post-traumatic Injection of a Chondroprotective Agent"

Raymond W. Liu, MD

"Risk of Distal Femoral Physeal Arrest Following Intramedullary Rod Removal & Fat Grafting"

2018 RESEARCH GRANT and AWARD WINNERS, CONTINUED

2018 POSNA CLINICAL RESEARCH GRANTS

Daniel J. Sucato, MD

"Functional and Gait Outcomes of Hip Preservation Surgery in Adolescents with Femoroacetabular Impingement/Acetabular Dysplasia at 5 to 10 Year Follow-up"

Lindsay M. Andras, MD

"Prospective Randomized Study Comparing Functional Bracing vs Hip Spica Cast in Pediatric Femur Fractures"

2018 POSNA START UP RESEARCH GRANTS

Brian G. Smith, MD

"Guiding Scoliosis Evaluation with a Humeral Head Ossification Algorithm"

Courtney O'Donnell, MD

"Utilization of Laser Doppler Flowmetry for Dynamic Assessment of Femoral Head perfusion to Predict the Osteonecrosis Rate Following Modified Dunn Procedure

Joshua Hyman, MD

"Evaluating the Role of Patellar Realignment in Patients with CP"

2018 POSNA/ZIMMER BIOMET SPINE RESEARCH GRANT

John G. Birch, MD

"Determination of the Incidence & Nature of Lumbosacropelvic Deformity in Presumed Idiopathic Scoliosis Using a Novel Technique of MR Sequence & Workstation 3D Reconstruction"

15th Annual International Pediatric Orthopaedic Symposium

Presented by POSNA and AAOS

November 27 – December 1, 2018
Orlando, FL

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POSNA

PEDIATRIC ORTHOPAEDIC SOCIETY
OF NORTH AMERICA

FUTURE ANNUAL MEETINGS

May 15 – 18, 2019
Charlotte, North Carolina

NEW for 2019

Video Abstract Submission



May 13 – 16, 2020
San Diego, California

May 11 – 15, 2021
Dallas, Texas

FUTURE IPOS MEETINGS

November 27 – December 1, 2018
Orlando, FL

December 10 – 14, 2019
Lake Buena Vista, FL

December 8 – 12, 2020
Orlando, FL

ATTENDEE Wi-Fi NETWORK

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