Grow together
Because every millimeter counts in EOS, use a treatment that impacts a lifetime.

Band together
When you are going for the win, you need a versatile game plan.

Strong together
When AIS tests their confidence, choose a system with the strength to bring it back.

Visit the NuVasive booth to learn more about our deformity solutions today.
**Table of Contents**

- In Appreciation of POSNA Sponsors .................................................. 4
- General Meeting Information .......................................................... 5
  - IPOS Faculty Listing ................................................................. 5
  - About POSNA ............................................................................ 6
  - Learning Objectives ................................................................ 6
  - AMA Credit Designation & Accreditation ................................. 6
  - IPOS Vision & Mission ............................................................... 6
- General Meeting Information .......................................................... 7
  - Resident Info ............................................................................. 7
  - ePosters ..................................................................................... 7
  - Lunchtime Career Development .............................................. 7
  - IPOS Lounge .............................................................................. 7
  - Registration Fees ..................................................................... 8
  - Registration Hours .................................................................. 8
  - Exhibit Hall Hours ................................................................... 8
  - Speaker Ready Room Hours ................................................... 8
- IPOS - Craft Your Own Adventure (Breakdown by Topics) .......... 10
- Schedule At a Glance .................................................................. 11 - 12
- Industry Spotlight Sessions .......................................................... 14
- Floor Plan ..................................................................................... 15
- Detailed Schedule (Tuesday) .......................................................... 16
- Detailed Schedule (Wednesday) ..................................................... 16 - 20
- Detailed Schedule (Thursday) ........................................................ 22 - 26
- Detailed Schedule (Friday) .............................................................. 28 - 31
- Detailed Schedule (Saturday) .......................................................... 33 - 35
- Saturday, One-Day Fellowship Directors Program .................. 35
- General Meeting Policies ............................................................. 36
  - Language .................................................................................... 36
  - FDA ............................................................................................ 37
  - Disclosure .................................................................................. 37
- POSNA Membership ................................................................. 38
- Things to Do in Orlando ............................................................... 39 - 40
- ePoster Listing .......................................................................... 41 - 43
- Exhibitor Listing .......................................................................... 44 - 49
Thank You!

The Pediatric Orthopaedic Society of North America gratefully acknowledges the following for their generous financial support for 2019. We sincerely appreciate each of these companies for helping POSNA fulfill its goals of providing education and fostering research.

Howard Steel Foundation        St. Giles Foundation        Angela S.M. Kuo Memorial Fund

**Double Diamond Level**
DePuy Synthes*
NuVasive, Inc.
OrthoPediatrics*
Stryker

**Diamond Level**
Medtronic*
Shriners Hospitals for Children*

**Platinum Level**
Zimmer Biomet

**Gold Level**
Arthrex
BioMarin Pharmaceutical
Globus Medical
Pega Medical

**Silver Level**
Children’s Mercy Kansas City
Misonix
Nemours/Alfred duPont Hospital for Children
Stanford Children’s Health
Wright Medical

**Bronze Level**
7D Surgical
Children’s Healthcare of Atlanta
Gillette Children’s Specialty Healthcare
Medicrea, USA
Merete Technologies, Inc.

In-kind donations of equipment for workshops being provided by:
DePuy Synthes        Orthofix        OrthoPediatrics        Smith+Nephew

*Provided Education Grants for IPOS 2019.
2019 IPOS Faculty
*Lindsay Andras, MD
Alexandre Arkader, MD
*Donald Bae, MD
Laurel Blakemore, MD
*Michelle Caird, MD
*Pablo Castañeda, MD
*Jon Davids, MD
*Craig Eberson, MD
*John (Jack) Flynn, MD
Steven Frick, MD
Theodore Ganley, MD
Michael Glotzbecker, MD
*Martin Herman, MD
Jose Herrera-Soto, MD
John Herzenberg, MD
Christine Ho, MD
Sandra Jarvis-Selinger, PhD
Lori Karol, MD
Derek Kelly, MD
Mininder Kocher, MD, MPH
Scott Kozin, MD
*A. Noelle Larson, MD
*William Mackenzie, MD
Amy McIntosh, MD
*Todd Milbrandt, MD
Vincent Mosca, MD
Peter Newton, MD
*Kenneth Noonan, MD
Tom Novacheck, MD
Matthew Oetgen, MD
Dror Paley, MD, FRCSC
Jonathan Phillips, MD
*David Podeszwa, MD
Wudbhav (Woody) Sankar, MD
Jeffrey Sawyer, MD
*Jonathan Schoenecker, MD, PhD
*Suken Shah, MD
*Kevin Shea, MD
*Benjamin Shore, MD, MPH, FRCSC
*Ernest Sink, MD
David Skaggs, MD, MMM
*Brian Smith, MD
Paul Sponseller, MD
*Anne Stuedemann, MSN, RN, CPNP
Daniel Sucato, MD, MS
Vishwas Talwalkar, MD
*Bryan Tompkins, MD
*Michael Vitale, MD, MPH
Peter Waters, MD
Jennifer Weiss, MD
*Ira Zaltz, MD
Erica Zepeda, MSN, RN, CPNP

International Faculty
Alaric Aroojis, MD
*Haemish Crawford, MD
Deborah Eastwood, FRCS
David Little, MD, MBBS, FRACS, PhD
*Kishore Mulpuri, MD
Stefan Parent, MD
Christof Radler, MD
Thomas Wirth, MD, PhD
Muharrem Yazici, MD

Instructors
Brian Brighton, MD
Stephanie Boehm, MD
Eric Edmonds, MD
Nicholas Fletcher, MD
Megan Gresh, MD
Javier Masquijo, MD
Thomas McPartland, MD
Wendy Moon, MS, APRN, CNP
L. Reid Nichols, MD
Eduardo Novais, MD
Scott Rosenfeld, MD
Mauricio Silva, MD
Samantha Spencer, MD
Nicole Tweedy, DNP-PNP
Lindley Wall, MD
Maegen Wallace, MD

*2019 IPOS Advisory Board

Download the My POSNA App.
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.

IPOS Mission Statement
To provide the highest quality, most comprehensive, and most interactive pediatric orthopaedic education to learners and practitioners of all levels.

IPOS Vision Statement
Through our inspiring international faculty, innovative programming, and vibrant interactions among all attendees, IPOS aspires to be the best pediatric orthopaedic educational event in the world.

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.

AMA Credit Designation
The American Academy of Orthopaedic Surgeons designates this live activity for a maximum of 20.75 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Explore All Areas of Pediatric Orthopaedics
Immerse yourself in this exciting and interactive four-day program, alongside hundreds of pediatric orthopaedic professionals from around the world. Discover new insights and technology, and learn how to integrate best practices and new techniques into your care of children and adolescents. From fundamental fracture care to advanced surgical reconstruction, our renown international faculty share their expertise in every subspecialty field of pediatric orthopaedics.

POSNA is going green!
Here are a few of our green initiatives:
• Paperless: use the website and mobile app as your IPOS guide.
• Signage is digital throughout the meeting space.
• Recycle your conference badge at registration at the end of the meeting.
• Loews is committed to using local, sustainable goods as part of their banquet food and beverage program.
• Water stations with biodegradable cups will be available throughout the meeting space.
Resident Info
Residents! Special programming just for you, including:

- Career Planning and Professional Development – gain perspectives and advice
- Resident Case Competition – cases presented and discussed

IPOS Lounge
Located in the Exhibit Hall, the IPOS Lounge is a place to recharge, relax, and network with others. Come to the lounge to view ePosters, participate in Lunchtime Career Development, or chat with the IPOS directors during one of the scheduled breaks.

ePoster Information
ePosters are located in the Exhibit Hall at the IPOS Lounge. The ePosters can be found on pages 41-43.

Lunchtime Career Development
During lunch, meet with IPOS course directors and faculty to review the day’s educational events, share interesting clinical cases and discuss professional development. Visit the IPOS Lounge in the Exhibit Hall during lunch.

WIFI Information
IPOS Conference WIFI: IPOS2019
Password: orlando2019

Remember to share your IPOS experience posting on social media using #IPOS2019.
Registration

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
</tr>
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<tbody>
<tr>
<td>Tuesday, December 3</td>
<td>3:00 PM – 7:00 PM</td>
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<tr>
<td>Wednesday, December 4</td>
<td>7:00 AM – 6:00 PM</td>
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<tr>
<td>Thursday, December 5</td>
<td>7:00 AM – 4:30 PM</td>
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<tr>
<td>Friday, December 6</td>
<td>7:00 AM – 4:30 PM</td>
</tr>
<tr>
<td>Saturday, December 7</td>
<td>6:30 AM – 11:30 AM</td>
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</table>

Exhibit Hall

Join your colleagues in the Exhibit Hall for fellowship and discovery of new pediatric orthopaedic products and services. Meals and breaks will be served in the Exhibit Hall, located in Pacifica 6-7.

Speaker Ready Room

All IPOS faculty are required to upload their presentations. Speaker Ready Room will be in South China Sea.

<table>
<thead>
<tr>
<th>Day</th>
<th>Time</th>
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<tbody>
<tr>
<td>Tuesday, December 3</td>
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<tr>
<td>Friday, December 6</td>
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</tr>
<tr>
<td>Saturday, December 7</td>
<td>6:30 AM – 11:30 AM</td>
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</table>

POSNA Membership Requirement

Attendance fulfills your POSNA active membership requirements. IPOS attendance does not fulfill the requirement for Candidate Members.

Make an Impression with POSNA Direct!

Help POSNA continue accomplishing the things most important to our members: education, patient care initiatives, and research.
DePuy Synthes Deformity

Proud Double Diamond Sponsor of POSNA and IPOS

EXPEDIUM® SPINE SYSTEM


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094053-180626 07/19
Craft Your Own Adventure!

**General Pediatric Orthopaedics/Trauma**
- General Session 1: Pediatric Trauma: Early Fixes and Late Saves (Wednesday, 12/4, 8:00 AM-10:00 AM)
- CME Breakout: Musculoskeletal infections (Wednesday, 12/4, 10:30 AM-12:00 PM)
- General Session 2: Teaching and Learning in Pediatric Orthopaedics (Thursday, 12/5, 9:30 AM-11:30 AM)
- General Session 3: Author’s Preferred Techniques (Friday, 12/6, 12:30 PM-2:30 PM)
- CME Breakout: Wellness in Pediatric Orthopaedics (Friday, 12/6, 3:00 PM-4:30 PM)
- CME Breakout: Bone Lesions (Cysts, Masses and Malignancies) (Saturday, 12/7, 10:00 AM-11:30 AM)

**Sports**
- CME Breakout: Sports/Foot: More than Athlete’s Foot: Coalitions, OCD, and Jones Fractures (Thursday, 12/5, 10:30 AM-1:30 PM)
- Concurrent Session: Sports: Knee Conditions of the Immature Athlete (Friday, 12/6, 8:00 AM-10:00 AM)

**Foot**
- Concurrent Session: Foot: Clubfoot Care in 2019 (Wednesday, 12/4, 1:00 PM-3:00 PM)
- CME Breakout: Ponseti I (hands-on workshop) (Thursday, 12/5, 12:30 PM-2:00 PM)
- CME Breakout: Ponseti II: Case Based Discussions (Saturday, 12/7, 10:00 AM-11:30 AM)

**Syndromes, Dysplasias & Genetic Conditions**
- Concurrent Session: Skeletal Dysplasias (Thursday, 12/5, 2:20 PM-4:30 PM)
- CME Breakout: Dysplasias: Joint Laxity (Friday, 12/6, 3:00 PM-4:30 PM)
- Concurrent Session: Dysplasias: Muscular Dystrophies (Saturday, 12/7, 7:30 AM-9:40 AM)

**POPS**
- CME Breakout: POPS: The Limping Child: Physiologic to Pathologic (Wednesday, 12/4, 10:30 AM-12:00 PM)
- CME Breakout: POPS: Lower Back Pain (Thursday, 12/5, 12:30 PM-2:00 PM)
- CME Breakout: POPS: Rapid Fire Review (Friday, 12/6, 3:00 PM-4:30 PM)

**Lower Extremity/Deformity**
- CME Breakout: LE Deformity I: Congenital Deformity (Wednesday, 12/4, 10:30 AM-12:00 PM)
- CME Breakout: LE Deformity II: Growth and Limb Length Discrepancy (Thursday, 12/5, 12:30 PM-2:00 PM)
- CME Breakout: LE Deformity: External Fixation (Hands-On Workshop) (Friday, 12/6, 3:00 PM-4:30 PM)

**Neuromuscular & Cerebral Palsy**
- CME Breakout: CP: Gait Analysis: A Systematic Approach (Thursday, 12/5, 12:30 PM-2:00 PM)
- Concurrent Session: CP: Management of Neuromuscular Hip Dysplasia (Friday, 12/6, 8:00 AM-10:00 AM)
- CME Breakout: CP: Surgery to Improve Ambulation (Saturday, 12/7, 10:00 AM-11:30 AM)
## Schedule At a Glance

### TUESDAY, DECEMBER 3

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
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</thead>
<tbody>
<tr>
<td>Registration</td>
<td>3:00 PM - 7:00 PM</td>
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<tr>
<td>Resident Case Presentations - <strong>Pacifica 8-10</strong></td>
<td>4:00 PM - 5:20 PM</td>
</tr>
<tr>
<td>Resident Career Planning - <strong>Pacifica 8-10</strong></td>
<td>5:20 PM - 6:30 PM</td>
</tr>
<tr>
<td>Pre-Course Reception - <strong>Oceana Foyer</strong></td>
<td>6:30 PM - 6:45 PM</td>
</tr>
<tr>
<td>NuVasive Pre-Course - <strong>Oceana 1-2</strong></td>
<td>6:45 PM - 8:00 PM</td>
</tr>
<tr>
<td>OrthoPediatrics Pre-Course - <strong>Oceana 3-5</strong></td>
<td>6:45 PM - 8:00 PM</td>
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<tr>
<td>Industry Sponsored Cocktail Reception - <strong>Pacifica 11-12</strong></td>
<td>8:00 PM - 9:00 PM</td>
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### WEDNESDAY, DECEMBER 4

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<th>Event</th>
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<tr>
<td>Registration</td>
<td>7:00 AM - 6:00 PM</td>
</tr>
<tr>
<td>Breakfast &amp; Exhibits</td>
<td>7:00 AM - 8:00 AM</td>
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<tr>
<td>General Session - <strong>Oceana 6-7</strong></td>
<td>8:00 AM - 10:00 AM</td>
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<tr>
<td>Director’s Welcome</td>
<td>10:00 AM - 10:10 AM</td>
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<tr>
<td>Break &amp; Exhibits</td>
<td>10:10 AM - 10:30 AM</td>
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<tr>
<td>CME Breakout - <strong>Pacifica 11-12</strong></td>
<td>10:30 AM - 12:00 PM</td>
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<td>CME Breakout - <strong>Pacifica 8-10</strong></td>
<td>10:30 AM - 12:00 PM</td>
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<tr>
<td>CME Breakout - <strong>Oceana 3-5</strong></td>
<td>10:30 AM - 12:00 PM</td>
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<tr>
<td>CME Breakout - <strong>Coral Sea</strong></td>
<td>10:30 AM - 12:00 PM</td>
</tr>
<tr>
<td>CME Breakout - <strong>Pacifica 1-3</strong></td>
<td>10:30 AM - 12:00 PM</td>
</tr>
<tr>
<td>CME Breakout - <strong>Java Sea</strong></td>
<td>10:30 AM - 12:00 PM</td>
</tr>
<tr>
<td>Lunch &amp; Exhibits</td>
<td>12:00 PM - 1:00 PM</td>
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<tr>
<td>Lunch with IPOS Directors - <strong>IPOS Lounge</strong></td>
<td>12:00 PM - 1:00 PM</td>
</tr>
<tr>
<td>Concurrent Session - <strong>Oceana 6-7</strong></td>
<td>1:00 PM - 3:00 PM</td>
</tr>
<tr>
<td>Concurrent Session - <strong>Pacifica 1-3</strong></td>
<td>1:00 PM - 3:00 PM</td>
</tr>
<tr>
<td>Break &amp; Exhibits</td>
<td>3:00 PM - 3:20 PM</td>
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<tr>
<td>Industry Spotlight Session 1: Arthrex - <strong>Timor Sea</strong></td>
<td>3:20 PM - 4:30 PM</td>
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<tr>
<td>Industry Spotlight Session 1: DePuy Synthes - <strong>Pacifica 11-12</strong></td>
<td>3:20 PM - 4:30 PM</td>
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<tr>
<td>Industry Spotlight Session 1: Globus Medical - <strong>Pacifica 8-10</strong></td>
<td>3:20 PM - 4:30 PM</td>
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<tr>
<td>Industry Spotlight Session 1: Orthopediatrics - <strong>Coral Sea</strong></td>
<td>3:20 PM - 4:30 PM</td>
</tr>
<tr>
<td>Industry Spotlight Session 1: Orthopediatrics - <strong>Java Sea</strong></td>
<td>3:20 PM - 4:30 PM</td>
</tr>
<tr>
<td>Industry Spotlight Session 2: Arthrex - <strong>Timor Sea</strong></td>
<td>4:40 PM - 5:50 PM</td>
</tr>
<tr>
<td>Industry Spotlight Session 2: DePuy Synthes - <strong>Pacifica 11-12</strong></td>
<td>4:40 PM - 5:50 PM</td>
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<tr>
<td>Industry Spotlight Session 2: Medronic - <strong>Philippine Sea</strong></td>
<td>4:40 PM - 5:50 PM</td>
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<tr>
<td>Industry Spotlight Session 2: Orthopediatrics - <strong>Coral Sea</strong></td>
<td>4:40 PM - 5:50 PM</td>
</tr>
<tr>
<td>Industry Spotlight Session 2: Stryker - <strong>Banda Sea</strong></td>
<td>4:40 PM - 5:50 PM</td>
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<tr>
<td>Course Directors’ Welcome Reception - <strong>Pacifica 6-7</strong></td>
<td>6:00 PM - 7:00 PM</td>
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### THURSDAY, DECEMBER 5

<table>
<thead>
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<th>Event</th>
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<tbody>
<tr>
<td>Registration</td>
<td>7:00 AM - 4:30 PM</td>
</tr>
<tr>
<td>Breakfast &amp; Staff Lounge</td>
<td>7:00 AM - 6:00 PM</td>
</tr>
<tr>
<td>Faculty and Staff Exhibits</td>
<td>7:00 AM - 8:00 AM</td>
</tr>
<tr>
<td>POSNA Live</td>
<td>8:00 AM - 4:00 PM</td>
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<tr>
<td>Double Diamond Meeting Room</td>
<td>8:00 AM - 4:00 PM</td>
</tr>
<tr>
<td>Industry Spotlight Session 3: DePuy Synthes - <strong>Pacifica 11-12</strong></td>
<td>8:00 AM - 9:10 AM</td>
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<tr>
<td>Industry Spotlight Session 3: Misonix - <strong>Banda Sea</strong></td>
<td>8:00 AM - 9:10 AM</td>
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<tr>
<td>Industry Spotlight Session 3: Orthopediatrics - <strong>Coral Sea</strong></td>
<td>8:00 AM - 9:10 AM</td>
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<tr>
<td>Industry Spotlight Session 3: Wright Medical - <strong>Java Sea</strong></td>
<td>8:00 AM - 9:10 AM</td>
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<tr>
<td>Industry Spotlight Session 3: Zimmer Biomet - <strong>Timor Sea</strong></td>
<td>8:00 AM - 9:10 AM</td>
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<tr>
<td>Break &amp; Exhibits</td>
<td>9:10 AM - 9:30 AM</td>
</tr>
<tr>
<td>General Session - <strong>Oceana 6-7</strong></td>
<td>9:30 AM - 11:30 AM</td>
</tr>
<tr>
<td>Lunch &amp; Exhibits</td>
<td>11:30 AM - 12:30 PM</td>
</tr>
<tr>
<td>Lunchtime Development - <strong>IPOS Lounge</strong></td>
<td>11:45 AM - 12:30 PM</td>
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<tr>
<td>CME Breakout: Hands-On Workshop - <strong>Banda Sea</strong></td>
<td>12:30 PM - 2:00 PM</td>
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<tr>
<td>CME Breakout: Hands-On Workshop - <strong>Timor Sea</strong></td>
<td>12:30 PM - 2:00 PM</td>
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<tr>
<td>CME Breakout - <strong>Coral Sea</strong></td>
<td>12:30 PM - 2:00 PM</td>
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<tr>
<td>CME Breakout - <strong>Pacifica 11-12</strong></td>
<td>12:30 PM - 2:00 PM</td>
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<tr>
<td>CME Breakout - <strong>Pacifica 8-10</strong></td>
<td>12:30 PM - 2:00 PM</td>
</tr>
<tr>
<td>CME Breakout - <strong>Oceana 3-5</strong></td>
<td>12:30 PM - 2:00 PM</td>
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<tr>
<td>CME Breakout - <strong>Pacifica 1-3</strong></td>
<td>12:30 PM - 2:00 PM</td>
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<tr>
<td>CME Breakout - <strong>Java Sea</strong></td>
<td>12:30 PM - 2:00 PM</td>
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<tr>
<td>Break &amp; Exhibits</td>
<td>2:00 PM - 2:20 PM</td>
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<tr>
<td>Concurrent Session - <strong>Oceana 6-7</strong></td>
<td>2:20 PM - 4:30 PM</td>
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<tr>
<td>Concurrent Session - <strong>Pacifica 1-3</strong></td>
<td>2:20 PM - 4:30 PM</td>
</tr>
<tr>
<td>Top Gun Surgical Skills Competition (by invitation only)</td>
<td>5:00 PM - 7:30 PM</td>
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Have lunch with IPOS Directors in the IPOS Lounge on Wednesday.

Schedule Subject to Change
### FRIDAY, DECEMBER 6

<table>
<thead>
<tr>
<th>Event</th>
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<tr>
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<tr>
<td>Breakfast &amp; Exhibits</td>
<td>7:00 AM - 8:00 AM</td>
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<tr>
<td>Concurrent Session - Pacifica 1-3</td>
<td>8:00 AM - 10:00 AM</td>
</tr>
<tr>
<td>Concurrent Session - Oceana 6-7</td>
<td>8:00 AM - 10:00 AM</td>
</tr>
<tr>
<td>Exhibitor Forum (by invitation only)</td>
<td>8:15 AM - 9:00 AM</td>
</tr>
<tr>
<td>Break &amp; Exhibits</td>
<td>10:00 AM - 10:20 AM</td>
</tr>
<tr>
<td>Industry Spotlight Session 4: BioMarin - Pacifica 8-10</td>
<td>10:20 AM - 11:30 AM</td>
</tr>
<tr>
<td>Industry Spotlight Session 4: DePuy Synthes - Pacifica 11-12</td>
<td>10:20 AM - 11:30 AM</td>
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<tr>
<td>Industry Spotlight Session 4: Pega Medical - Java Sea</td>
<td>10:20 AM - 11:30 AM</td>
</tr>
<tr>
<td>Industry Spotlight Session 4: Orthopediatrics - Coral Sea</td>
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<tr>
<td>Lunch &amp; Exhibits</td>
<td>11:30 AM - 12:30 AM</td>
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<tr>
<td>Faculty Lunch</td>
<td>11:30 AM - 12:30 AM</td>
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<tr>
<td>Lunchtime Career Development - IPOS Lounge</td>
<td>11:45 AM - 12:30 PM</td>
</tr>
<tr>
<td>General Session - Oceana 6-7</td>
<td>12:30 PM - 2:30 PM</td>
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<tr>
<td>Awards and Acknowledgements - Oceana 6-7</td>
<td>2:30 PM - 2:40 PM</td>
</tr>
<tr>
<td>Break &amp; Exhibits</td>
<td>2:40 PM - 3:00 PM</td>
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<tr>
<td>Coffee Break with Course Directors</td>
<td>2:40 PM - 3:00 PM</td>
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<tr>
<td>CME Breakout: Hands-On Workshop - Banda Sea</td>
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<tr>
<td>CME Breakout: Hands-On Workshop - Timor Sea</td>
<td>3:00 PM - 4:30 PM</td>
</tr>
<tr>
<td>CME Breakout: Hands-On Workshop - Coral Sea</td>
<td>3:00 PM - 4:30 PM</td>
</tr>
<tr>
<td>CME Breakout - Oceana 3-5</td>
<td>3:00 PM - 4:30 PM</td>
</tr>
<tr>
<td>CME Breakout - Pacifica 11-12</td>
<td>3:00 PM - 4:30 PM</td>
</tr>
<tr>
<td>CME Breakout - Pacifica 8-10</td>
<td>3:00 PM - 4:30 PM</td>
</tr>
<tr>
<td>CME Breakout - Java Sea</td>
<td>3:00 PM - 4:30 PM</td>
</tr>
<tr>
<td>CME Breakout - Oceana 6-7</td>
<td>3:00 PM - 4:30 PM</td>
</tr>
</tbody>
</table>

### SATURDAY, DECEMBER 7

<table>
<thead>
<tr>
<th>Event</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration</td>
<td>6:30 AM - 11:30 AM</td>
</tr>
<tr>
<td>Breakfast</td>
<td>6:30 AM - 8:00 AM</td>
</tr>
<tr>
<td>Concurrent Session - Oceana 6-7</td>
<td>7:30 AM - 9:40 AM</td>
</tr>
<tr>
<td>Concurrent Session - Pacifica 1-3</td>
<td>7:30 AM - 9:40 AM</td>
</tr>
<tr>
<td>Fellowship Director’s Program (by invitation only) Pacifica 8-10</td>
<td>8:00 AM - 11:00 AM</td>
</tr>
<tr>
<td>Break</td>
<td>9:40 AM - 10:00 AM</td>
</tr>
<tr>
<td>CME Breakout - Banda Sea</td>
<td>10:00 AM - 11:30 AM</td>
</tr>
<tr>
<td>CME Breakout - Pacifica 11-12</td>
<td>10:00 AM - 11:30 AM</td>
</tr>
<tr>
<td>CME Breakout - Java Sea</td>
<td>10:00 AM - 11:30 AM</td>
</tr>
<tr>
<td>CME Breakout - Oceana 6-7</td>
<td>10:00 AM - 11:30 AM</td>
</tr>
<tr>
<td>Lunch</td>
<td>11:30 AM - 12:00 PM</td>
</tr>
</tbody>
</table>

### Schedule At a Glance, continued

- General Pediatric Orthopaedics/Trauma
- Hip
- Hand & Upper Extremity
- Spine
- Sports
- Neuromuscular & Cerebral Palsy
- Foot
- Syndromes, Dysplasias & Genetic Conditions
- POPS
- Lower Extremity/Deformity
- Essentials of Pediatric Orthopaedics
ENABLING PROCEDURAL SOLUTIONS FOR PEDIATRIC DEFORMITY

StealthStation™ Navigation System with Navigated CD Horizon™ Solera™ Spinal System

CD Horizon Spinal System
The CD Horizon Spinal System is intended to treat pediatric patients diagnosed with the following conditions: spondylolisthesis/spondylolysis, fracture caused by tumor and/or trauma, pseudarthrosis, and/or failed previous fusion. These devices are to be used with autograft and/or allograft. Pediatric pedicle screw fixation is limited to a posterior approach.

Risks include:
- Early or late loosening of any or all of the components.
- Disassembly, bending, and/or breakage of any or all of the components.
- Foreign body (allergic) reaction to implants, debris, corrosion products (from crevice, fretting, and/or general corrosion), including metallosis, staining, tumor formation, and/or autoimmune disease.

O-Arm O2 Imaging System
The O-arm O2 Imaging System is a mobile x-ray system designed for 2D fluoroscopic and 3D imaging for adult and pediatric patients weighing 60 lbs or greater and having an abdominal thickness greater than 16cm, and is intended to be used where a physician benefits from 2D and 3D information of anatomic structures and objects with high x-ray attenuation such as bony anatomy and metallic objects. The O-arm O2 Imaging System is compatible with certain image guided surgery systems.

StealthStation System
The StealthStation System, with StealthStation Spine Software, is intended as an aid for precisely locating anatomical structures in either open or percutaneous neurosurgical and orthopedic procedures. Their use is indicated for any medical condition in which the use of stereotactic surgery may be appropriate, and where reference to a rigid anatomical structure, such as the spine or pelvis, can be identified relative to images of the anatomy.

Please refer to product indication manual/package insert for instructions, warnings, precautions, and contraindications.

Results may vary.

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medtronic.com
## Industry Spotlight Sessions (Non-CME)
### Wednesday, December 4

<table>
<thead>
<tr>
<th>Time</th>
<th>Industry Spotlight Session #1</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:20 PM–4:30 PM</td>
<td><strong>Arthrex (Timor Sea)</strong> (Non-CME)</td>
</tr>
<tr>
<td></td>
<td>Managing Pediatric ACL Ruptures</td>
</tr>
<tr>
<td></td>
<td>Ted Ganley, MD; Carlos Uquillas, MD; Kevin Shea, MD</td>
</tr>
<tr>
<td></td>
<td><strong>DePuy Synthes (Pacifica 11-12)</strong></td>
</tr>
<tr>
<td></td>
<td>Pediatric Femur Fracture Management</td>
</tr>
<tr>
<td></td>
<td>Martin Herman, MD</td>
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<tr>
<td></td>
<td><strong>Globus Medical (Pacifica 8-10)</strong></td>
</tr>
<tr>
<td></td>
<td>When Bracing Does Not Work</td>
</tr>
<tr>
<td></td>
<td>Walter Samora, MD</td>
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<tr>
<td></td>
<td><strong>Orthopediatrics (Coral Sea)</strong></td>
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<tr>
<td></td>
<td>Shilla- A Different way to Think About EOS and Other Growing</td>
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<tr>
<td></td>
<td>Spinal Disorders</td>
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<tr>
<td></td>
<td>Rick McCarthy, MD; Scott Luhmann, MD</td>
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<tr>
<td></td>
<td><strong>Orthopediatrics (Java Sea)</strong></td>
</tr>
<tr>
<td></td>
<td>Pediatric Foot &amp; Ankle Fractures and Deformity Correction</td>
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<tr>
<td></td>
<td>Vincent Mosca, MD; Jon Davids, MD; Maryse Bouchard, MD</td>
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<thead>
<tr>
<th>Time</th>
<th>Industry Spotlight Session #2</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:40 PM–5:50 PM</td>
<td><strong>Arthrex (Timor Sea)</strong> (Non-CME)</td>
</tr>
<tr>
<td></td>
<td>Glenohumeral Stabilization in the Young Population</td>
</tr>
<tr>
<td></td>
<td>Ted Ganley, MD; Carlos Uquillas, MD; Kevin Shea, MD</td>
</tr>
<tr>
<td></td>
<td><strong>DePuy Synthes (Pacifica 11-12)</strong></td>
</tr>
<tr>
<td></td>
<td>Pitfalls and Pearls for Proximal Femoral Osteotomies</td>
</tr>
<tr>
<td></td>
<td>Ernest Sink, MD</td>
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<tr>
<td></td>
<td><strong>Medtronic (Philippine Sea)</strong></td>
</tr>
<tr>
<td></td>
<td>Navigation in the Pediatric Spine: Optimizing Deformity Correction</td>
</tr>
<tr>
<td></td>
<td>with Enabling Technology</td>
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<tr>
<td></td>
<td>Sumeet Garg, MD; Noelle Larson, MD</td>
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<tr>
<td></td>
<td><strong>Orthopediatrics (Coral Sea)</strong></td>
</tr>
<tr>
<td></td>
<td>That Wasn’t the Plan, Now What!?</td>
</tr>
<tr>
<td></td>
<td>Pediatric Orthopedic Trauma</td>
</tr>
<tr>
<td></td>
<td>Alexandra Arkader, MD; Joshua Murphy, MD; Scott Rosenfeld, MD</td>
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<tr>
<td></td>
<td><strong>Stryker Spine (Banda Sea)</strong></td>
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<tr>
<td></td>
<td>Small But Mighty: Exploring the Power of Low-Profile System in EOS</td>
</tr>
<tr>
<td></td>
<td>William Accousti, MD; Scott Luhmann, MD; Michael Vitale, MD, MPH</td>
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</tbody>
</table>

### Thursday, December 5

<table>
<thead>
<tr>
<th>Time</th>
<th>Industry Spotlight Session #3</th>
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</thead>
<tbody>
<tr>
<td>8:00 AM–9:10 AM</td>
<td><strong>DePuy Synthes (Pacifica 11-12)</strong></td>
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<tr>
<td></td>
<td>Neuromuscular Scoliosis: Principles of Management and Complication</td>
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<tr>
<td></td>
<td>Prevention</td>
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<td></td>
<td>Suken Shah, MD; Michael Glotzbecker, MD; Jeffrey Sawyer, MD</td>
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<td></td>
<td><strong>Misonix (Banda Sea)</strong></td>
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<td></td>
<td>BoneScalpel Osteotomies in Spine Surgery</td>
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<td></td>
<td>Limitless Bone Cutting, Powered by neXus</td>
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<tr>
<td></td>
<td>David Skaggs, MD</td>
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<tr>
<td></td>
<td><strong>Orthopediatrics (Coral Sea)</strong></td>
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<tr>
<td></td>
<td>Deformity Correction Surgical Planning and Software:</td>
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<td>A Novel Approach to Hexapod Procedures</td>
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<td></td>
<td>Dror Paley, MD; Tony Cooper, MD; Craig Robbins, MD; Sean Tabaie</td>
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<tr>
<td></td>
<td><strong>Wright Medical (Java Sea)</strong></td>
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<tr>
<td></td>
<td>Addressing Challenging Benign Bone Tumors and Cysts in the Pediatric Population</td>
</tr>
<tr>
<td></td>
<td>Ronald Williams, MD</td>
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<tr>
<td></td>
<td><strong>Zimmer Biomet (Timor Sea)</strong></td>
</tr>
<tr>
<td></td>
<td>Anterior Vertebral Body Tethering – Experience to Date</td>
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<tr>
<td></td>
<td>Firoz Miyanji, MD; FRCSC</td>
</tr>
</tbody>
</table>

### Friday, December 6

<table>
<thead>
<tr>
<th>Time</th>
<th>Industry Spotlight Session #4</th>
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</thead>
<tbody>
<tr>
<td>10:20 AM–11:30 AM</td>
<td><strong>BioMarin (Pacifica 8-10)</strong> (Non-CME)</td>
</tr>
<tr>
<td></td>
<td>Look Beyond the X-Ray for Skeletal Dysplasia</td>
</tr>
<tr>
<td></td>
<td>Klane White, MD; Megan Sikes, MS, LGC</td>
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<tr>
<td></td>
<td><strong>DePuy Synthes (Pacifica 11-12)</strong></td>
</tr>
<tr>
<td></td>
<td>Treatment of AIS: Beyond The Basics</td>
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<tr>
<td></td>
<td>Suken Shah, MD; Stefan Parent, MD; John (Jack) Flynn, MD</td>
</tr>
<tr>
<td></td>
<td><strong>Orthopediatrics (Coral Sea)</strong></td>
</tr>
<tr>
<td></td>
<td>The Challenges, Decision Making, and Solutions in Treating</td>
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<tr>
<td></td>
<td>Pediatric Neuromuscular Scoliosis</td>
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<td></td>
<td>Chris Hardesty, MD; Jonathan Phillips, MD</td>
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<td></td>
<td><strong>Pega Medical (Java Sea)</strong></td>
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<td></td>
<td>Advancements in Non-Fusion Treatment of SCFE</td>
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<td></td>
<td>David Little, MD; Karl Logan, MD</td>
</tr>
</tbody>
</table>
Floor Plan

CME Breakout and Industry Sessions:
- Philippine Sea (Wednesday Only)
- Coral Sea
- Java Sea
- Pacifica 8-10
- Pacifica 11-12
- Banda Sea
- Timor Sea
- Oceana 3-5

Pacifica 1-3:
- Concurrent Sessions
- CME Breakouts
- Industry Sessions

Pacifica 6-7:
- Exhibit Hall
- Food and Beverage
- IPOS Lounge
- Welcome Reception

Pacifica 8-10:
- Resident Programming
- Industry Sponsored Reception

Industry Pre-Courses:
- Oceana 1-2
- Oceana 3-5

Oceana 6-7:
- General Session
- Breakouts
- Awards
Tuesday, December 3

3:00 PM–7:00 PM  Registration
4:00 PM–5:20 PM  Resident Scholarship  Pacifica 8-10
Recipent Case Presentations
5:20 PM–6:30 PM  Career Planning and Professional Development for Residents and Fellows  Pacifica 8-10
6:30 PM–6:45 PM  Pre-Course Reception  Oceana 1-5 Foyer
6:45 PM–8:00 PM  CONCURRENT EVENTS  (Non-CME)

**NuVasive:** Best Practices for Pediatric Intramedullary Nailing and Limb Lengthening Using the Precice® Nail
Faculty: Christopher Iobst, MD; Christof Radler, MD
This 75-minute interactive course will focus on the best practices of intramedullary nailing and limb lengthening using the Precice nail. Our faculty surgeons will share their knowledge and expertise on proper patient selection and preoperative planning. The basics of intramedullary nailing which includes nail selection, entry point, osteotomy location and method, and reaming technique will also be discussed. This course will include case examples and surgical tips. Attendees will also participate in a hands on sawbones workshop to demonstrate and reinforce the essentials of intramedullary nailing. Time will be set aside for questions at the end of the course.

**OrthoPediatrics:** SUPER SMASH BROTHERS: Oceana 3-5
PEDIATRIC ELBOW VS. MONKEY BARS
The Ultimate Boss Battle – You vs. the Posterolateral SCH An Interactive Extravaganza!
Faculty: Jonathan Schoenecker, MD, PhD; Christopher Stutz, MD; Bryan Tompkins, MD
Supracondylar humerus fractures are easy - until they aren’t. Undoubtedly, one of the first cases that will give you pause in the OR as a young attending will be an elbow fracture - either because you have a difficult time reducing it, are concerned that it isn’t safe to leave the operating room because of diminished vascularity or many another reasons. In this course we will take a deep dive into everything you need to know to take this villain head on. We will cover basics such as why they occur when they do, common pathomechanisms, which fractures cause neurovascular injuries, how to set the OR up to win, tricks to reduction, pin configurations how to open and when to call for help and more. This will be a highly engaging interactive media filled course with prizes.

8:00 PM–9:00 PM  Industry Sponsored Cocktail Reception  Pacifica 11-12

Wednesday, December 4

7:00 AM–6:00 PM  Registration
7:00 AM–8:00 AM  Breakfast and Exhibits  Pacifica 6-7
8:00 AM–10:00 AM  GENERAL SESSION 1: Pediatric Trauma: Early Fixes and Late Saves  Oceana 6-7
In this action packed and quick hitting opening session, join our IPOS experts for tips and tricks on the management of acute fractures and care for late sequelae.

8:00 AM–8:51 AM  Moderator: Donald Bae, MD
eModerator: Brian Brighton, MD
8:00 AM–8:03 AM  Introduction – Todd Milbrandt, MD
8:04 AM–8:09 AM  Lateral Condyle: Percutaneous Screw Fixation  Paul Sponseller, MD
8:10 AM–8:15 AM  Treatment of Lateral Condyle Nonunions  Scott Kozin, MD
8:16 AM–8:21 AM  Expert Tips: How to Get the Joint Right  John (Jack) Flynn, MD
8:22 AM–8:27 AM  Discussion
Panelists: Todd Milbrandt, MD  Paul Sponseller, MD  Scott Kozin, MD  John (Jack) Flynn, MD
8:28 AM–8:33 AM  Acute Monteggia: Standard of Care in 2019  Mauricio Silva, MD
8:34 AM–8:39 AM  Chronic Reconstruction: What and When to Do?  Donald Bae, MD
8:40 AM–8:45 AM  Expert Tips: Getting (and Keeping) the Head In  Peter Waters, MD
8:46 AM–8:51 AM  Discussion
Panelists: Mauricio Silva, MD  Donald Bae, MD  Peter Waters, MD
8:52 AM–10:00 AM  Moderator: Todd Milbrandt, MD
eModerator: Samantha Spencer, MD
8:52 AM–8:57 AM  Femoral Neck Fractures: Acute Reduction and Fixation  Martin Herman, MD
8:58 AM–9:03 AM  Lost Fixation, Nonunion, and AVN  Ira Zaltz, MD
9:04 AM–9:09 AM  Expert Tips: Safe Approaches for the Non-dislocator  Deborah Eastwood, FRCS
9:10 AM–9:15 AM  Discussion
Panelists: Martin Herman, MD  Ira Zaltz, MD  Deborah Eastwood, FRCS
### Hand Injuries for the Front Line Provider

For all frontline providers, this session will cover common pediatric hand injuries seen by all.

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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<tbody>
<tr>
<td>10:30 AM-10:56 AM</td>
<td>Moderator: Donald Bae, MD</td>
</tr>
<tr>
<td>10:30 AM-10:33 AM</td>
<td>Introduction</td>
</tr>
<tr>
<td>Donald Bae, MD</td>
<td></td>
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<tr>
<td>10:34 AM-10:39 AM</td>
<td>Flexor Tendon Injuries in Children</td>
</tr>
<tr>
<td>Peter Waters, MD</td>
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<tr>
<td>10:40 AM-10:45 AM</td>
<td>Extensor Tendon Injuries</td>
</tr>
<tr>
<td>Lindley Wall, MD</td>
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<tr>
<td>10:46 AM-10:56 AM</td>
<td>Discussion</td>
</tr>
<tr>
<td>Panelists: Scott Kozin, MD, Peter Waters, MD, Christine Ho, MD</td>
<td></td>
</tr>
<tr>
<td>11:00 AM-11:35 AM</td>
<td>Physiotherapy: Implications on Growth, Trauma, and Deformity</td>
</tr>
<tr>
<td>Michelle Caird, MD</td>
<td></td>
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<tr>
<td>11:36 AM-11:50 AM</td>
<td>Hip: DDH, Perthes, SCFE, Coxa Vara</td>
</tr>
<tr>
<td>Scott Rosenfeld, MD</td>
<td></td>
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<tr>
<td>11:51 AM-12:00 PM</td>
<td>PM: EMR/Templates/Scribes</td>
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<tr>
<td>John (Jack) Flynn, MD</td>
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</tbody>
</table>
# 16th Annual International Pediatric Orthopaedic Symposium

## Schedule

**Wed., Dec. 4**

### LE Deformity I: Congenital Deformity  
Coral Sea  
First of four IPOS sessions devoted to lower extremity deformity. Part 1 will focus on challenging congenital conditions.

**Moderator: David Podeszwa, MD**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</table>
| 10:30 AM-10:45 AM | Understanding the Deformities of the Hip, Knee and Ankle in Congenital Deficiencies  
                      Christof Radler, MD                                                                       |
| 10:46 AM-10:56 AM  | Creating a Treatment Plan  
                      David Podeszwa, MD                                                                           |
| 10:57 AM-11:12 AM  | Hip and Knee Reconstruction in Femoral Deficiency  
                      Dror Paley, MD, FRCSC                                                                       |
| 11:13 AM-11:28 AM  | Ankle Reconstruction in Tibial and Fibular Hemimelia  
                      John Herzenberg, MD                                                                         |

### Hip: SCFE  
Oceana 3-5  
Join our IPOS faculty for a comprehensive session on slipped capital femoral epiphysis.

**Moderator: Ernest Sink, MD**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</thead>
</table>
| 10:30 AM-10:36 AM | Advanced Imaging in Scfe and Its Role in Diagnosis and Treatment  
                      Jonathan Schoenecker, MD, PhD                                                             |
| 10:37 AM-10:43 AM | Stable SCFE: Management Strategies to Prevent Complications  
                      Steven Frick, MD                                                                               |
| 10:44 AM-11:02 AM | The Unstable SCFE: Risks and Rewards of the Different Treatments  
                      Daniel Sucato, MD, MS                                                                           |
| 11:03 AM-11:10 AM | The Painful Healed SCFE  
                      Wudbhav (Woody) Sankar, MD                                                                     |
| 11:11 AM-11:20 AM | Cases  
                      Ernest Sink, MD                                                                                 |
| 11:21 AM-11:29 AM | Complications following In-Situ fixation  
                      Eduardo Novais, MD                                                                             |
| 11:30 AM-11:36 AM | The Imhauser in 2019  
                      Jose Herrera-Soto, MD                                                                           |
| 11:37 AM-11:43 AM | SCFE and Hip Arthroscopy  
                      Mininder Kocher, MD, MPH                                                                         |
| 11:44 AM-12:00 PM | Cases  
                      Ira Zaltz, MD                                                                                    |

### Musculoskeletal Infections  
Pacifica 1-3  
Despite advances in diagnostic technology and medical therapies, musculoskeletal infections remain a clinical challenge for providers at every level in every venue. Join our esteemed international faculty for a discussion on the evaluation and treatment of orthopaedic infections.

**Moderator: Michelle Caird, MD**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</thead>
</table>
| 10:30 AM-10:32 AM | Introduction  
                      Michelle Caird, MD                                                                             |
| 10:33 AM-10:38 AM | My Standard Work Up for a Suspected Septic Hip  
                      Thomas McPartland, MD                                                                           |
| 10:39 AM-10:44 AM | How I Decide Who Needs Treatment for Septic Hip  
                      Scott Rosenfeld, MD                                                                             |
| 10:45 AM-10:50 AM | European Perspective on Surgical Drainage for Septic Hip-Is It Needed?  
                      Thomas Wirth, MD, PhD                                                                           |
| 10:51 AM-10:56 AM | Managing Hip AVN Following Septic Hip  
                      Eduardo Novais, MD                                                                               |
| 10:57 AM-11:12 AM | Cases and Discussion  
                      Michelle Caird, MD                                                                               |
| 11:13 AM-12:00 PM | Moderator: Craig Eberson, MD                                                               |
| 11:13 AM-11:18 AM | Is It Osteo or CRMO? How to Differente?  
                      Brian Smith, MD                                                                                   |
| 11:19 AM-11:24 AM | MRSA Osteo vs All the Rest  
                      Mauricio Silva, MD                                                                               |
| 11:25 AM-11:30 AM | Chronic Osteomyelitis in Children  
                      Alaric Aroojis, MD                                                                                |
| 11:31 AM-11:36 AM | Discitis and Vertebral Osteomyelitis  
                      Jonathan Phillips, MD                                                                             |
| 11:37 AM-11:42 AM | Cases and Discussion  
                      Craig Eberson, MD                                                                                 |
Wednesday, December 4, continued

11:43 AM-11:48 AM  Culture Every Tumor, Biopsy Every Infection—Still True in 2019?
Kenneth Noonan, MD

11:49 AM-11:54 AM  Benefits of a Multi-disciplinary Service for Infection
Samantha Spencer, MD

11:55 AM-12:00 PM  Discussion
Moderator: Craig Eberson, MD

POPS: The Limping Child: Physiologic to Pathologic
Featuring our POPS faculty and interactive case studies, this session will cover gait analysis as well as the evaluation and treatment of the limping child.

POPS faculty:
Wendy Moon, MS, APRN, CNP
Anne Stuedemann, MSN, RN, CPNP
Erica Zepeda, MSN, RN, CPNP
Colleen Story, ARNP
Nicole Tweedy, DNP-PNP

POPS: The Limping Child: Java Sea
10:30 AM-10:35 AM  Introduction: A Method to the Morbidity
Anne Stuedemann, MSN, RN, CPNP

10:36 AM-10:55 AM  Gait Analysis: A Walk to Remember
Erica Zepeda, MSN, RN, CPNP
Colleen Story, ARNP

10:56 AM-11:10 AM  Focused Physical Exam & Common Laboratory Tests/Radiographic Studies
Nicole Tweedy, DNP-PNP

11:11 AM-11:19 AM  Discussion

11:20 AM-12:00 PM  Interactive Case Study Review: Clinical Application
Erica Zepeda
Nicole Tweedy

12:00 PM-1:00 PM  Lunch and Exhibits  Pacifica 6-7
12:00 PM-1:00 PM  Lunch with IPOS Directors  IPOS Lounge

1:00 PM-3:00 PM  CONCURRENT SESSIONS

Foot: Clubfoot Care in 2019  Oceana 6-7
From Ponseti casting to complex surgical reconstructions, join in the discussion of clubfoot care!

Clubfoot Care in 2019
1:00 PM-1:50 PM  Moderator: Derek Kelly, MD
1:00 PM-1:06 PM  Epidemiology and Genetic Influences for Clubfoot—What We Know in 2019
Stephanie Boehm, MD

1:07 PM-1:13 PM  Managing the Pre-Natal Clubfoot Visit
Vishwas Talwalkar, MD

1:14 PM-1:20 PM  Best Tips for Clubfoot Cast Application
Stephanie Boehm, MD

1:21 PM-1:26 PM  Strategies for Stalled Clubfoot Casting in a Resistant Clubfoot
Kenneth Noonan, MD

1:27 PM-1:40 PM  Sticking to the Ponseti Method—Do We Have To?
Derek Kelly, MD

1:41 PM-1:50 PM  Audience Questions
Panelists: Stephanie Boehm, MD
Vishwas Talwalkar, MD
Stephanie Boehm, MD
Kenneth Noonan, MD
Derek Kelly, MD

Surgical Management of Clubfoot
1:51 PM-2:30 PM  Moderator: Kenneth Noonan, MD
1:51 PM-1:57 PM  Achilles Tenotomy for Clubfoot in 2019
Kenneth Noonan, MD

1:58 PM-2:04 PM  Anterior Tibialis Tendon Transfer—Indications/Technique
Stephanie Boehm, MD

2:05 PM-2:11 PM  Surgical Strategies for Resistant Clubfeet <5 yo
Vincent Mosca, MD

2:12 PM-2:18 PM  Clubfoot (or residual) Treatment in >5 yo
Alaric Aroojis, MD

2:19 PM-2:30 PM  Audience Questions
Panelists: Kenneth Noonan, MD
Stephanie Boehm, MD
Vincent Mosca, MD
Alaric Aroojis, MD
CONCURRENT SESSIONS, cont’d

**Bunions**

**2:31 PM-3:00 PM**

Moderator: Kenneth Noonan, MD  
**eModerator:** Derek Kelly, MD

**2:31 PM-2:37 PM**

Juvenile Bunions-  
Why Are They So Difficult  
Megan Gresh, MD

**2:38 PM-2:44 PM**

Double Osteotomy for Juvenile Bunion Correction  
Vincent Mosca, MD

**2:45 PM-2:51 PM**

Treatment of Neuromuscular Bunions-How Is It Different?  
Derek Kelly, MD

**2:45 PM-2:51 PM**

Audience Questions  
Panelists: Megan Gresh, MD  
Vincent Mosca, MD  
Derek Kelly, MD

**Spine: Adolescent Idiopathic Scoliosis**  
Pacifica 1-3

Join our international faculty for a comprehensive and in-depth discussion of idiopathic scoliosis. Debates, surgical tips, case studies, and much more!

**Debate #1**

**1:00 PM-1:30 PM**

Moderator: A. Noelle Larson, MD  
**eModerator:** Peter Newton, MD

**1:00 PM-1:03 PM**

45 Degree Curve in a 11 yo Growing Child  
A. Noelle Larson, MD

**1:04 PM-1:09 PM**

Brace  
Michael Glotzbecker, MD

**1:10 PM-1:15 PM**

Tether  
Stephan Parent, MD

**1:16 PM-1:21 PM**

Fuse  
Amy McIntosh, MD

**1:22 PM-1:27 PM**

Growing Rods  
Muharrem Yazici, MD

**1:28 PM-1:30 PM**

Resolution  
A. Noelle Larson, MD

**Debate #2**

**1:31 PM-2:00 PM**

Moderator: Peter Newton, MD  
**eModerator:** A. Noelle Larson, MD

**1:31 PM-1:33 PM**

What is the Best Brace?  
Peter Newton, MD

**1:34 PM-1:39 PM**

Start with Night-time Bracing  
Stephan Parent, MD

**1:40 PM-1:45 PM**

Rigo Cheneau Brace and Scoliosis  
Specific Exercises, Worth the $$$  
A. Noelle Larson, MD

1:46 PM-1:50 PM  
Gold Standard is a TLSO and Doesn’t Affect HRQLY  
Lori Karol, MD

1:51 PM-1:55 PM  
No Bracing . . . Bracing is Cruel  
Haemish Crawford, MD

1:56 PM-2:00 PM  
Discussion, Resolution  
Panelists: Peter Newton, MD  
Stephan Parent, MD  
A. Noelle Larson, MD  
Lori Karol, MD  
Haemish Crawford, MD

**AIS Talks**

**2:01 PM-2:30 PM**

Moderator: Michael Vitale, MD, MPH  
**eModerator:** Matthew Oetgen, MD

**2:01 PM-2:10 PM**

AIS that Wasn’t AIS  
Lindsay Andras, MD

**2:11 PM-2:20 PM**

Pain Control Pre- and Post-op/Chronic Pain  
Nicholas Fletcher, MD

**2:21 PM-2:30 PM**

Discussion  
Panelists: Michael Vitale, MD, MPH  
Matthew Oetgen, MD  
Lindsay Andras, MD  
Nicholas Fletcher, MD

**Rapid Fire Scoliosis Pearls**

**2:31 PM-3:00 PM**

Moderator: Michael Vitale, MD, MPH  
**eModerator:** Matthew Oetgen, MD

**2:31 PM-2:35 PM**

Correction Maneuvers 101  
Matthew Oetgen, MD

**2:36 PM-2:40 PM**

How to Manage Leg Length Discrepancy and Fusion into Lumbar Spine  
Michael Glotzbecker, MD

**2:41 PM-2:45 PM**

How to Manage the Sagittal Plane in AIS  
Stephan Parent, MD

**2:46 PM-2:50 PM**

Selective Fusion: Rules to Live by in 2019  
David Skaggs, MD, MMM

**2:51 PM-2:55 PM**

Lessons Learned from Your First 10 Spine Fusions and How to Avoid the Learning Curve  
John (Jack) Flynn, MD

**2:56 PM-3:00 PM**

Discussion  
Panelists: Matthew Oetgen, MD  
Michael Glotzbecker, MD  
Stephan Parent, MD  
David Skaggs, MD, MMM  
John (Jack) Flynn, MD

3:00 PM-3:20 PM  
Break and Exhibits  
Pacifica 6-7

3:20 PM-4:30 PM  
Industry Spotlight Sessions

4:40 PM-5:50 PM  
Industry Spotlight Sessions  
(See page 14 for session details.)

6:00 PM-7:00 PM  
Course Directors’ Welcome Reception
WHEN TIME MATTERS

Rod Link Reducer 3-Plane Deformity Correction Technique is designed to improve the technique for deformity correction and reduce operative time compared to traditional scoliosis correction techniques.¹

75 MINUTES SAVED IN THE OPERATING ROOM vs traditional correction techniques

Discover more about the Rod Link Reducer technique at: Rod-Link.com

Thursday, December 5

7:00 AM–4:30 PM  Registration
7:00 AM–8:00 AM  Breakfast and Exhibits  Pacifica 6-7
8:00 AM–9:10 AM  Industry Spotlight Sessions  (See page 14 for session details.)
9:10 AM–9:30 AM  Break and Exhibits  Pacifica 6-7

9:30 AM–11:30 AM  GENERAL SESSION 2: How to become a better teacher, how to become a better learner-for our trainees, our colleagues, our patients, and ourselves.

9:30 AM–11:30 AM  Moderator: Craig Eberson, MD  eModerator: Donald Bae, MD
9:30 AM–9:35 AM  More to Learn, Less Time to Do So: Force Multipliers for Pediatric Orthopaedic Education  Craig Eberson, MD
9:36 AM–9:41 AM  “Intention to Teach”  Thomas McPartland, MD
9:42 AM–10:05 AM  Teaching in the Office
9:42 AM–9:47 AM  Teaching Clinical Reasoning  Presenter: Thomas McPartland, MD
9:48 AM–9:53 AM  The One Minute Clinical Preceptor  Presenter: Scott Rosenfeld, MD
9:54 AM–10:05 AM  Panel Discussion-
Panelists: Thomas McPartland, MD  Scott Rosenfeld, MD  Christine Ho, MD  Kirsten Ross, MD
10:06 AM–10:15 AM  Fostering Active Learning in Modern Medicine  Sandra Jarvis-Selinger, PhD
10:16 AM–10:40 AM  Teaching in the OR
10:16 AM–10:21 AM  The Scrub Sink Bargain  Craig Eberson, MD
10:22 AM–10:27 AM  Ensuring Patient Safety While Teaching Surgical Skills  Martin Herman, MD
10:28 AM–10:40 AM  Panel Discussion-
Panelists: Craig Eberson, MD  Donald Bae, MD  Martin Herman, MD  Kristen Alves, MD

10:41 AM–11:10 AM  Educating Yourself
10:41 AM–10:46 AM  How Do I Find Time to Learn Myself?  Ira Zaltz, MD

10:47 AM–10:52 AM  Role of Mentoring and Coaching in Your Career Development  Brian Smith, MD
10:53 AM–11:10 AM  Panel Discussion-
Panelists: Lori Karol, MD  Brian Smith, MD  Thomas McPartland, MD

11:11 AM–11:30 AM  IV. Summary and Final Discussion  Where to Go from Here?
Panelists: Sandra Jarvis-Selinger, PhD  Craig Eberson, MD  Thomas McPartland, MD

11:30 AM–12:30 PM  Lunch and Exhibits  Pacifica 6-7
11:45 AM–12:30 PM  Lunchtime Development  Pacifica 6-7

12:30 PM–2:00 PM  CME BREAKOUT SESSIONS  (Advance Sign-up Encouraged for Hands-on Workshops)

**Ponseti I (Hands-On Workshop)  Banda Sea**
Hands-on workshop! From the fundamental principles to technical pearls, learn the technique of Ponseti casting for clubfoot from our international experts.

12:30 PM–2:00 PM  Hands-On Faculty:
   - Kenneth Noonan, MD
   - Stephanie Boehm, MD
   - Vincent Mosca, MD
   - Vishwas Talwalkar, MD
   - Bryan Tompkins, MD

**Pelvic Osteotomies I (Hands-On Workshop)  Timor Sea**
Join our international experts for a unique hands-on workshop in the techniques of pelvic osteotomies.

12:30 PM–2:00 PM  Hands-On Faculty:
   - Ernest Sink, MD
   - Pablo Castañeda, MD
   - Jose Herrera-Soto, MD
   - Megan Gresh, MD
   - David Little, MBBS, FRACS, PhD
   - Ira Zaltz, MD
Thursday, December 5, continued

12:30 PM–2:00 PM  
**CME BREAKOUT SESSIONS, cont’d**

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
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</table>
| 12:30 PM–12:35 PM | Introduction
| L. Reid Nichols, MD |                                                                 |
| 12:36 PM–12:46 PM | Bone Age: Hand or Elbow?
| David Podeszwa, MD |                                                                 |
| 12:47 PM–12:57 PM | Predicting LLD and Growth Remaining with the Multiplier Method
| Dror Paley, MD, FRCSC |                                                              |
| 12:58 PM–1:03 PM | Alternative Methods Predicting LLD
| L. Reid Nichols, MD |                                                                 |
| 1:04 PM–1:09 PM  | Epiphysiodesis – Indications, Techniques and Outcomes
| David Podeszwa, MD |                                                                 |
| 1:10 PM–1:15 PM  | Indications and Options for IM Lengthening
| Christof Radler, MD |                                                                 |
| 1:16 PM–1:21 PM  | Master’s Technique: Femoral IM Rodding
| John Herzenberg, MD |                                                                 |
| 1:22 PM–1:32 PM  | Managing the Complications of IM Lengthening
| Christof Radler, MD |                                                                 |
| 1:33 PM–2:00 PM  | Case Based Discussion - Managing LLD
| Panelists: David Podeszwa, MD, Dror Paley, MD, FRCSC, John Herzenberg, MD, Christof Radler, MD | |

**LE Deformity II:**

*Growth and Limb Length Discrepancy*

Part 2 of our IPOS series of limb deformity, join our international experts for discussion of growth and limb length differences.

**Moderator:** L. Reid Nichols, MD

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<th>Time</th>
<th>Session</th>
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| 1:06 PM–1:15 PM | Spina Bifida
| Laurel Blakemore, MD |                                                      |
| 1:16 PM–1:20 PM | Discussion
| Panelists: Maegen Wallace, MD, Samantha Spencer, MD, Laurel Blakemore, MD | |
| 1:21 PM–1:30 PM | Musculoskeletal infections
| Thomas McPartland, MD |                                                      |
| 1:31 PM–1:40 PM | Child Abuse
| Brian Brighton, MD |                                                      |
| 1:41 PM–1:50 PM | Limping Child
| Presenter: Brian Brighton, MD |                                                      |
| 1:51 PM–2:00 PM | PM: Managing a Busy Nonop Clubfoot Practice
| Derek Kelly, MD |                                                      |

**CP: Gait Analysis:**

*A Systematic Approach*

Our esteemed IPOS faculty break down gait analysis and discuss the evaluation and treatment of characteristic patterns in patients with spasticity.

**Moderator:** Kishore Mulpuri, MD

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<th>Time</th>
<th>Session</th>
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| 12:30 PM–12:50 PM | Qualitative Assessment of Normal Gait
| Alaric Aroojis, MD |                                                      |
| 12:51 PM–1:01 PM | I Don’t Have a Gait Lab: Technique of Observational Gait Analysis
| Jon Davids, MD |                                                      |
| 1:02 PM–1:17 PM | Introduction to Quantitative Gait Analysis
| Benjamin Shore, MD, MPH, FRCSC |                                                     |
| 1:18 PM–1:28 PM | Gait Disruption in Children with Cerebral Palsy
| Kishore Mulpuri, MD |                                                      |
| 1:29 PM–1:54 PM | Case Series: Common Gait Patterns/Deviations in Children with Cerebral Palsy: Identification, Causes, and Management Principles
| Tom Novacheck, MD |                                                      |
| 1:55 PM–2:00 PM | Questions/Discussion
| Panelists: Alaric Aroojis, MD, Jon Davids, MD, Tom Novacheck, MD, Benjamin Shore, MD, MPH, FRCSC, Kishore Mulpuri, MD | |

**Essentials of Pediatric Orthopaedics II**

For learners and practitioners of all levels, join our esteemed faculty for a review of the essentials of pediatric orthopaedics.

**Moderator:** Samantha Spencer, MD

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<th>Time</th>
<th>Session</th>
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| 12:30 PM–12:50 PM | Common Genetic Syndromes and Dysplasias
| Maegen Wallace, MD |                                                      |
| 12:51 PM–1:05 PM | Foot: Clubfoot, CVT, MA, Tarsal Coalitions
| Samantha Spencer, MD |                                                      |
Thursday, December 5, continued

12:30 PM–2:00 PM  CME BREAKOUT SESSIONS, cont’d

**Sports/Foot: More than Athlete’s Oceana 3-5**

*Foot: Coalitions, OCD, and Jones Fractures*

A multi-specialty session focused on trauma, acquired, and sports-related conditions of the child’s foot and ankle. Don’t miss out on this fast-paced and interactive session!

Moderator: Kevin Shea, MD

12:30 PM-12:32 PM  Introduction
Kevin Shea, MD

12:33 PM-12:38 PM  How to Differentiate Ankle Pain in Athletes
Kevin Shea, MD

12:39 PM-12:49 PM  Treatment of Foot Coalitions
Steven Frick, MD

12:50 PM-12:59 PM  Coalition Cases
Steven Frick, MD

1:00 PM-1:04 PM  OCD of the Talus: Do All Athletes Get Them?
Kevin Shea, MD

1:05 PM-1:10 PM  Best Evidence for Treatment of OCD of the Talus
Eric Edmonds, MD

1:10 PM-1:20 PM  Case Presentations-OCD
Eric Edmonds, MD

1:21 PM-1:26 PM  Discussion
Panelists: Kevin Shea, MD
Eric Edmonds, MD
Todd Milbrandt, MD
Steven Frick, MD

1:27 PM-1:33 PM  Metatarsal Fractures-Stress or Acute in Athletes
Martin Herman, MD

1:34 PM-1:39 PM  Which Jones Is It? 5th MT Fx in Athletes
Jeffrey Sawyer, MD

1:40 PM-1:49 PM  Case Presentations-Jones
Jeffrey Sawyer, MD

1:50 PM-2:00 PM  Discussion
Panelists: Jeffrey Sawyer, MD
Martin Herman, MD
Kevin Shea, MD

**Spine: Cervical Spine** Pacifica 1-3

From the ER to the operating room, our esteemed IPOS faculty will cover the evaluation and management of cervical spine conditions.

Moderator: Daniel Sucato, MD, MS

12:30 PM-12:55 PM  ER Management

12:30 PM-12:36 PM  Imaging of the Traumatized C-spine
Matthew Oetgen, MD

12:37 PM-12:43 PM  Clearance of the C-spine: A Primer
Craig Eberson, MD

12:44 PM-12:50 PM  Application of a Halo for Pediatric Trauma
Laurel Blakemore, MD

12:51 PM-12:55 PM  Discussion
Panelists: Matthew Oetgen, MD
Craig Eberson, MD
Laurel Blakemore, MD

12:56 PM-1:20 PM  Clinic Management

12:56 PM-1:01 PM  C-spine in Skeletal Dysplasias
William Mackenzie, MD

1:02 PM-1:08 PM  C-spine Instability
Paul Sponseller, MD

1:09 PM-1:15 PM  Myelopathy
Jonathan Phillips, MD

1:09 PM-1:15 PM  Discussion
Panelists: William Mackenzie, MD
Paul Sponseller, MD
Jonathan Phillips, MD

1:21 PM-2:00 PM  OR Treatment

1:21 PM-1:26 PM  Preoperative Imaging
Lindsay Andras, MD

1:27 PM-1:33 PM  Placement of Fixation C0-C2, C3-C7
Sukon Shah, MD

1:34 PM-1:39 PM  How to Avoid the Vertebral Artery and What to Do If You Hit It
Michael Glotzbecker, MD

1:40 PM-2:00 PM  Cases
Daniel Sucato, MD, MS

1:40 PM-2:00 PM  Discussion
Panelists: Lindsay Andras, MD
Sukon Shah, MD
Michael Glotzbecker, MD
## Thursday, December 5, continued

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<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tr>
<td>12:30 PM–2:00 PM</td>
<td><strong>CME BREAKOUT SESSIONS, cont’d</strong></td>
<td>Java Sea</td>
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<td></td>
<td><strong>POPS: Lower Back Pain</strong></td>
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<td>12:30 PM–12:34 PM</td>
<td>Introduction: Look, Listen and See</td>
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<td></td>
<td><em>Anne Stuedemann, MSN, RN, CPNP</em></td>
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<td>12:35 PM–12:40 PM</td>
<td>Past Medical History Pitfalls &amp; Exam Peals</td>
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<td><em>Colleen Story, ARNP</em></td>
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<td>12:39 PM–12:45 PM</td>
<td>A Picture is Worth a Thousand Words: Imaging Indications</td>
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<td><em>Peter Newton, MD</em></td>
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<td>12:46 PM–12:54 PM</td>
<td>Discussion</td>
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<td><em>Nicole Tweedy, DNP-PNP</em></td>
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<td>12:55 PM–1:00 PM</td>
<td>What Bugs You about Lower Back Pain?</td>
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<td><em>A. Noelle Larson, MD</em></td>
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<td>1:01 PM–1:05 PM</td>
<td>Things that Wake You at Night</td>
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<td><em>John (Jack) Flynn, MD</em></td>
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<td>1:06 PM–1:14 PM</td>
<td>Discussion</td>
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<td><em>Nicole Tweedy, DNP-PNP</em></td>
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<td>1:15 PM–1:20 PM</td>
<td>Staying out of Trouble with Spinal Trauma</td>
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<td><em>David Skaggs, MD, MMM</em></td>
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<td>1:21 PM–1:25 PM</td>
<td>The “S” word: Spondy</td>
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<td><em>Amy McIntosh, MD</em></td>
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<td>1:26 PM–1:30 PM</td>
<td>Good News!</td>
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<td>We Didn’t Find Anything Bad</td>
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<td><em>Murrehem Yacizi</em></td>
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<td>Discussion</td>
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<td><em>Nicole Tweedy, DNP-PNP</em></td>
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<td>1:40 PM–1:50 PM</td>
<td>Interactive Case Study Review:</td>
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<td>Clinical Application</td>
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<td><em>Anne Stuedemann, MSN, RN, CPNP</em></td>
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<td><em>Wendy Moon, MS, APRN, CNP</em></td>
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<td><em>Colleen Story, ARNP</em></td>
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<td><em>Nicole Tweedy, DNP-PNP</em></td>
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<td>2:00 PM–2:20 PM</td>
<td>Break and Exhibits</td>
<td>Pacifica 6-7</td>
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<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tr>
<td>2:20 PM–4:30 PM</td>
<td><strong>CONCURRENT SESSIONS</strong></td>
<td>Oceana 6-7</td>
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<tr>
<td></td>
<td><strong>Hip: The Immature Hip</strong></td>
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<td>2:20 PM–2:26 PM</td>
<td>Etiology and Prevalence of Hip Dysplasia:</td>
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<td>Contemporary Data in the Ultrasound Era</td>
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<td><em>Kishore Mulpuri, MD</em></td>
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<td>2:27 PM–2:34 PM</td>
<td>Contemporary Indications for Pavlic Use</td>
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<td><em>Pablo Castañeda, MD</em></td>
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<td>2:35 PM–2:41 PM</td>
<td>The Art and Practice of Reduction Harnesses (Practical Everyday Use)</td>
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<td><em>Thomas Wirth, MD, PhD</em></td>
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<td>2:42 PM–2:48 PM</td>
<td>The Failed Pavlik:</td>
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<td>Defining the End-point and Next Steps</td>
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<td><em>Daniel Sucato, MD, MS</em></td>
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<td>2:49 PM–3:00 PM</td>
<td>Case Based Discussion</td>
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<td>Presenter: <em>Ernest Sink, MD</em></td>
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<td>Panelists: <em>Kishore Mulpuri, MD</em></td>
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<td><em>Pablo Castañeda, MD</em></td>
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<td><em>Thomas Wirth, MD, PhD</em></td>
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<td><em>Daniel Sucato, MD, MS</em></td>
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<td>3:01 PM–3:06 PM</td>
<td>Early Open Reduction is the Best Treatment</td>
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<td><em>Lori Karol, MD</em></td>
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<td>3:07 PM–3:13 PM</td>
<td>Delaying the Open Reduction:</td>
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<td>Better to Be Able to Include a Pelvic Osteotomy</td>
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<td><em>Pablo Castañeda, MD</em></td>
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<td>3:14 PM–3:20 PM</td>
<td>How I Do a Closed Reduction:</td>
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<td>MASTERS Technique</td>
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<td><em>Wudbhav (Woody) Sankar, MD</em></td>
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<td>3:21 PM–3:26 PM</td>
<td>How I Do an Open Reduction:</td>
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<td>MASTERS Technique</td>
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<td><em>Jonathan Schoenecker, MD, PhD</em></td>
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<td>3:27 PM–3:32 PM</td>
<td>What to Do with a Failed Open Reduction</td>
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<td>Deborah Eastwood, FRCS</td>
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<td>3:33 PM–3:45 PM</td>
<td>Case Based Discussion</td>
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<td>Presenter: <em>Steven Frick, MD</em></td>
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<td>Panelists: <em>Lori Karol, MD</em></td>
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<td><em>Pablo Castañeda, MD</em></td>
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<td><em>Wudbhav (Woody) Sankar, MD</em></td>
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<td><em>Jonathan Schoenecker, MD, PhD</em></td>
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<td><em>Deborah Eastwood, FRCS</em></td>
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### Thursday, December 5, continued

**2:20 PM–4:30 PM  ** **CONCURRENT SESSIONS, cont’d**

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<tr>
<th>Time</th>
<th>Session</th>
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<tr>
<td>2:20 PM</td>
<td><strong>CONCURRENT SESSIONS, cont’d</strong></td>
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<tr>
<td>3:46 PM</td>
<td>Current Surgical Indications for Residual Dysplasia</td>
<td>Eduardo Novais, MD</td>
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<td>3:52 PM</td>
<td>Choosing the Pelvic Osteotomy: Is There Reliable Data?</td>
<td>David Little, MBBS, FRACS, PhD</td>
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<td>3:59 PM</td>
<td>The Triple Innominate Osteotomy: Modern Applications and Technique</td>
<td>Wudbhav (Woody) Sankar, MD</td>
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<tr>
<td>4:05 PM</td>
<td>Failed DDH Cases: Salvaging Difficult Problems</td>
<td>Ira Zaltz, MD</td>
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<td>4:12 PM</td>
<td>PAO in 2019: Current Standards and Expectations</td>
<td>Ernest Sink, MD</td>
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<tr>
<td>4:18 PM</td>
<td>Case Presentations</td>
<td>Ira Zaltz, MD</td>
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<td>4:20 PM</td>
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<td>Eduardo Novais, MD</td>
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<td>4:35 PM</td>
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<td>Ernest Sink, MD</td>
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**Skeletal Dysplasias**

Pacific 1-3

From new genetic advances to cutting edge treatment, join our IPOS experts for discussion on how to treat children with skeletal dysplasias.

**Moderator:** William Mackenzie, MD

**eModerator:** Samantha Spencer, MD

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>2:20 PM</td>
<td>Introduction</td>
<td>William Mackenzie, MD</td>
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<tr>
<td>2:25 PM</td>
<td>New Genetics and Advances in Diagnosis</td>
<td>Michelle Caird, MD</td>
</tr>
<tr>
<td>2:36 PM</td>
<td>Application of Genetics and New Technology to Treatment</td>
<td>Samantha Spencer, MD</td>
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<tr>
<td>2:47 PM</td>
<td>Cases: Diagnosis</td>
<td>William Mackenzie, MD</td>
</tr>
<tr>
<td>2:58 PM</td>
<td>Cervical Spine – Instability, Sagittal Deformity</td>
<td>Suken Shah, MD</td>
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**3:09 PM–3:19 PM**

**Cases: Cervical Spine**

**Presenter:** Suken Shah, MD

**Panelists:** A. Noelle Larson, MD

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<td><strong>3:20 PM–3:25 PM</strong></td>
<td>Discussion</td>
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<td><strong>3:26 PM–3:36 PM</strong></td>
<td>Thoracolumbar Spine-Sagittal/Coronal/Stenosis</td>
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<td><strong>3:37 PM–3:57 PM</strong></td>
<td>Cases: Spinal Deformity, Stenosis</td>
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<tr>
<td><strong>5:00 PM–7:30 PM</strong></td>
<td>Top Gun Surgical Simulation Competition</td>
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**3:58 PM–4:08 PM**

**Lower Extremity Deformity**

**Presenter:** Dror Paley, MD, FRCSC

**Panelists:** Suken Shah, MD

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<td><strong>4:09 PM–4:29 PM</strong></td>
<td>Lower Extremity Cases</td>
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<td><strong>5:00 PM–7:30 PM</strong></td>
<td>Top Gun Surgical Simulation Competition</td>
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Fearless leadership

Our faculty is leading innovation in pediatric orthopedics:

- **New scoliosis treatments.** A Stanford preliminary study found that 3-D printed scoliosis braces were as effective as traditional braces and patients said they were more comfortable and easier to take on and off. We are one of the few hospitals in the country testing this approach. Our surgeons also use innovative MAGEC spine-lengthening rods.

- **More research.** Our faculty are engaged in more than 80 ongoing research projects on topics including VR use in the clinic, shoulder pain in swimmers, and activity levels and bracing compliance in clubfoot patients, and have published almost 50 papers in 2019.

- **Better imaging.** Our EOS low-dose imaging system helps reduce radiation exposure. And we use custom technology to obtain high-resolution 4D MRI of knees and ankles, which takes only 10 minutes but yields detailed thinner slices that enable viewing anatomic structures in any orientation.

- **Smarter return-to-sport decisions.** Our Motion Analysis Laboratory captures the body’s motion and force and translates it into actionable data and custom recovery plans.

Learn more at [ortho.stanfordchildrens.org](http://ortho.stanfordchildrens.org) or by calling (844) 41-ORTHO.
16th Annual International
Pediatric Orthopaedic Symposium

Schedule
Fri., Dec. 6

Friday, December 6
7:00 AM–4:30 PM  Registration
7:00 AM–8:00 AM  Breakfast and Exhibits  Pacifica 6-7

8:00 AM–10:00 AM  CONCURRENT SESSIONS

CP: Management of Neuromuscular Hip Dysplasia  Pacifica 1-3
Join us for this comprehensive session on neuromuscular hip dysplasia.
Moderator: Jon Davids, MD
eModerator: Kishore Mulpuri, MD

8:00 AM-8:07 AM  Pathophysiology / Pathoanatomy / Natural History
Jon Davids, MD

8:08 AM-8:15 AM  Hip Surveillance: Why / When / How
Thomas Wirth, MD, PhD

8:16 AM-8:23 AM  Soft Tissue Surgery
Alaric Aroojis, MD

8:24 AM-8:31 AM  Proximal Femoral Guided Growth
Jon Davids, MD

8:32 AM-8:39 AM  Skeletal Surgery: Proximal Femoral Osteotomy
Benjamin Shore, MD, MPH, FRCSC

8:40 AM-8:47 AM  Skeletal Surgery: Pelvic Osteotomy
Tom Novacheck, MD

8:48 AM-8:55 AM  Skeletal Surgery: Pelvic Osteotomy in Skeletally Mature
Ira Zaltz, MD

8:56 AM-9:03 AM  Arthroplasty in Skeletally Mature
Ernest Sink, MD

9:04 AM-9:11 AM  Palliative Surgery
Benjamin Shore, MD, MPH, FRCSC

9:12 AM-9:26 AM  Discussion: How the GMFCS Guides Clinical Decision Making for the Management of Neuromuscular Hip Dysplasia
Tom Novacheck, MD

9:27 AM-10:00 AM  Case Discussions
Presenter: Kishore Mulpuri, MD
Panelists: Jon Davids, MD
Alaric Aroojis, MD
Benjamin Shore, MD, MPH, FRCSC
Tom Novacheck, MD
Ernest Sink, MD
Ira Zaltz, MD

Sports: Knee Conditions of the Immature Athlete  Oceana 6-7
Join our IPOS team for this action-packed and interactive session on knee injuries. Whether it’s the playground or the pros, learn principles and techniques to help our young patients get back in the game!
Moderator: Kevin Shea, MD
eModerator: Eric Edmonds, MD

8:00 AM-8:02 AM  Introduction
Kevin Shea, MD

8:03 AM-8:15 AM  Patellar Instability
Kevin Shea, MD

8:16 AM-8:21 AM  MPFL reconstruction
Kevin Shea, MD

8:22 AM-8:27 AM  Medial Retinacular Repair, MPQTL
Mininder Kocher, MD, MPH

8:28 AM-8:33 AM  Lateral Release vs Lengthening
Javier Masquijo, MD

8:34 AM-8:36 AM  Audience Questions
Kevin Shea, MD

8:37 AM-8:42 AM  Going Distal: When and How to Move the Patella Tendon
Eric Edmonds, MD

8:43 AM-8:45 AM  Audience Questions
Kevin Shea, MD

Moderator: Theodore Ganley, MD

8:46 AM-8:51 AM  Point/Counterpoint for Tibial Spine Fractures
Theodore Ganley, MD

8:52 AM-9:01 AM  When is the Right Timing for Surgery for Tibial Spine Fractures?
Kevin Shea, MD

8:52 AM-9:01 AM  When is the Right Timing for Surgery for Tibial Spine Fractures?
Jennifer Weiss, MD

9:02 AM-9:06 AM  Screws for Fixation in Tibial Spine Fracture
Jennifer Weiss, MD

9:07 AM-9:11 AM  Suture Fixation for Tibial Spine Fractures
Theodore Ganley, MD

9:12 AM-9:16 AM  Tips for Open Reduction and Internal Fixation
Eric Edmonds, MD

9:17 AM-9:22 AM  Audience Questions
Theodore Ganley, MD
Friday, December 6, continued

8:00 AM–10:00 AM  CONCURRENT SESSIONS, cont’d

Moderator: Kevin Shea, MD

9:23 AM-9:28 AM Meniscus Pathology
Kevin Shea, MD

9:29 AM-9:33 AM Bucket Handle Meniscus Tears in Children
Jennifer Weiss, MD

9:35 AM-9:40 AM Radial Tears and Root Tears
Theodore Ganley, MD

9:41 AM-9:46 AM Discoid Meniscus Is It Better to Resect?
Mininder Kocher, MD, MPH

9:47 AM-9:52 AM Discoid Meniscus Repair Is Key
Amy McIntosh, MD

9:53 AM-10:00 AM Audience Questions
Kevin Shea, MD

10:00 AM–10:20 AM Break and Exhibits  Pacifica 6-7

10:20 AM–11:30 AM Industry Spotlight Sessions
(See page 14 for session details.)

11:30 AM–12:30 PM Lunch and Exhibits  Pacifica 6-7

12:30 PM–2:30 PM GENERAL SESSION 3: Authors’ Preferred Techniques
An IPOS signature session! Join our international faculty as they share master surgical techniques in short, video-based presentations. Cast your vote at the end of the session through the mobile app for the Best Authors’ Preferred Technique Presentation.

Moderator: John (Jack) Flynn, MD
eModerator: A. Noelle Larson, MD

12:30 PM-12:32 PM Introduction
John (Jack) Flynn, MD

12:33 PM-12:38 PM Revision ACL Reconstruction
Theodore Ganley, MD

12:39 PM-12:44 PM Stabilization of Peronanal Tendon Instability
Mininder Kocher, MD, MPH

12:45 PM-12:50 PM Post-traumatic Elbow Contracture Release
Scott Kozin, MD

12:51 PM-12:55 PM Discussion

12:56 PM-1:01 PM Flexible IM Rods for Tibial Shaft Fracture
Jeffrey Sawyer, MD

1:02 PM-1:07 PM Troch Entry Nail for Adolescent Femur Fracture
Kenneth Noonan, MD

1:08 PM-1:13 PM Posterior Calcaneus Displacement Osteotomy
Vincent Mosca, MD

1:14 PM-1:18 PM Discussion

1:19 PM-1:24 PM Carpal Wedge Osteotomy for Arthrogryposis
Lindley Wall, MD

1:25 PM-1:30 PM Woodward Procedure for Sprengel Deformity
Peter Waters, MD

1:31 PM-1:36 PM Femoral Neck and Pelvic Osteochondroma Excision
Alexandre Arkader, MD

1:37 PM-1:41 PM Discussion

1:42 PM-1:47 PM Anterior Open Reduction of Infant Hip Dislocation
Deborah Eastwood, FRCS

1:48 PM-1:53 PM “Bumpectomy” vs Osteotomy for Late SCFE with FAI
Ernest Sink, MD

1:54 PM-1:59 PM Tibialis Anterior Tendon Transfer
Derek Kelly, MD

2:00 PM-2:04 PM Discussion

2:05 PM-2:10 PM Using Power to Make Spine Surgery for Surgeons and Patients
Michael Vitale, MD, MPH

2:11 PM-2:16 PM Hemivertebra Excision
Presenter: Muharrem Yazici, MD

2:17 PM-2:22 PM Measuring Femoral Head Perfusion of the Acute SCFE
Jonathan Schoenecker, MD, PhD

2:23 PM-2:28 PM Discussion

2:28 PM-2:30 PM Voting for the Best Authors’ Preferred Technique Presentation
John (Jack) Flynn, MD

2:30 PM-2:40 PM AWARDS  Oceana 6-7
Presentation of Resident Case, Top Gun, and Best Authors’ Preferred Techniques Awards

2:40 PM-3:00 PM Break and Exhibits  Pacifica 6-7
### Ponseti I (Hands-On Workshop)  
**Banda Sea**  
Hands-on workshop! From the fundamental principles to technical pearls, learn from our international experts the technique of Ponseti casting for clubfoot.

- **Hands-On Faculty:**  
  - Kenneth Noonan, MD  
  - Stephanie Boehm, MD  
  - Vincent Mosca, MD  
  - Amy McIntosh, MD  
  - Bryan Tompkins, MD

### Pelvic Osteotomies II (Hands-On Workshop)  
**Timor Sea**  
Join our international experts for a unique hands-on workshop in the techniques of pelvic osteotomies.

- **Hands-On Faculty:**  
  - Ernest Sink, MD  
  - Pablo Castañeda, MD  
  - Jose Herrera-Soto, MD  
  - Megan Gresh, MD  
  - David Little, MBBS, FRACS, PhD  
  - Ira Zaltz, MD

### LE Deformity: External Fixation (Hands-On Workshop)  
**Coral Sea**  
Join our international experts for a unique hands-on workshop in the techniques of pelvic osteotomies.

- **Moderator:** David Podeszwa, MD

  - **3:00 PM-3:22 PM**  
    - Half Pins vs. Wires: Where, When and How  
    - Christof Radler, MD

  - **3:23 PM-3:35 PM**  
    - Hinges vs. Hexapod: When and Why  
    - John Herzenberg, MD

  - **3:36 PM-4:30 PM**  
    - Hands-on Workshop: Proper Wire (Station I) and Half Pin Placement (Station II) Techniques for Tibia and Femur  
    - Hands-On Faculty:  
      - John Herzenberg, MD  
      - L. Reid Nichols, MD  
      - Dror Paley, MD, FRCS  
      - David Podeszwa, MD  
      - Christof Radler, MD

### Wellness in Pediatric Orthopaedics  
**Oceana 6-7**  
Improving and sustaining the health of our care delivery teams is critically important. Join us for this breakout session focusing on wellness. Learn about burnout, team dynamics, strategies to improve provider health, as well as the new POSNA wellness initiative. This session will be a live webcast. Visit IPOS website for more information.

- **Moderator:** Jennifer Weiss, MD  
  - **3:00 PM-3:08 PM**  
    - Welcome and History of the WTF  
    - Vishwas Talwalkar, MD

- **3:09 PM-3:17 PM**  
  - Is it Wellness or is it Moral Injury?  
  - Jennifer Weiss, MD

- **3:18 PM-3:26 PM**  
  - Bringing the Message to Your C-Suite  
  - David Skaggs, MD, MMM

- **3:27 PM-3:44 PM**  
  - Discussion  
  - Jennifer Weiss, MD

- **3:45 PM-3:53 PM**  
  - Wellness for the Whole Clinical Team  
  - Wendy Moon, MS, APRN, CNP

- **3:54 PM-4:02 PM**  
  - Physician and Clinician Wellness and Quality  
  - Daniel Sucato, MD, MS

- **4:03 PM-4:11 PM**  
  - Energy (and Time) Management  
  - John (Jack) Flynn, MD

- **4:12 PM-4:30 PM**  
  - Discussion  
  - Jennifer Weiss, MD

### Dysplasias: Joint Laxity  
**Oceana 3-5**  
Management of pathologic laxity and joint instability continues to challenge pediatric orthopaedic surgeons. Join us for this review of syndromes associated with joint laxity.

- **Moderator:** Paul Sponseller, MD

  - **3:00 PM-3:10 PM**  
    - Syndromes with Joint Laxity: An Overview  
    - Paul Sponseller, MD

  - **3:11 PM-3:21 PM**  
    - Marfan Spine and Extremities  
    - Jonathan Phillips, MD

  - **3:22 PM-3:32 PM**  
    - Larsen Syndrome  
    - Samantha Spencer, MD

  - **3:33 PM-3:50 PM**  
    - Cases: Marfan and Larsen  
    - Presenter: Paul Sponseller, MD  
    - Panelists: Jonathan Phillips, MD  
    - Samantha Spencer, MD
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<td>CME BREAKOUT SESSIONS, cont’d</td>
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<td>3:51 PM-4:02 PM</td>
<td>Ehlers-Danlos Syndrome</td>
<td>Brian Brighton, MD</td>
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<td>4:03 PM-4:13 PM</td>
<td>Down Syndrome</td>
<td>Nicholas Fletcher, MD</td>
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<td>4:14 PM-4:30 PM</td>
<td>Cases: EDS and Down</td>
<td>Presenter: Samantha Spencer, MD</td>
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<td>Panelists: Brian Brighton, MD</td>
<td>Paul Sponseller, MD</td>
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<td>3:00 PM-3:20 PM</td>
<td>Congenital LE Overview</td>
<td>Brian Smith, MD</td>
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<td>3:21 PM-3:40 PM</td>
<td>Trauma UE</td>
<td>Mauricio Silva, MD</td>
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<td>3:41 PM-3:45 PM</td>
<td>Discussion</td>
<td>Kevin Shea, MD</td>
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<td>3:46 PM-4:05 PM</td>
<td>Sports: Knee Ankle</td>
<td>Javier Masquijo, MD</td>
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<td>4:06 PM-4:20 PM</td>
<td>Sports: Shoulder Elbow</td>
<td>Eric Edmonds, MD</td>
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<td>4:21 PM-4:30 PM</td>
<td>Tumor: The Good, the Bad, and the Ugly</td>
<td>Alexandre Arkader, MD</td>
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<td>3:35 PM-3:38 PM</td>
<td>Case #2: Distal Ulna Osteochondroma</td>
<td>Scott Kozin, MD</td>
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<td>3:39 PM-3:54 PM</td>
<td>Case #2: Small Group Discussion</td>
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<td>3:55 PM-4:04 PM</td>
<td>Case #2: Debrief</td>
<td>Donald Bae, MD</td>
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<td>4:05 PM-4:08 PM</td>
<td>Case #3: Radioulnar Synostosis</td>
<td>Peter Waters, MD</td>
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<td>Case #3: Small Group Discussion</td>
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<td>Case #3: Debrief</td>
<td>Peter Waters, MD</td>
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**Essentials of Pediatric Orthopaedics III**

For learners and practitioners of all levels, join our esteemed faculty for a review of the essentials of pediatric orthopaedics.

Moderator: Kevin Shea, MD

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<td>Wendy Moon, MS, APRN, CPNP</td>
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<td>Sixty-Five Thousand Shades of Grey: Understanding and Applying MRI Imaging</td>
<td>Mark Sinclair, MD</td>
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<td>3:36 PM-3:45 PM</td>
<td>CT: Making Hounsfield Units Work for Your Practice</td>
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<td>Discussion</td>
<td>Colleen Story</td>
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<td>3:51 PM-4:00 PM</td>
<td>CXR and KUB: How to Identify Common Post-operative Complications</td>
<td>Anne Stuedemann, MSN, RN, CPNP</td>
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<td>Benign vs. Malignant Bone Tumors</td>
<td>Nicole Tweedy, DNP-PNP</td>
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<tr>
<td>4:11 PM-4:30 PM</td>
<td>Interactive Case Study Review: Clinical Application</td>
<td>Panelists: Anne Stuedemann, MSN, RN, CPNP</td>
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**Hand: Congenital Upper Limb Issues**

Enter our flipped classroom and discuss the evaluation and treatment of common congenital upper limb conditions treated by pediatric orthopaedic surgeons. Materials will be provided in advance to review and prepare for this session.

Moderator: Donald Bae, MD

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<td>Introduction</td>
<td>Donald Bae, MD</td>
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<td>3:05 PM-3:08 PM</td>
<td>Case #1: Madelung’s</td>
<td>Donald Bae, MD</td>
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<td>Case #1: Small Group Discussion</td>
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<td>Case #1: Debrief</td>
<td>Scott Kozin, MD</td>
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**POPS: Rapid Fire Review**

Our POPS faculty will guide you through a fast-paced, high-yield review of imaging pediatric patients. From frontline provider to tertiary decision-making, there will be pearls for everyone!

Moderator: Colleen Story

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Did you know that all skeletal dysplasias have a genetic component? Join us to learn how genetic testing complements the tools you are already using, and how a no-charge test may help put your patients on the path to disease-specific management sooner.

**Date:** Friday, December 6, 2019  
**Time:** 10:20 am - 11:30 am  
**Room:** Pacifica 8-10

Presented by **Klane K. White, MD**, Director of the Skeletal Health and Dysplasia Program at Seattle Children’s Hospital and Professor of Orthopaedic Surgery and Sports Medicine at the University of Washington, and **Megan Sikes, MS, LGC**, Genetic Counselor at Seattle Children’s Hospital.

Speak with a BioMarin representative at **Booth 108** to learn more.
Did you know that all skeletal dysplasias have a genetic component? Join us to learn how genetic testing complements the tools you are already using, and how a no-charge test may help put your patients on the path to disease-specific management sooner.

Date: Friday, December 6, 2019
Time: 10:20 am - 11:30 am
Room: Pacifica 8-10

Presented by Klane K. White, MD, Director of the Skeletal Health and Dysplasia Program at Seattle Children’s Hospital and Professor of Orthopaedic Surgery and Sports Medicine at the University of Washington, and Megan Sikes, MS, LGC, Genetic Counselor at Seattle Children's Hospital.

Speak with a BioMarin representative at Booth 108 to learn more.
Saturday, December 7, continued

9:40 AM-10:00 AM  Break  Pacifica 6-7

10:00 AM–11:30 AM  CME BREAKOUT SESSIONS
(Advance Sign-up Encouraged for Hands-on Workshops)

**Ponseti II: Case Based Discussions**  Banda Sea
From the fundamental principles to technical pearls, learn from our international experts the technique of Ponseti casting for clubfoot.

10:00 AM-11:30 AM  Presenter: Derek Kelly, MD
Panelists: John Herzenberg, MD
Vincent Mosca, MD
Vishwas Talwalkar, MD
Stephanie Boehm, MD

**Bone Lesions**  Oceana 6-7
(Cysts, Masses and Malignancies)
Be a part of this international simulcast webinar! Join our IPOS faculty for a comprehensive tour of bone lesions, ranging from benign bumps and cysts to malignant conditions. This session will be a live webcast. Visit IPOS website for more information.

Moderator: Alexandre Arkader, MD
eModerator: Michelle Caird, MD

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Description</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 AM-10:04 AM</td>
<td>Introduction  Alexandre Arkader, MD</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>10:05 AM-10:11 AM</td>
<td>Evaluation: The Red Flags  Vishwas Talwalkar, MD</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>10:12 AM-10:20 AM</td>
<td>Radiographic Diagnosis:  Horses and Zebras  Michelle Caird, MD</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>10:21 AM-10:27 AM</td>
<td>Biopsy’s Gone Bad:  Lessons from St Elsewhere  Brian Smith, MD</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>10:28 AM-10:35 AM</td>
<td>Cases &amp; Discussion  Alexandre Arkader, MD</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>10:35 AM-10:42 AM</td>
<td>Bone Cysts: Principles of Care  Brian Brighton, MD</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>10:43 AM-10:50 AM</td>
<td>Spinal Tumors  David Skaggs, MD, MMM</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>10:51 AM-11:01 AM</td>
<td>Malignant Bone Lesions: Amputation, Limb Salvage, and Other Options  Alexandre Arkader, MD</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>11:02 AM-11:12 AM</td>
<td>Osteochondroma: Natural History and When to Intervene  Matthew Oetgen, MD</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>11:13 AM-11:30 AM</td>
<td>Cases &amp; Discussion  Alexandre Arkader, MD</td>
<td>Pacifica 11-12</td>
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**Essentials of Pediatric Orthopaedics IV**
For learners and practitioners of all levels, join our esteemed faculty for a review of the essentials of pediatric orthopaedics.

Moderator: Bryan Tompkins, MD

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<tr>
<th>Time</th>
<th>Session Description</th>
<th>Room</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00 AM-10:20 AM</td>
<td>Congenital UE Overview  Christine Ho, MD</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>10:21 AM-10:30 AM</td>
<td>CP: Gait  Tom Novacheck, MD</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>10:31 AM-10:45 AM</td>
<td>CP: LE  Kishore Mulpuri, MD</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>10:46 AM-10:50 AM</td>
<td>Discussion  Bryan Tompkins, MD</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>10:51 AM-11:10 AM</td>
<td>Trauma LE  Megan Gresh, MD</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>11:11 AM-11:20 AM</td>
<td>PM: Making the Most of Physician Extenders  Anne Stuedemann, MSN, RN, CPNP</td>
<td>Pacifica 11-12</td>
</tr>
<tr>
<td>11:21 AM-11:30 AM</td>
<td>PM: Building and Growing an Online Presence  Bryan Tompkins, MD</td>
<td>Pacifica 11-12</td>
</tr>
</tbody>
</table>
For those attending only the Fellowship Directors Program
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 Pediatric Orthopaedic Society of North America. The American Academy of Orthopaedic Surgeons is accredited by the ACCME to provide continuing medical education for physicians.
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**ePoster Listing**

**ePoster #1**  
A Prospective Study to Assess the Clinical Impact of Intraobserver Reliability of Ultrasound Enhanced Physical Examination of the Hip  
Neha Jejurikar, MD; Pablo Castaneda, MD; Leon Moscona-Mishy, MD; Monica Rubio, MD; Romina Cavallaro, MD

**ePoster #2**  
Reliability and Validity of an MRI-Based Knee Sagittal Alignment Measure in a Pediatric Cohort  
Brendan Williams, MD1; Samuel Oduwole, BS1,2; Nishank Mehta, BS1,3; Jie C. Nguyen, MD, MS4; Lawrence Wells, MD1  
1Department of Orthopaedics, The Children’s Hospital of Philadelphia, Philadelphia, PA, USA; 2Frank H. Netter MD School of Medicine, North Haven, CT, USA; 3Rutgers New Jersey Medical School, Newark, NJ, USA; 4Department of Radiology, The Children’s Hospital of Philadelphia, Philadelphia, PA, USA

**ePoster #3**  
Nationwide Trends in Surgical Treatment for Juvenile Osteochondritis Dissecans: Agre Predicts Invasiveness of Treatment  
Thaddeus Woodard BS2; Divya Talwar, PhD, MPH1; Nishank Mehta BS1; Daniel Weltsch MD4; John Todd Rutter Lawrence, MD, PhD1,2  
1Children’s Hospital of Philadelphia, PA, USA; 2Perelman School of Medicine, University of Pennsylvania, PA, USA; 3The Chaim Sheba Medical Center at Tel Hashomer, Affiliated to the Sackler Faculty of Medicine, Tel Aviv University, Israel

**ePoster #4**  
Clinical Presentation and Epidemiology of Hand and Wrist Ganglion Cysts in Children  
Joshua T. Bram, BS1; David Falk2; Benjamin Chang3; Jennifer M. Ty4; Ines C. Lin1; Apurva S. Shah1  
1The Children’s Hospital of Philadelphia; 2Department of Orthopaedics, University of Pennsylvania; 3The Children’s Hospital of Philadelphia; 4Nemours/Alfred I. duPont Hospital for Children

**ePoster #5**  
Characteristics and Hospital Costs of Spica Cast Treatment of Non Accidental-Related Diaphyseal Femoral Fractures in Children Before Walking Age  
Lacey Magee, BA; Jigar S. Gandhi, PharmD1; Keith Baldwin, MD, MSPT, MPH4; Alexandre Arkader, MD1  
1The Children’s Hospital of Philadelphia, Philadelphia, Pennsylvania

**ePoster #6**  
Pediatric Ramp Lesions: Incidence and Associated Risk Factors  
Joshua T. Bram, BS1; Jie C. Nguyen1; Margaret L. Wright2; Julien Aoyama1; Theodore J. Ganley1  
1The Children’s Hospital of Philadelphia

**ePoster #7**  
Identification of Complications in Pediatric Cerebral Palsy Treated with Intrathecal Baclofen Pump: A Descriptive Analysis of 15 Years at One Institution  
Ahmet Imerci, MD; Kenneth Rogers, PhD, ATC; Freeman Miller, MD; Julieanne P. Sees, DO

**ePoster #8**  
A Timely Difference - How Accurate Are Prediction Methods in Determining the Timing of Epiphysiodesis?  
Janus Wong, MBBS, MRCSEd

**ePoster #9**  
In-Vivo Study of the Optimal Femoral Fixation Site for Medial Patello-Femoral Ligament (MPFL) Reconstruction in the Immature Skeleton  
Alpesh Kothari, Nr; Javier Masquijo  
Department on Pediatric Orthopaedics, Sanatorio Allende, Córdoba, Argentina
ePoster Listing, continued

**ePoster #10**  
Clinical Outcomes of a Composite Bone Graft Substitute to Treat Benign Bone Lesions  
Aditya Manoharan, MD⁴; Melissa Esparza, MD⁵; Christina Alvara, BS⁴; Matthew Seidel, MD⁶  
³University of Arizona; ⁴Texas Tech University

**ePoster #11**  
Test of Strength: Figure-of-Eight Versus Conventional Wrapping Technique for Fiberglass Casts  
Blake K. Montgomery, MD; Hunter Storaci, BS; Jeffrey Young, MD

**ePoster #12**  
The Emergence of the Orthopedic “Year-Out” Program  
Joshua T. Bram, Medical Student¹; Kevin Pirruccio, Medical Student⁶; Julien Aoyama, Medical Student⁷; Jaimo Ahn, MD, Associate Professor of Orthopaedic Surgery⁷; Theodore J. Ganley, MD, Professor of Orthopaedic Surgery¹; John M. Flynn, MD, Chief of the Division of Orthopaedics¹  
¹The Children’s Hospital of Philadelphia; ²Perelman School of Medicine at the University of Pennsylvania; ³The Children’s Hospital of Philadelphia; ⁴Hospital of the University of Pennsylvania

**ePoster #13**  
Clinical Feasibility Study of Zero Echo Time Imaging for Scoliosis  
Chi-Kuang Feng; Chien-Yuan Eddy Lin³; Wei-Yin Liu⁴; Wan-Yu Guo⁵; Jaw-Lin Wang⁴  
¹Department of Biomedical Engineering, National Taiwan University; ²Department of Orthopedics and Traumatology, Taipei Veterans General Hospital; ³GE Healthcare, Taipei, Taiwan; ⁴GE Healthcare, Guangzhou, China; ⁵Department of Radiology, Taipei Veterans General Hospital

**ePoster #14**  
Pediatric Tibial Eminence Fractures: A Novel Treatment Using a Bioabsorbable Screw  
Anna Johnson, MD; M. Wesley Honeycutt, MD; Anna Johnson, MD; Daniel Zieman, BS; Prasit Nimityongskul, MD

**ePoster #15**  
Multiple Hereditary Exostosis: Should We Perform a Screening Spinal MRI?  
Blake K. Montgomery, MD; Eli M. Cahan, BBA; Steven L. Frick, MD

**ePoster #16**  
Using Fracture Asymmetry as a Predictor in the Treatment of Pediatric Lateral Condyle Fractures  
Mark Seeley; Matthew Fanelli, MD; Daniela Sanchez, MD; Brittney Ehrlich, MD; Jove Graham, PhD; Mark Seeley, MD

**ePoster #17**  
Geographic Distribution of Pediatric Orthopaedic Surgeons Throughout the United States  
Brittney Ehrlich, BS; Mark Seeley, MD

**ePoster #18**  
Advanced Imaging of Pediatric Elbow Neurovasculature  
Evan Porter, BS; Max Cornell, BS; Daniel Sylvestre, BS; Mark Seeley, MD

**ePoster #19**  
Patellofemoral Contact Mechanics in Nail-Patella Syndrome and High Femoral Anteversion Morphology-Finite Element Modeling  
Benjamin B. Wheatley PhD¹; Margo E. Yancey BS¹; Mark Seeley MD²  
¹Bucknell University; ²Geisinger Medical Center
ePoster #20
Is Increased Residential Distance from Treatment Facility Associated with Increased Likelihood of Clubfoot Reoccurrence Following Correction via the Ponseti Method?
Charlie Powell, MD; Clayton Wing, MD; David Cearley, MD
1UT Chattanooga; 2UT Campbell Clinic; 3Medical College of Georgia

ePoster #21
Novel Technique for Elongation, Derotation, Flexion Casting Using a Jackson Table
Blake K. Montgomery, MD; Kali Tileston, MD; Japsimran Kaur, BS; James Policy, MD; Lawrence Rinsky, MD; John Vorhies, MD

ePoster #22
The Effects of Splitting An Above Elbow Cast: A Biomechanical Study
Jordan Vokes, MD; Sarah Obedzinski, BS MS4; Emma Knapp, BS; Sandra O’Malley, BM BS; Natasha O’Malley, MD
1University of Rochester; 2Waterford University Hospital, Ireland

ePoster #23
Does The Location of Short-Arm Cast Univalve Effect Pressure of The Three-Point Mold?
Blake K. Montgomery, MD; Kenneth H. Perrone, MD; Su Yang, BS; Nicole A. Segovia, BS; Lawrence Rinsky, MD; Carla M. Pugh, MD, PhD; Steven L. Frick, MD

ePoster #24
A Two-Staged Surgery with Internal Traction for Patients with Severe Spinal Deformities
Pawel Grabala, MD
University Children’s Hospital, Medical University of Bialystok, The Faculty of Medicine, Dept. of Pediatric Orthopedic
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Since its founding, Alexion has given hope to people who had none and shined a light on those who felt isolated and alone. But we know that fighting rare diseases takes so much more than hope. It requires persistence, dedication, and a relentless pursuit of the highest levels of medical innovation.

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CURE brings healing to locations where healing is needed most. It’s why we have hospitals and programs in 14 developing countries around the world, places where access to quality health care and compassionate, knowledgeable medical professionals are often limited at best. Our 8 hospitals offer a wide variety of care through specializing in areas such as orthopedics, neurosurgery, reconstructive surgery, and maternity

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DePuy Synthes, part of the Johnson & Johnson Medical Devices Companies, provides one of the most comprehensive orthopaedics portfolios in the world. DePuy Synthes solutions, in specialties including joint reconstruction, trauma, craniofacial, spinal surgery and sports medicine, are designed to advance patient care while delivering clinical and economic value to health care systems worldwide.
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East Coast Orthotic & Prosthetic Corp. (ECOP) is the largest privately-owned O & P company in New York State, employing 240 professionals. ECOP also created and produces the NYRC Brace™, helping bring innovative treatment to people with adolescent idiopathic scoliosis (AIS). The NYRC Brace™ is a custom-made Rigo-Cheneau style brace, manufactured with the most advanced CAD/CAM technologies. It has been developed to provide, for each case, the most reliable and effective results for the conservative treatment of AIS.

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Globus Medical, a leading musculoskeletal solutions company is driving significant technological advancements across a complete suite of products ranging from spinal, trauma and orthopedics therapies to robotics, navigation and imaging. 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 musculoskeletal disorders.

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The International Center for Limb Lengthening (ICLL) is located at the Rubin Institute for Advanced Orthopedics, Sinai Hospital of Baltimore (Maryland, USA). The ICLL is world-renowned for its Pediatric Orthopedics practice. We treat children who are struggling with the most severe and rare orthopedic conditions. The Center is recognized for its innovative treatments for clubfoot, congenital femoral deficiency, fibular hemimelia, Perthes disease and deformities associated with achondroplasia. The ICLL offers clinical and research fellowship opportunities. Our physicians host the annual, CME-accredited Baltimore Limb Deformity Course. The Multiplier and Bone Ninja apps were developed here.
Exhibitors, continued

MD Orthopaedics
MD Orthopaedics, based in Wayland, Iowa, is an orthopedic device company focused on design, manufacture, assembly and distribution of Ponseti Method clubfoot products. Founded in 2004 by John Mitchell, MD Orthopaedics is advancing footwea devices for non-surgical clubfoot treatment and is an industry leader in the production of ankle and foot orthotics in North America. MD Orthopaedics works closely with the orthopedic and prosthetic community and aspires to be continually innovative to offer the best possible products for the teaching, training, and implementation of the Ponseti Method of Clubfoot Treatment.

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Making healthcare better is our priority and we believe technology can play an even greater role in improving people’s lives. In addition to alleviating pain, restoring health, extending lives, we work in partnership with others to create seamless, more efficient care. Learn how we’re taking healthcare Further, Together.

MHE Research Foundation
The MHE Research Foundation is a nonprofit 501(c) (3) organization dedicated to the support of Researchers, Physicians & Families dealing with Multiple Hereditary Exostoses Syndrome (MHE) Multiple Osteochondroma Syndrome (MO) a rare genetic bone disease.

Misonix
Misonix is a world leader in developing ultrasonic surgical devices for hard and soft tissue removal. The Misonix BoneScalpel is a unique ultrasonic osteotomy for tissue-selective bone dissection that encourages en-bloc bone removal and refined osteotomies while sparing elastic soft tissue structures. Many leading surgeons have praised the BoneScalpel to be one of the most important advancements to enter spine surgery this decade.

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Exhibitors, continued

nView Medical
nView medical is an imaging start-up with the mission to make surgery safer, faster and consistently accurate. nView is showcasing the nView s1, a breakthrough surgical imaging system specifically designed for pediatrics. The nView s1 provides instant 3D images based on low dose x-rays.

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EVENup is a shoe lift designed to compensate for temporary or permanent leg length discrepancy. It comes in 6 sizes (4 Adult & 2 Pediatric) and fits the left or right foot. The EVENup offers 3 different height adjustments by removing the layers. A great alternative to permanently altering shoes.

Orthofix- JuniOrtho™
JuniOrtho™ is a range of products and resources created by Orthofix, dedicated to children and young adults with bone fractures and deformities. With a long history of developing innovative and leading-edge solutions, Orthofix has now brought all of its pediatric expertise and products together under the JuniOrtho banner. Orthofix is a diversified medical device company focused on improving patients’ lives by providing superior reconstructive and regenerative musculoskeletal solutions to physicians worldwide. We are devoted to helping children with trauma and deformity be the very best that they can be.

OrthoPediatrics
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 31 surgical systems that serve three of the largest categories within the pediatric orthopedic market. These systems span trauma and deformity correction, scoliosis, and sports medicine/other procedures. OrthoPediatrics’ global sales organization is focused exclusively on pediatric orthopedics and the Company distributes its products in the United States and 43 international countries.

Osso VR
Osso VR is the leading, validated, surgical training and assessment platform that allows surgeons, sales teams, and hospital staff to train and assess using advanced virtual reality. Our mission is to improve patient outcomes, increase the adoption of higher value medical technologies, and democratize access to the latest surgical techniques globally.
Paragon28
Paragon28 has built a company around principles that drive innovation. Working relentlessly to advance the science behind F&A surgery, P28 is passionate about blending surgical philosophies from global thought leaders to develop biomechanically and clinically relevant solutions. We are committed to surgeon-centric systems, specialty instruments, and next generation implants at today’s prices.

Pega Medical
For more than two decades, Pega Medical has been offering innovative deformity correction solutions in Pediatric Orthopedics. Pega’s family of IM Nails (Fassier-Duval Telescopic Rod, SLIM, GAP Endo-Exo Medullary Systems) are specifically designed for small bones, often seen with metabolic and genetic diseases. 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. The LolliPOP modular hip plating system is our latest innovation, as part of forward thinking technologies developed in collaboration with orthopedic surgeons from around the world.

Precision OS Technology
Precision OS Technology is a software company dedicated to improving and enhancing surgical training and preparedness. Together, orthopedic surgeons and high-end game developers create the most innovative, realistic, and educational medical-grade orthopedic simulated experience towards competency. With this technology, they hope to ensure surgical education keeps up with technological advances and, more importantly, mitigates patient harm as a priority while improving care globally.

Shanghai Bojin Electric Instrument & Device Co., Ltd.
Shanghai Bojin Electric Instrument & Device Co., Ltd. is a scientific research enterprise that has strong product development and production capacities. The company was established in 1993 by Mr. Wang Xijing and mainly develops, manufactures, and sells medical device and equipment. We specialize in orthopaedic surgical products and have predominantly designed and produced medical electric drills, portable x-ray fluoroscopy device and fracture therapeutic equipment.

Shriners Hospitals for Children®
Shriners Hospitals for Children® is changing lives every day through innovative pediatric specialty care, world-class research and outstanding medical education. Our 22 facilities, located in the United States, Canada and Mexico, provide advanced care for children with orthopedic conditions, burns, spinal cord injuries, and cleft lip and palate.
Exhibitors, continued

Smith+Nephew

Smith+Nephew
Smith+Nephew is a global medical technology business with global leadership positions in Orthopaedic Reconstruction, Sports Medicine, Trauma Fixation, Extremities & Limb Restoration, and Advanced Wound Management.

Stryker

Stryker
Stryker is one of the world’s leading medical technology companies and, together with our customers, is driven to make healthcare better. We offer innovative products and services in Orthopaedics, Medical and Surgical, and Neurotechnology and Spine that help improve patient and hospital outcomes.

WishBone Medical

To this day, 95% of children receive inappropriate, adult orthopedic products that are not designed for them, nor cleared by the FDA for pediatric use. Headquartered in Warsaw, IN, WishBone Medical is focused on the unmet needs of children suffering from orthopedic issues around the world. As the first and only pediatric orthopedic company to offer anatomically appropriate, single-use implants and instruments in complete, sterile packed procedure kits, WishBone works to raise industry standards by equipping surgeons with proper solutions to safely treat their patients who are still growing -- Because KIDS are not just little adults.

Wolters Kluwer Health

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, such as PRO-DENSE™ Injectable Regenerative Graft that is the first and only bone graft to have an indication for benign bone cysts and tumors in the pediatric population (ages 6 and up).

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.
SAVE THE DATE

Future POSNA Annual Meetings

May 13-16, 2020
San Diego, CA

May 12-15, 2021
Dallas, TX

May 11-14, 2022
Vancouver, British Columbia, Canada

Future IPOS Meetings

December 1-5, 2020
Orlando, FL

December 7-11, 2021
Orlando, FL

December 6-10, 2022
Orlando, FL