2010 POSNA Scientific Program

Tuesday, May 4, 2010

1:00 – 1:08 PM  Opening Remarks by POSNA and APOA Presidential Line, Ellen Raney, MD, Local Host

1:09 – 1:13 PM  Program Chair Comments

TRAUMA
Moderators: John (Jack) Flynn, MD / Saw Aik, MD

01
1:17 – 1:21 PM
Perfused, Pulseless, and Puzzling: A Systematic Review of Vascular Injuries in Pediatric Supracondylar Humerus Fractures and Results of a POSNA Questionnaire
Alvin H Crawford, MD, Lydia A White, MD, Charles T Mehlman, DO, MPH, Alvin H Crawford, MD, FACS
Cincinnati Children's Hospital, Cincinnati, Ohio

02
1:22 - 1:26 PM
Hand Perfusion is More Predictive of Arterial Injury and Compartment Syndrome than Pulselessness in Supracondylar Humerus Fractures
Paul D Choi, MD, David L Skaggs, MD, Rojeh Melikian, B.S.
Childrens Hospital of Los Angeles, Los Angeles, California

1:27 - 1:33 PM  Discussion

03
1:34 - 1:38 PM
Occurrence of Clinically Significant Venous Thromboembolism in Pediatric Patients Suffering a Pelvic or Femoral Fracture.
Lark J Greenwald, BS, Mary Teresa Yost, BSN, Paul D Sponseller, MD, Fizan Abdullah, MD, PhD, Susan Ziegfeld, CRNP, Michael Ain, MD
Johns Hopkins, Baltimore, Maryland

04
1:39 - 1:43 PM
A Comparison of Locked versus Non-locked Enders Rods for Length Unstable Pediatric Femoral Shaft Fractures
Henry B Ellis, MD, Christine A Ho, MD, David A Podeszwa, MD, Philip Wilson, MD
05
1:44 - 1:48 PM
Spica Casting in Pediatric Femur Fractures: A Prospective Randomized Controlled Study of One Leg Versus 1.5 Leg Spica Casts
David Dirk Leu, MD, Gurkan Erkula, MD, Mary Catherine Sargent, MD, Michael Ain, MD, Arabella I Leet, MD, John E Tis, MD, Paul D Sponseller, MD
Johns Hopkins University, Baltimore, Maryland

1:49 - 1:58 PM Discussion

06
1:59 - 2:03 PM
Metaphyseal Osteosynthesis in Situ for Nonunited Lateral Condyle Fractures of the Humerus in Children
Hyun-Woo Kim MD, Ki Seok Lee, MD, Hui-Wan Park, MD
Severance Children's Hospital, Seoul, Korea

07
2:04 - 2:08 PM
How Displaced are 'Non-Displaced' Medial Epicondyle Humerus Fractures? Results of a 3D CT Analysis
Eric W Edmonds, MD
Rady Children's Hospital, San Diego, California

08
2:09 - 2:13 PM
Percutaneous Pinning versus Flexible Intramedullary Nailing for Proximal Humerus Fractures
Donald S Bae, MD, Peter H Hutchinson, MD, Peter M Waters, MD
Children's Hospital Boston, Boston, Massachusetts

2:14 - 2:23 PM Discussion

09
2:24 - 2:28 PM
Predicting Radiographic Failure of Non-Operative Treatment for Both-Bone Forearm Fractures in Children
Eric N Bowman, MPH, Charles T Mehlman, DO, MPH, Christopher J Lindsell, PhD, Junichi Tamai, MD
Cincinnati Children's Hospital, Cincinnati, Ohio

10
2:29 - 2:33 PM
Mini-C-Arm Fluoroscopy for Emergency Room Reduction of Pediatric Forearm Fractures

**Mark Tsu Chong Lee, MD**, Norman E Stone III, MD, Andrew W Ritting, MD, Jeffrey D Thomson, MD, Jeffrey D Thomson, MD, Eric A Silverstein, MD, Ryan A Naujoks, MD, Janet P Tate, MPH

*Connecticut Children's Medical Center, Hartford, Connecticut*

2:34 - 2:39 PM Discussion

2:40 - 3:10 PM Break

**Moderators: Scott Mubarak, MD / Ying Chun Tien, MD**

11
3:13 - 3:17 PM
Intramedullary Fixation of Both Bone Forearm Fractures in Children and Adolescents: Healing Correlates with Olecranon Apophyseal Development
Martin J Herman, MD, John (Jack) M Flynn, MD, **Anne Marie Chicorelli, DO**, Matthew Garner

*St Christopher's Hospital for Children, Philadelphia, Pennsylvania*

12
3:18 - 3:22 PM
Complications and Outcomes of Pediatric Forearm Fracture Intramedullary Nailing
**Jeffrey E Martus, MD**, Ryan Preston, MS, Steven A Lovejoy, MD, Jonathan G Schoenecker, MD, Neil E Green, MD, Gregory A Mencio, MD

*Vanderbilt University, Nashville, Tennessee*

13
3:23-3:27 PM
Titanium Elastic Nailing in Adolescent Radius and Ulna Fractures: What is the Upper Age Limit?
**J Eric Gordon, MD**, Lindley B Wall, MD, Perry L Schoenecker, MD, Matthew Dobbs, MD, June Christine Smith, Scott J Luhmann, MD

*Washington University, St. Louis, Missouri*

3:28-3:27 PM Discussion

14
3:28-3:42 PM
Etiology of Congenital Vertical Talus
Laura Paszkowski, MDC, Christina A Gurnett, MD, Ph.D., **Matthew B Dobbs, MD**

(Washington University School of Medicine)

*Washington University School of Medicine, St. Louis, Missouri*
Achievement of Gross Motor Milestones in Infants Undergoing Ponseti Treatment

Wallace B Lehman, MD, Alice Chu, MD, Debra A. Sala, MS, PT, Harold JP Van Bosse, MD

New York University Medical Center, New York, New York

Prospective Evaluation Of A Prenatal Sonographic Clubfoot Classification System

Michael P Glotzbecker, MD, Susan T Mahan, MD,MPH, Judy A Estroff, MD, Tracy A Curtis, MA, Samantha Anne Spencer, MD, James R Kasser, MD

Children's Hospital Boston, Boston, Massachusetts

A Comparison of Calcaneal-Cuboid-Cuneiform Osteotomy and Lateral Column Lengthening for the Correction of Pes Planovalgus in Children

Jung-Ryul Kim, MD, PhD, Sung-Jin Shin, MD, Hyung-Suk Lee, MD (Chonbuk

Chonbuk National University Hospital, Chonbuk, Korea

Functional Implications of Involvement of Subtalar Joint in Tarsal Coalitions: A Pedobaragraphic Study

Jae Young Roh, MD, Hui-Wan Park, MD, Hyun-Woo Kim MD

Konyang University Hospital, Daejon, Korea

Long Term evaluation of arthrogrypotic feet treated with talectomy.

Roman L Capdevila, MD, Nelson Cassis, MD, Francisco Rocha, MD

Shriners Hospital for Children, Mexico City, Mexico

Discussion

Announcements/Adjourn
Wednesday, May 5, 2010

8:00 – 8:03 AM  Welcome/Announcements

HIP
Moderators: Perry Schoenecker, MD / Makoto Kamegaya, MD

8:07-8:11 AM Delayed Gadolinium Enhanced MRI of Cartilage (dGEMRIC) After SCFE
Christoph Zilkens, MD, Falk Miese, MD, Bernd Bittersohl, MD, Marcus Jdger, MD, Arne Holstein, MD, Young Jo Kim, MD, Charles Mamisch, MD, Ruediger Krauspe, MD
University of Duesseldorf, Germany

8:12-8:16 AM Long-Term Outcomes of Slipped Capital Femoral Epiphysis Treated with In Situ Pinning
A Noelle Larson, MD, Elizabeth M Yu, MD, Robert T Trousdale, MD, Rafael J Sierra, MD, Anthony A Stans, MD
Texas Scottish Rite Hospital, Dallas, Texas

8:17-8:21 AM Risk Factors for Developing Osteonecrosis after Unstable SCFE
Wudbhav N Sankar, MD, Thomas G McPartland, MD, Michael B Millis, MD, Young Jo Kim, MD
Childrens Hospital of Philadelphia, Philadelphia, Pennsylvania

8:22-8:31 AM Discussion

8:32-8:36 AM The Incidence of Femoroacetabular Impingement After a Grade I Slipped Capital Femoral Epiphysis
Pablo Castaneda, MD, Cisar Ponce de Lesn, MD
Shriners Hospital for Children, Mexico City, Mexico

8:37-8:41 AM Head-neck Offset in Pistol-grip Deformity Determines the Risk of Osteoarthritis of the Hip
Daniel R Cooperman, MD, Sean Waldron, MD, Ari D Levine, MD
Case Western Reserve University, Cleveland, Ohio
8:42-8:46 AM
The Predictive Value of Physical Exam, Radiographs, and MRI for Surgical Pathology of Hip Impingement Surgery in the Adolescent Pre-arthritic Hip
Ernest L Sink, MD, Jonathan Bravman, MD
University of Colorado, Boulder, Colorado

8:47-8:53 AM Discussion

26
8:54-8:58 AM
Prospective Multicenter Study of Legg-Calve-Perthes Disease: Functional and Radiographic Outcomes of Nonoperative Treatment in the Third Decade
John Anthony Herring, MD, Daniel J Sucato, MD, A Noelle Larson, MD, Adriana DeLaRocha, BS, Stephen Adolfsen, MD, Derek M Kelly, MD, Jeffrey E Martus, MD, John F Lovejoy, III, MD
Texas Scottish Rite Hospital for Children, Dallas, Texas

27
8:59-9:03 AM
How Much Varus Is Optimal for Preserving the Femoral Head in Perthes Disease?
Harry KW Kim, MD, Ana Munhoz da Cunha, MD, Richard H Browne, PhD, Hui Taek Kim, MD, John Anthony Herring, MD
Texas Scottish Rite Hospital for Children, Dallas, Texas

9:04-9:10 Discussion

28
9:11-9:15 AM
Previous Pelvic Surgery does not affect the Radiographic and Functional Outcomes of Adolescent Patients Treated with a Periacetabular Osteotomy for Hip Dysplasia
Daniel J Sucato, MD, Kirsten L Tulchin, MS, Adriana DeLaRocha, BS, David A Podeszwa, MD
Texas Scottish Rite Hospital for Children, Dallas, Texas

29
9:16-9:20 AM
The Down's Syndrome Hip: Is Redirectional Acetabular Osteotomy the Best Option?
Wudbhav N Sankar, MD, Michael B Millis, MD, Young Jo Kim, MD
Childrens Hospital of Philadelphia, Philadelphia, Pennsylvania

9:21-9:27 AM Discussion

30
9:28-9:32 AM
The Effect of Femoral Shortening in the Treatment of Developmental Dysplasia of the Hip After Walking Age
Pablo Castaneda, MD, Alejandro Treviño, MD, Nelson Cassis, MD  
Shriners Hospital for Children, Mexico City, Mexico

31  
9:33-9:37 AM  
Long Term Follow Up of Open Reduction Surgery for DDH  
James W Roach, MD, Kristen L Carroll, MD, Joel Holman, MD, Kathleen A Murray, MD, Lynne M MacLeod, M.Stat  
Shrine Hospital Salt Lake City, University of Utah

32  
9:38-9:42 AM  
Femoral Nerve Palsy During Pavlik Harness Treatment for Developmental Dysplasia of the Hip  
M Lucas Murnaghan, MD, MEd, FRCSC, Daniel J Sucato, MD, Richard H Browne, PhD, John G Birch, MD  
University of Toronto, Toronto, Ontario, Canada

9:43-9:52 AM  Discussion

9:53-9:55 AM  Introduction of Huene and St Giles Awards

9:56-10:06 AM  Arthur H. Huene Award and St Giles Young Investigator Award

10:07-10:22 AM  Distinguished Achievement Award – Stuart Weinstein, MD

10:23-10:55 AM  Break

LOWER EXTREMITY  
Moderators: Peter Newton, MD / Wang Chow, MD

33  
10:58-11:02 AM  
Mechanical Axis Variations During Eight Plate Epiphysiodesis for Limb Length Inequality  
Stephen D Santora, MD, Nathan Holman, MS4, Ryan M. VanderWerff  
Shriners Hospitals for Children, Intermountain, Salt Lake City, Utah

34  
11:03-11:07 AM  
Femoral Lengthening with use of an External Fixator over a Lateral Trochanteric Entry Intramedullary Nail  
Thomas Roy Lewis, MD, Mary Claire Manske, BS, Kathryn A Keeler, MD, J Eric Gordon, MD, Perry L Schoenecker, MD  
St. Louis Shriners' Hospital for Children, St. Louis, Missouri
11:08-11:12 AM
Evaluation of Percutaneous Crossed Transphyseal Screws for the Treatment of Lower Limb Length Discrepancy
Brice Ilharreborde, MD, Philippe Souchet, Frank Fitoussi, MD, Ana Presedo, MD, Georges Francois Pennecoat, MD, Keyvan Mazda, MD
Robert Debre Hospital, Paris 7 University, Paris, France

11:13-11:22 AM Discussion

SPINE
Moderators: Peter Newton, MD / Wang Chow, MD

36
11:25-11:29 AM
The Practical Implications of Radiographic Inter-Reader Variability in a Randomized Controlled Trial
Karim Z Masrouha, MD, Stuart L Weinstein, MD, Lori A Dolan, RN, PhD
University of Iowa, Iowa City, Iowa

37
11:30-11:34 AM
Abnormal Morphoantomical Changes in Central Nervous System (CNS) and Vestibular System in Adolescent Idiopathic Scoliosis (AIS) - A pilot study with Advanced Computerized Statistical Morphometry MRI Analysis
Winnie CW Chu, MD, Lin Shi, PhD, Defeng Wang, PhD, Tomas Paus, PhD, Geoffrey R. Burwell, MD, Brian J.C. Freeman, MD, Jack CY Cheng, MD
The Chinese University of Hong Kong, Hong Kong

11:35-11:41 AM Discussion

38
11:42-11:46 AM
Intraoperative Transverse Traction for Correction of Severe Scoliosis
Mark A Barry, MD
Desert Orthopaedic Center, Las Vegas, Nevada

39
11:47-11:51 AM
Does Maximizing Curve Correction in Lenke 1 Curves in AIS Risk Secondary Decompensation?
Meghan N Imrie, MD, Burt Yaszay, MD, Peter O Newton, MD, Dennis R Wenger, MD, Tracey P Bastrom, MA, Harms Study Group
Rady Children's Hospital, San Diego, California

11:52-11:58 AM Discussion
Correction of Moderate (<70 degree) Lenke 1A and 2A Curve Patterns: Comparison of Hook, Hybrid and All-Pedicle Screw Systems at 2-Year Follow-up

Scott J Luhmann, MD, Lawrence G Lenke, MD, Mark A Erickson, MD, Keith H Bridwell, MD, B Stephens Richards III, MD
Washington University, St. Louis, Missouri

Reducing Cost Without Compromising Outcome in the Spinal Instrumentation of Lenke 1 Adolescent Idiopathic Scoliosis

Michael Jofe, MD, Randolph B Cohen, MD
Joe DiMaggio Children's Hospital, Hollywood, Florida

Influence of Gait Analysis on Decision-Making for Lower Extremity Surgery

Tishya A.L. Wren, PhD, Anthony Scaduto, MD, Richard E Bowen, MD, Norman Y Otsuka, MD, Reiko Hara, MA, Minya Sheng, MS, Linda S Chan, PhD, Robert M Kay, MD
University of Southern California, Los Angeles, California

Development of Calcaneal Gait Without Prior Triceps Surae Lengthening: An Examination of Predictive Factors

Kenneth Huh, MD, Susan Ann Rethlefsen, PT, Tishya A.L. Wren, PhD, Robert M Kay, MD
Children's Hospital Los Angeles, Los Angeles, California

Severe Crouch Gait Can Be Prevented in Children with Spastic Displasia

H Kerr Graham, MD, Carley B Vuillermin, MB, BS, Jill M Rodda, PhD, Erich Rutz, MD, Richard J Baker, PhD
Royal Children's Hospital, Melbourne, Australia

Discussion
Varus Derotation Osteotomy for the Treatment of Hip Subluxation and Dislocation in GMFCS Level III to V Patients with Unilateral Hip Involvement. Follow Up at Skeletal Maturity
Michael D Sussman, MD, Federico Canavese, MD, Khaled M Emara, MD, Jonathan Sembrano, MD, Viktor Bialik, MD, Michael D. Aiona, MD, Michael Sussman, MD
Shriners Hospital, Portland, Oregon

Proximal Femoral Growth Plate Surgery in Children with Cerebral Palsy: Surgical Technique and Results
H Kerr Graham, MD, Paulo R B Selber, MD, Abhay Khot, MD
Royal Children's Hospital, Melbourne, Australia

Subtalar Fusion for Pes Valgus in Children with Cerebral Palsy Undergoing Single Event Multi-Level Surgery: Surgical Technique and Results.
Benjamin J Shore, MD, Katherine Smith, BSc, Arash Riazi, MD, Sean Symmons, MBBSH, Kerr Graham
Children's Hospital Boston, Boston, Massachusetts

Orthopedic Sequelae of Childhood Meningococcemia. Management Considerations and Outcome
J Ivan Krajbich, MD, Federico Canavese, MD, Joseph I Krajbich, MD, Brett C LaFleur, Shriners Hospitals for Children, Portland, Oregon

Lower Limb-Length Equalization by Combined Total Periosteal Stripping and Periosteal Division Procedure
Noppachart Limpaphayom, MD, Pairatch Prasongchin, MD
Chulalongkorn University, Bangkok, Thailand

Simple Bone Cysts: Better With Age?
Sandra E Donaldson, BA, Derek Stephens, MSc, James G Wright, MD, MPH, FRCSC
The Hospital for Sick Children, Toronto, Canada
Thursday, May 6, 2010

8:00-8:03 AM  Program Chair Welcome
8:04-8:09 AM  2011 Meeting Overview - Francois Fassier, MD, Local Host
Montreal
8:10-8:14 AM  Introduction to Award Session

Moderators: James Roach, MD / In Ho Choi, MD

BASIC SCIENCE PAPER AWARDS SESSION

51
8:19-8:24 AM
Muscle Stem Cells are Major Contributors to Open Fracture Repair and Traumatic Bone
Formation
Renjing Liu, PhD, Lauren Peacock, Kathy Mikulec, Alyson Morse, BSc(Hon)Aaron
Schindeler, PhD, David G Little, FRACS (Orth), PhD
Children's Hospital at Westmead, Sydney, Australia

52
8:25-8:30 AM
Variable Delivery and Retention of Bisphosphonates Influence Local Healing in Growing
Mouse Model of Pediatric Disuse Osteopenia
Kenneth M Kozloff, PhD, Benjamin P Sinder, BS, Michelle S Caird, MD
University of Michigan, Ann Arbor, Michigan

53
8:31-8:36 AM
Effects of Non-Steroidal Anti-Inflammatory Drugs on the Longitudinal Growth of the
Growth Plate
Ki Seok Lee, MD, Hui-Wan Park, MD, Hyun-Woo Kim MD
Severance Children's Hospital, Seoul, Korea

54
8:37-8:42 AM
New Gene Discovered for Distal Arthrogryposis Type 1
Christina A Gurnett , MD, Ph.D, David M Desruisseau, B.S., Kevin McCall, B.S., Todd
Druley, MD, Alan Pestronek, MD, Anne M Connolly, MD Michael Talerico, MD,
Matthew B Dobbs, MD
Washington University School of Medicine, St. Louis, Missouri

8:43- 8:55 AM  Discussion
CLINICAL SCIENCE PAPER AWARDS SESSION
8:56-8:57 AM  Introduce Clinical Papers

55
8:58-9:03 AM  Unfused Segmental Motion Increases with a More Fusion: A Set Up for Disc Degeneration?
Michelle Marks, PT, Peter O Newton, MD, Maty Petcharaporn, BS, Tracey P Bastrom, MA, Suken A Shah, MD, Baron S Lonner, MD, Firoz Miyanji, MD
Rady Children's Hospital, San Diego, California

9:04-9:09 AM  Brace Treatment Controls Progression in Adolescent Idiopathic Scoliosis
Donald E Katz, CO, John A Herring, MD, Richard H Browne, PhD, Derek M Kelly, MD, John G Birch, MD
Texas Scottish Rite Hospital for Children, Dallas, Texas

9:10-9:18 AM  Discussion

56
9:19-9:24 AM  The Surgical Management of Pediatric Elbow Contractures
Amy McIntosh, MD, Anthony A Stans, MD, Shawn W O'Driscoll, MD, PhD
Mayo Clinic, Rochester, Minnesota

57
9:25-9:30 AM  Long Term Follow Up of Pulmonary Function and Scoliosis in Patients with Duchenne's Muscular Distrophy and Spinal Muscular Distrophy
Kenon Chua, MBBS, James Hoi Po Hui, FRCSE, Hee Kit Wong, MBBS, Lester Chan Chan, MBBS, Eng Hin Lee, MD, FRCSC, Daniel Goh, MBBS
National University Health System, Singapore, Singapore

9:31-9:38 AM  Discussion

58
9:39-9:44 AM  A Randomized Controlled Trial of Cast Versus Wrist Splint In Children with Acceptably Angulated Wrist Fractures
Andrew W Howard, MD, Andrew Willan, PhD, Kathy Boutis, MD
Hospital for Sick Children, Toronto, Canada

60
9:45-9:50 AM
Prospective, Single-Blind Randomized Comparison of Pediatric Forearm Fracture Reduction by Emergency Room Physicians and Orthopaedic Surgeons.
Shema Kahn, MD, Jay Pershad, MD, Jeffrey R Sawyer, MD
Campbell Clinic-University of Tennessee, Germantown, Tennessee

9:51-9:58 AM Discussion

61
9:59-10:04 AM
Fractures at Pediatric Implants: A 15-year Review
Amit Jain, BS, Gurkan Erkula, MD, Arabella I Leet, MD, Michael Ain, MD Paul D. Sponseller, MD
Johns Hopkins University, Baltimore, Maryland

62
10:05-10:10 AM
High Reoperation Rate and Failed Expansion in Lower Extremity Expandable Rods in Osteogenesis Imperfecta (OI)
Steven L Frick, MD, Timothy Larson, MD, Brian K Brighton, MD,MPH, Paul W Esposito, MD
Levine Childrens Hospital, Charlotte, North Carolina

10:11-10:18 AM Discussion

10:19-10:21 AM Introduction of Presidential Speaker

10:22-10:52 AM Presidential Speaker – Scott Mubarak, MD

10:53-11:05 AM Break

CONCURRENT SESSION 1
Moderators: Peter Waters, MD / Eng Hin Lee, MD

63
11:09-11:13 AM
Enhanced Bone Regeneration with COMP-Angiopoietin-1 Loaded Functional Nanoparticle-Hydrogel Complex in a Rat Model of Distraction Osteogenesis
Jung-Ryul Kim, MD,PhD, Sung-Jin Shin, MD, Hyung-Suk Lee, MD
Chonbuk National University Hospital. Chonbuk, Korea

64
11:14-11:18 AM
Genome-wide Study Reveals Region of Chromosome 3 Associated with Idiopathic Scoliosis
Swarkar Sharma, PhD, Xiaochong Gao, MS, Douglas Londono, PhD, Matthew Dobbs, MD, Christina Gurnett, MD, PhD, John Anthony Herring, MD, Derek Gordon, PhD, Carol A Wise, PhD
Texas Scottish Rite Hospital for Children, Dallas, Texas

11:19-11:23 AM
Age Affects Hypoxia and Hypoxia-Inducible Factor-1 (HIF-1) Level in the Articular Cartilage Following Ischemic Injury to the Immature Femoral Head
Harry KW Kim, MD, Haikuo Bian, MD, James Aya-ay, MS, Amanda Garces, Chi Zhang, MD, PhD
Texas Scottish Rite Hospital for Children, Dallas, Texas

11:24-11:33 AM Discussion

SPECIAL TOPICS

66
11:34-11:38 AM
Adverse Events and Errors in Pediatric Orthopaedics: A Prospective One-Year Survey
Howard R Epps, MD
Baylor College of Medicine, Houston, Texas

67
11:39-11:43 AM
Implementation of a World Health Organization (WHO) Operative Checklist in a Children's Hospital
Kit M Song, MD, MHA, Cory Lamblin, MD, George Drugas, MD, Cindy Katz, MPH, MN, Tracy Anderson, Danijela E Korac
Seattle Children's Hospital, Seattle, Washington

68
11:44-11:48 AM
Differences in Orthopaedic Malpractice Claims Between Pediatric and Adult Patients
Matthew E Oetgen, MD, Divya Parikh, MPH
Children's National Medical Center, Washington, DC

11:49-11:58 AM Discussion

SPORTS

Moderators: Michelle James, MD / Bruce Foster, MD

69
12:01-12:05 PM
Long-term Followup of Repaired Discoid Menisci in Children and Adolescents
Henry G Chambers, MD
Rady Children's Hospital, San Diego, California
12:06-12:10 PM
Discoid Meniscus Treatment: Saucerization vs. Stabilization
Jason Hoellwarth, MS2, Jennifer Weiss, MD
Children's Hospital of Los Angeles, Los Angeles, California

12:11-12:15 PM
ACL and Knee Injury Prevention Programs for Young Athletes: Do they Work?
Kevin G Shea, MD, Nathan L Grimm, BS, Jake Jacobs, Shawn Simonson, PhD
Intermountain Orthopaedics, Boise, Idaho

12:16-12:25 PM
Discussion

12:26-12:30 PM
Arthroscopic Reduction and Double Suture Fixation for Tibial Spine Fractures in Children
Michael T Busch, MD, Craig J Spurdle, MD, Samuel C Willimon, MD
Children's Healthcare of Atlanta, Atlanta, Georgia

12:31-12:35 PM
Medial Patellofemoral Ligament Surgery in the Skeletally Immature Patient. Is Reconstruction better than Repair?
Megan M May, MD, Shital N Parikh, Eric J Wall, MD, Gilbert Chan, MD, Jason M Kinkartz, MD, Viral Jain, MD, Charles T Mehlman, DO, MPH, Alvin H Crawford, MD
Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio

12:36-12:40 PM
Reconstruction of the Pediatric Medial Patellofemoral Ligament
Corinna Franklin, MD, Jason Hoellwarth, MS2, Jennifer Weiss, MD
Children's Hospital of Los Angeles, Los Angeles, California

12:41-12:50 PM
Discussion

UPPER EXTREMITY
Moderators: Michelle James, MD / Bruce Foster, MD

12:53-12:57 PM
Arthroscopic Sever-L Episcopo Procedure for the Treatment of Internal Rotation Contractures of the Shoulder in Neonatal Brachial Plexus Palsy: Clinical and Radiographic Outcomes
Cincinnati Children's Hospital, Cincinnati, Ohio

76
12:58-1:02 PM
Conservative or Arthroscopic Treatment of First Time Traumatic Anterior-inferior Shoulder Dislocation in Adolescents - Prospective Results After 36 months
Rico Listringhaus, Dr. Roderich Heikenfeld, Dr. Georgios Godolias, Prof. Dr
Center for Orthopedics and Traumatology, Germany

77
1:03-1:06 PM
Vascularized Bone Grafts for the Treatment of Kienbock's Disease in Adolescents
Bettina M Gyr, MD, Steven L Moran, MD, Karim Bakri, MD
Shriners Hospitals for Children, Minneapolis, Minnesota

1:07-1:16 PM Discussion
1:17-1:18 PM Announcement/Adjourn

CONCURRENT SESSION 2– COMPLEX SPINE
Moderators: Robert Campbell, MD / Bobby KW Ng, MD

78
11:09-11:13 AM
Growing Rods for Spinal Deformity: Characterizing Consensus and Variation in Current Use
Paul D Sponseller, MD, Justin S Yang, MD, Mark J McElroy, MS, Behrooz A Akbarnia, MD, George H Thompson, MD, John B Emans, MD, David L Skaggs, MD
Johns Hopkins Medical Institutes, Baltimore, Maryland

79
11:14-11:18 AM
Is Early Treatment of Scoliosis with a Growing Rod Technique in Children with Spinal Muscular Atrophy (SMA) Types I and II Safe and Effective?
Sheila Chandran, James J McCarthy, MD, Kenneth J Noonan, MD, Blaise Nemeth, MD
University of Wisconsin, Madison, Wisconsin
Nutritional Improvement Following Growing Rod Surgery in Children with Early Onset Scoliosis
Karen Sookyung Myung, MD, David L Skaggs, MD, George H Thompson, MD, Paul D Sponseller, MD, Lawrence I Karlin, MD, Charles E Johnston II, MD, Behrooz A Akbarnia, MD, Growing Spine Study Group
Children's Hospital Los Angeles, Los Angeles, California

In vivo Distraction Force and Length Measurements of Growing Rods: Which Factors Influence the Ability to Lengthen?
Suken A Shah, MD, Enrique Garrido, FRCS, Najma Farooq, FRCS, Stewart Tucker, FRCS, Hilali Noordeen, FRCS
Alfred I. duPont Hospital for Children, Wilmington, Delaware

The Effect of Rib Based Spinal Instrumentation in the Treatment of Thoracic Insufficiency Syndrome on Sagittal Plane Alignment
Peter F Sturm, MD, Sahar Hassani, Kristin Zaharski, BS, Mary Riordan, BA
Shriners Hospitals for Children, Chicago, IL

Effect of Expansion Thoracoplasty on Pulmonary Microstructure
John C Olson, MS, Hemal P Mehta, MS, Kyle C Kurek, MD, Matthew L Warman, MD, Brian D Snyder, MD PhD
Children's Hospital, Boston, Massachusetts

Moderators: David Skaggs, MD / James Hui, MD

Kyphectomy and Segmental Spinal Fusion in Children with Myelomeningocele Kyphosis
Haluk Altiok, MD, Craig Finlayson, MD, Peter Sturm, MD, Kim Hammerberg, MD, Sahar Hassani
Shriners Hospitals for Children, Chicago, Illinois
Vertebral Column Resection for Severe Pediatric Deformity: Deformity Correction, Trunk Height and Pulmonary Function Results
Daniel J Sucato, MD, Anna McClung, RN
Texas Scottish Rite Hospital for Children, Dallas, Texas

12:12-12:16 PM
Intraoperative Bone Scan Assisted Excision of Vertebral Osteoid Osteomas
Daniel Hedequist, MD, Mark Proctor, MD, Fred Grant, MD, John B Emans, MD, Donald Blaskiewicz, MD, Durga Sure, MD
Children's Hospital/Harvard Medical School, Boston, Massachusetts

12:17-12:26 PM Discussion

12:27-12:31 PM
Surgical Treatment of Scoliosis in Osteogenesis Imperfecta Patients with cement Augmented Pedicle Screw Instrumentation.
Guney Yilmaz, MD, Kenneth J Rogers, PhD, ATC, Suken A Shah, MD
Alfred I duPont Hospital for Children, Wilmington, Delaware

12:32-12:36 PM
Syringomyelia and Vertebral Osteochondromas in Patients with Multiple Hereditary Exostosis (MHE)
Joshua B Owens, MD, Henry J Iwinski, MD, Vishwas R Talwalkar, MD, Janet Walker, MD, Todd Milbrandt, MD
University of Kentucky, Lexington, Kentucky

12:37-12:41 PM
The Rib Vertebral Angle Difference Is it a Reliable Measure?
Jacqueline Corona, James O Sanders, MD, Scott J Luhmann, MD, David P Roye, Jr, MD, Michel Diab, Hiroko Matsumoto, MA, Michael G. Vitale, MD, MPH
Columbia University, New York, New York

12:42-12:51 PM Discussion

12:52-12:56 PM
Is It Rational To Ration Scoliosis Surgery In Total Body Cerebral Palsy (TBCP) Patients?
Avinash Jadhav, MD, FRCS (Ortho), Mathew Stepanovich, MC, USN, Dale E Rowe
Michigan State University, East Lansing, Michigan
C1 Lateral Mass screw Fixation in Children: Indications, Outcomes, and Technique in 11 Consecutive Patients

Firoz Miyanji, MD, FRCSC, Kishore Mulpuri, MD, Peter O Newton, MD, Christopher W Reilly, MD, FRCSC

BC Children’s Hospital, Vancouver, Canada

Aortic Abutment Following Direct Vertebral Rotation: Plowing of Pedicle Screws

Jose A Herrera-Soto, MD, Matthew Wagner, MD, Jesus Burgos-Flores, MD, Ignacio Sanpera-Trigueros

Orlando Health, Orlando, Florida

Discussion

Announcements/Adjourn

Box Lunch / To Symposia

SYMPOSIUM Breakout Sessions

Spine Symposium
Sports Symposium
Lower Extremity/Guided Growth Symposium
COUR Symposium

Break

Trauma Symposium
Hip – Osteonecrosis Symposium
Research – Evidence Based Medicine Symposium
NP/PA Symposium
Communications Symposium
Friday, May 7, 2010

8:00-8:05 AM  Welcome/Announcements
8:05-9:10 AM  Special Topics Session- DDH in Walking AGE
8:06-8:11 AM  Introduction - Colin Moseley, Moderator
8:12-8:22 AM  APOA Overview, Ken Kuo
8:23-8:33 AM  POSNA Overview, Dennis Wenger
8:34-8:44 AM  Cases/Panel Discussion, Colin Moseley
8:45-8:51 AM  Audience Questions
8:52-9:02 AM  Cases/Panel Discussion, Colin Moseley
9:03-9:09 AM  Audience Questions
9:10-9:30 AM  Presidential Transfer
9:31-10:00 AM  Break

CONGENITAL
Moderators: John Herzenberg, MD, FRCSC / Benjamin Joseph, MD

93
10:04-10:08 AM  Fassier-Duval Tibial Rodding in Patients with Osteogenesis Imperfecta
François Fassier, MD, FRCS, James Patrick Halloran, MD, Norine Alam, MSc
McGill University, Shriners Hospital for Children, Canada

94
10:09-10:13 AM  Quality Of Life In Patients With Fibular Hemimelia: Lengthening Versus Amputation
Alberto Harfush MD, Nelson Cassis, MD, Alberto Lopez, MD, Alex Betech, MD, Armando Torres-Gomez, MD
Shriners Hospital for Children, Mexico City, Mexico

95
10:14-10:18 AM  Prophylactic Intramedullary Rodding after Femoral Lengthening in Congenital Deficiency of the Femur
Amr Atef Abdelgawad, MD, John E Herzenberg, MD, Shawn C Standard, MD, Dror Paley, MD
Texas Tech University Health Sciences Center, El Paso, Texas

10:19-10:28 AM  Discussion

LOWER EXTREMITY

96
10:29-10:33 AM  Supramalleolar Osteotomy: A Comparison of Fixation Methods
Peter M Stevens, MD, Carolien P De Roode, MD, Peter Stevens, MD, Marcella Woiczik, MD  
University of Utah, Salt Lake City, Utah

97  
10:34-10:38 AM  
Energy Expenditure During Overground Walking in Pediatric Amputees  
Lori A Karol, MD, Kelly A Jeans, MS  
Texas Scottish Rite Hospital for Children, Dallas, Texas

98  
10:39-10:43 AM  
4-in-1 Osteosynthesis' in Congenital Pseudarthrosis of the Tibia(CPT)  
In Ho Choi, MD, Soong Joon Lee, MD, Tae-Joon Cho, MD, Won Joon Yoo, MD, Chin Youb Chung, MD, Moon Seok Park  
Seoul National University Children's Hospital, Seoul

10:44-10:53 AM    Discussion

SPECIAL TOPICS

99  
10:54-10:58 AM  
Complications Associated with the Use of Bone Morphogenetic Protein (BMP) in Pediatric Patients  
Matthew E Oetgen, MD, B Stephens Richards III, MD  
Children's National Medical Center, Washington, DC

100  
10:59-11:03 AM  
Direct Beam Radiation Exposure Of Surgeons During Pinning Of Supracondylar Humerus Fractures. Does C-Arm Position And Attending Surgeon Matter?  
Eric J Wall, MD, Elizabeth C Appel, Megan A Little, Alvin H Crawford, MD, Charles T Mehlman, DO, MPH, Viral Jain, MD, Junichi Tamai, MD  
Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio

101  
11:04-11:08 AM  
Vitamin D Sufficiency Screening in Preoperative Pediatric Orthopedic Patients  
Joshua Parry, BS, Elroy Sullivan, PhD, Allison C Scott, MD  
Shriners Hospital For Children, Houston, Texas

11:09-11:18 AM    Discussion

SPINE  
Moderators: Frances Farley, MD / PQ Chen, MD
11:22-11:26 AM  
Pedicle Screws are Safer than Hooks in Children < 10 Years Old with Growing Rods  
**David L Skaggs, MD**, Karen Sookyung Myung, MD, Charles E Johnston II, MD,  
Behrooz A Akbarnia, MD, Growing Spine Study Group  
*Children's Hospital Los Angeles, Los Angeles, California*

11:27-11:31 AM  
The Safety of Spinal Pedicle Screws in Children Ages 1-12  
Tery Mueller, DO, Laurel Hastings, BS, Elise Benefield, BSN, Nancy Hadley Miller, MD,  
**Mark A Erickson, MD**  
*University of Colorado, Boulder, Colorado*

11:32-11:36 AM  
Usefulness of EMG compared to CT scans in pedicle screw placement  
Jose A Herrera-Soto, MD, D Raymond Knapp, MD, **Jonathan H Phillips, MD**, Michael F Duffy, MD  
*Orlando Health, Orlando, Florida*

11:37-11:46 AM  
Discussion

11:47-11:51 AM  
Use of the Vacuum Assisted Closure in Instrumented Spinal Deformities in Thirty-Three Consecutive Patients with Post-Operative Deep Infections  
Federico Canavese, MD, **Joseph I Krajbich, MD**  
*Shriners Hospitals for Children, Portland, Oregon*

11:52-11:56 AM  
Simple Steps to Minimize Spine Infections in Adolescent Idiopathic Scoliosis  
**Karen Sookyung Myung, MD**, David Glassman, BS, Vernon T Tolo, MD, David Skaggs, MD  
*Children's Hospital of Los Angeles, Los Angeles, California*

11:57 AM-12:01 PM  
A Multidisciplinary Approach Improves Infection Rates in Pediatric Spine Surgery.  
Ryan M Ballard, PA-C, Nancy Hadley Miller, MD, Chris Nyquist, MD, Elise Benefield, BSN,  
**Mark A Erickson, MD**  
*University of Colorado, Boulder, Colorado*

12:02-12:11 PM  
Discussion
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<tr>
<td>12:12-12:17 PM</td>
<td>Award Paper Announcements</td>
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<tr>
<td>12:18-12:25 PM</td>
<td>Closing Remarks- POSNA and APOA Presidential Lines</td>
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<td>12:26 PM</td>
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E-POSTER Program

Eposter 1
The Levels of Evidence in Pediatric Orthopaedic Journals: Where Are We Now?
Cashin S Megan, MD, FRCS, Simon P Kelley, Jeffrey R Douziech, MD, Ranjit Abraham Varghese, Kishore Mulpuri, MBBS, MS, MHSc
BC Children's Hospital Vancouver, Canada

Eposter 2
Levels of Evidence of Studies Presented at POSNA Annual Meetings
Simon P Kelley, Megan S Cashin, MD, FRCS, Jeffrey R Douziech, MD, Ranjit Abraham Varghese, Kishore UK Mulpuri, MBBS, MS, MHSc
University of British Columbia/BCCH Vancouver, Canada

Eposter 3
Lengthening of Dual Growing Rods and the Law of Diminishing Returns
David L Skaggs, MD, Wudbhav N Sankar, MD, Muharrem Yazici, MD, Charles E Johnston II, MD, Suken A Shah, MD, Pooya Javidan, BS, Rishi BS Kadakia, BS, Thomas F Day, MD, Behrooz A Akbarnia, MD
Children's Hospital Los Angeles, Los Angeles, California

Eposter 4
Evaluation of High Risk Patients Undergoing Spinal Surgery: A Matched Case Series
Nancy Hadley Miller, MD, Elise Benefield, RN, Laurel Hastings, BA, Patrick M Carry, BA, Zhaoxing Pan, PhD, Mark A Erickson, MD
The Children's Hospital, Aurora, Colorado

Eposter 5
The Tamponade Effect of Unstable Slipped Capital Femoral Epiphysis.
Jose A Herrera-Soto, MD, Kelly Vanderhave, MD, Mark A Birnbaum, MD, Jay C Albright, MD
Orlando Health, Orlando, Florida

Eposter 6
Effects of T1-T12 Dorsal Arthrodesis on Thoracic Cage and Chest Organs. Anatomical, Histological and Radiological Study on Pre-Pubertal New Zealand White Rabbits
Federico Canavese, MD, Alberto Prandi, VMD, Bartolomeo Canavese, VMD, Alain Dimeglio, MD
CHU Lapeyronie, Montpellier, France

Eposter 7
Risk Factors for Failure after Open Reduction for DDH: a Matched Cohort Analysis
Wudbhav N Sankar, MD, Charles R Young, MD, Abraham Lin, MD, Scott A Crow, MD, Keith D Baldwin, MD, MSPT, MPH, Colin F Moseley, MD
Childrens Hospital of Philadelphia, Philadelphia, Philadelphia
Eposter 8
Treatment of Graf Type III and IV Hips with the Pavlik Harness
Pablo Castaneda, MD, Anabel Flores, MD
Shriners Hospital for Children, Mexico City, Mexico

Eposter 9
Pelvic Fractures in Children: A Modification of a Pre-Existing Classification
Benjamin J Shore, MD, Catherine Bevin, MD Cameron Palmer, Michael B Johnson, MD, Ian P Torode, MD
Children's Hospital Boston, Boston, Massachusetts

Eposter 10
Intra-Capsular Pressures in Young Porcine Hip: Does Position and Volume Matter?
Harish S Hosalkar, MD, Diana Glaser, PhD, Eric Varley, DO, Christine Farnsworth, MS, Thomas Nunn, BS, James Bomar, BBS, Dennis R Wenger, MD
Children's Hospital Boston, Boston, Massachusetts

Eposter 11
Early Gross Motor Development in Babies with Treated Idiopathic Clubfoot
Nancy L Garcia, PT, Glen O Baird, MD, Mark McMulkin, PhD, Bryan Tompkins, MD, Paul M Caskey, MD, Shelley Mader, PT
Shriners Hospitals for Children, Spokane, Washington

Eposter 12
Off Road Vehicle Related Injuries in Children
John A Schlechter, DO, Michael Priola, DO
Children's Hospital of Orange County, Orange, California

Eposter 13
Botox as an Adjunct to the Non-Operative Treatment of Muscle Imbalance in Neonatal Brachial Plexus Palsy: A Report of 40 Patients
Linda J Michaud, MD, PT, Charles T Mehlman, DO, MPH, Susan L Foad, MPH, Allison J Allgier, OTR/L, William C Lippert, MPH
Cincinnati Children's Hospital, Cincinnati, Ohio

Eposter 14
Complications of Cross-Pinning for Supracondylar Humerus Fractures: Is Dorgan's Lateral-Entry Technique Safer than Medial-Entry Pinning?
Roger Cornwall, MD, Samuel T Kunkel, MS, Bradley S Dunkin, MD
Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio

Eposter 15
Titanium Elastic Nailing of Length Stable vs. Length Unstable Femoral Shaft Fractures in Children
David A Spiegel, MD, Matthew GarnerIlkhom Khujanazarov, John (Jack) M Flynn, MD
The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania

Eposter 16
Titanium Elastic Nails for Tibia Fractures Children: Are Outcomes the Same for Closed and Open Fractures?
Demetri M Economedes, DO, Martin J Herman, MD
Drexel University College of Medicine, Philadelphia, Pennsylvania

Eposter 17
Evolution of Perthes Disease After Hip Distraction
Bobby Kinwah Ng, MD, King-lok LIU, Tsz-Ping Lam, MD, Jack Chun Y Cheng, MD
The Chinese University of Hong Kong, Hong Kong

Eposter 18
Congenital Clubfoot: Functional Method and Early Triceps Surae Lengthening
Alain Dimeglio, MD, Federico Canavese, MD, Martine Regnier, PT, Tayeb Bentahar, MD
CHU Lapeyronie, Montpellier, France

Eposter 19
A Comparison of Children with Clubfoot Who Underwent Surgical or Ponseti Treatment
Julie Coplan, DSc, PT, Chris F. Church, MPT, Dijana Poljak, John D. Henley, PhD, Roland Starr, MS, Mohan Venkatnarsimha Belthur, John E. Herzenberg, MD, FRCSC, Freeman Miller, MD
Rubin Institute for Advanced Orthopedics, Baltimore, Maryland

Eposter 20
The Surgeon Learning Curve for Closed Reduction and Percutaneous Pinning of Type III Supracondylar Humerus Fractures in Children
Raymond W Liu, MD, Kimberly Pytel, BS, Tracey P Bastrom, MA, Burt Yaszay, MD
Rady Children's Hospital, San Diego, California

Eposter 21
Open Reduction with Extensive Muscle Release for Development Dysplasia of the Hip: A 9-year Follow-Up
Yuko Segawa, MD, Makoto Kamegaya, MD, Takashi Saisu, MD, Wataru Koizumi, MD, Mituaki Morita, MD, Junichi NakamuraReiko Murakami, MD, Masanori Wako, MD
Chiba Children's Hospital, Chiba, Japan

Eposter 22
Disproportionate Growth in Radius of Adolescent Idiopathic Scoliosis Subjects - Is it a Systemic Problem?
Jack Chun Y Cheng, MD, Hiu-Yan Yeung, PhD, William W Wang, PhD, Vivian W Hung, MPhil, Tsz-Ping Lam, MD, Bobby Kinwah Ng, MD, Ling Qin, PhD, Kwong-Man Lee, PhD, Yong Qiu, MD
Eposter 23
Do EMG and MRI Findings Predict Infraspinatus Muscle Function in Neonatal Brachial Plexus Palsy?
Robert Talbert, BA, Charles T Mehlman, DO, MPH, Linda J Michaud, MD, PT, Douglas G Kinnett, MD, Tal Laor, MD, Susan L Foad, MPH
Cincinnati Children's Hospital, Cincinnati, Ohio

Eposter 24
Extension Type II Supracondylar Humerus Fractures; A Radiographic Outcomes Study of Closed Reduction and Cast Immobilization.
Ron El-Hawary, MD, Tristan Camus, BSc, Brent MacLellan, BSc, P Christopher Cook, MD, J Lorne Leahey, MD, John C Hyndman, MD
IWK Health Centre, Halifax, Nova Scotia, Canada

Eposter 25
Nerve Injuries Associated with Pediatric Supracondylar Humeral Fractures: A Meta-Analysis
Jessica C Babal, BS, Charles T Mehlman, DO, MPH, Guy Klein, BS
Cincinnati Children's Hospital, Cincinnati, Ohio

Eposter 26
Acetabular Development in Contralateral Hip with Unilateral Developmental Dysplasia of the Hip: Consideration of Primary Acetabular Dysplasia
Daisuke Kobayashi, MD, Shinichi Satsuma, Maki Kinugasa, MD, Risa Nunoi, MD
Kobe Children's Hospital, Kobe, Hyogo, Japan

Eposter 27
Treatment of Osteochodral Defect by a Biphasic Osteochodral Implant with Mesenchymal Stem Cells and Nanofibre Mesh
James Hoi Po Hui, FRCSE, Kenon Chua, MBBS, Hitendra K. Doshi, MBBS
National University Health System, Singapore

Eposter 28
Outcome of Anatomic All-Epiphyseal ACL Reconstruction in Skeletally Immature Patients
Megan M May, MD, Eric J Wall, MD, Gilbert Chan, MD, Shital N Parikh,Viral Jain, MD, Charles T Mehlman, DO, MPH, Alvin H Crawford, MD
Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio

Eposter 29
Nerve Structures at Risk during Tibialis Anterior Tendon Transfer
John E Herzenberg, MD, Christof Radler, MD, Monique C. Gourdine-Shaw, DPM, John E. Herzenberg, MD, FRCSC
Rubin Institute for Advanced Orthopedics, Baltimore, Maryland
Eposter 30
Hemiepiphyseodesis for Correction of Angular Deformity in Pediatric Amputees

**Bettina M Gyr, MD, Matthew M Morel, CPO, Gabriela J Ferski, RN, MPH, MS**
*Shriners Hospital for Children, Minneapolis, Minnesota*

Eposter 31
Treatment Outcomes of Femoroacetabular Impingement in Adolescents

**Ernest L Sink, MD, Alison J Ryba, BS, Amy K Monreal, BA, Michael Dayton, MD**
*University of Colorado, Boulder, Colorado*

Eposter 32
Utility of Advanced Imaging in Diagnosing Cervical Arterial Injury Following Blunt Cervical Spine Trauma in Children and Adolescents

Kelly Vanderhave, MD, **Frances A Farley, MD**, Stephen Tolhurst, MD, Hugh Garton, MD, Cormac O Maher, MD, Gregory Graziano, MD, Michelle S Caird, MD
*University of Michigan, Ann Arbor, Michigan*

Eposter 33
Examination of the "Second-Hit" Phenomenon in Pediatric Blunt Polytrauma Patients Undergoing Orthopaedic Surgery

Vivek Sahai, MD, Michael L Forbes, MD, Mark O McCollum, MD, Melanie Morscher, PT, Ann E Salvator, MS, Andrew Schulz, BS, **Mark J Adamczyk, MD**
*Akon Children's Hospital, Akron, Ohio*

Eposter 34
Temperature as a Diagnostic Test for Compliance with a Thoracolumbosacral Orthosis

**Lori Dolan, RN, PhD**, Stuart L Weinstein, MD, Bridget S Adams
*University of Iowa, Iowa City, Iowa*

Eposter 35
Kyphectomy in Children with Myelodysplasia

**Sumeet Garg**, Matthew Oetgen, MD, B Stephens Richards III, MD, Karl E Rathjen, MD
*Texas Scottish Rite Hospital for Children, Dallas, Texas*

Eposter 36
Ankle Valgus Secondary to Proximal Migration of the Fibula in Tibial Lengthening Using the Ilizarov External Fixator

Hui-Wan Park, MD, Ki Seok Lee, MD, **Hyun-Woo Kim MD**

Eposter 37
Melatonin Modulates Endochondral Ossification in Human

Guang-Quan Sun, Mphil, William Weijun Wang, PhD, Hiu-Yan Yeung, PhD, Gene Chi-Wai Man, MphilKwong-Man Lee, PhD, Tzi-Bun Ng, PhD, Yong Qiu, MD, **Jack Chun-Yiu Cheng, MD**
*Gangnam Severance Hospital, Seoul, Korea*
Ep138
Regional Lung Volumes Predict Regional Ventilation and Perfusion Before But Not After Spine Surgery for Early Onset Scoliosis (EOS)
Greg Redding, MD, Jonathan Swanson, MD, Kit Song, MD, Ghioni Vic, MD, Dennis Tang, BA, Viviana Bompadre, PhD
*Seattle Children's Hospital, Seattle, Washington*

Ep139
The Musculoskeletal Manifestations of Prader-Willi Syndrome
**Jong Sup Shim, MD**, Sung Wook Seo, MD, Sang Hak Lee, MD, Kyung Hyo Koo, MD
*Samsung Medical Center, Seoul, Korea*

Ep140
On-call Coverage for Pediatric Orthopaedic Emergencies: Description of An Effective Call System to Optimize Pediatric Patient Care
**Steven L Frick, MD**, Christopher C Bray, MD, Brian Scannell, MD, J Michael Wattenbarger, MD, Virginia F Casey, MD, Christian Clark, MD, Michael Bosse, MD
*Carolinas Medical Center, Charlotte, North Carolina*

Ep141
Combined Femoral and Pelvic Osteotomies Versus Femoral Osteotomy Alone in the Treatment of Hip Dysplasia in Children with Cerebral Palsy
**R Baxter Willis, MD**, Muaz Al-Ghadir, MD, Julio Javier Masquijo, Luis Guerra, MD
*Children's Hospital of Eastern Ontario, Ottawa, Canada*

Ep142
Cobalt Chromium Spinal Rods: How Do They Stack Up?
Eric S Varley, DO, Thomas Nunn, BS, Arnel L Aguinaldo, MA, **Peter O Newton, MD**
*Rady Children's Hospital, San Diego, California*

Ep143
Juvenile Osteochondritis Dissecans: Is It a Growth Disturbance of the Secondary Physis of the Epiphysis
Tal Laor, MD, **Eric J Wall, MD**, Andrew M Zbojniewicz, MD
*Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio*

Ep144
Proximal Tibial Rotational Osteotomy for Torsion of the Tibia
David M Walton, BS, **Raymond W Liu, MD**, Lutul D Farrow, MD, George H Thompson, MD
*Rady Children's Hospital, San Diego, California*

Ep145
Endoscopically Assisted Percutaneous Epiphysiodesis for Treatment of Leg Length Discrepancy
Elizabeth Desmond, MD, Meghan Imrie, MD, Lawrence A Rinsky, MD, James G Gamble, MD, PhD
Stanford University, Stanford, California

Eposter 46
Biomechanical Comparison Between Two Guided Growth Systems
Annie Stitgen, BS, Katie Garrels, MD, Hiro Kobayashi, MD, Ray Vanderby, PhD, James McCarthy MD, Kenneth J Noonan, MD
University of Wisconsin, Madison, Wisconsin

Eposter 47
The Use of Electrodiagnosis in Operative Decision-Making for Early Plexus Reconstruction in Birth Brachial Plexus Palsy
Glendaliz Bosques, MD, Linda J Michaud, MD, PT, Charles T Mehlman, DO, MPH, Kevin P Yakuboff, MD, Mohab B Foad, MD, Shari L Wade, PhD, Douglas G Kinnett, MD, Judy A Bean, PhD
Cincinnati Children's Hospital, Cincinnati, Ohio

Eposter 48
Polydactylous Chondrocyte as a Cell Source for Physeal Reconstruction
Jae Ho Cho, PhD, PhD, Ri Long Jin, Byoung-Hyun Min, MD, PhD
Ajou University School of Medicine, Suwon, Korea

Eposter 49
Acetabular Retroversion in Developmental Dysplasia of the Hip
Masanori Fujii, MD, Yasuharu Nakashima, MD, Takuaki Yamamoto, MD, Taro Mawatari, MD, Goro Motomura, MD, Yukihide Iwamoto, MD
Kyushu University, Fukuoka, Japan

Eposter 50
Revisit Harris Growth Attest Line: A Radiological, Histochemical, and Micro-CT Observation in Rabbit
Won Joon Yoo, MD, In Ho Choi, MD, Tae-Joon Cho, MD, Hye Ran Lee, Chin Youb Chung, MD, Moon Seok Park, Jung-Eun Cheon, MD
Seoul National University College of Medicine, Seoul, Korea

Eposter 51
The Utility of Erythrocyte Sedimentation Rate Values and White Blood Cell Counts After Spinal Deformity Surgery in the Early (<3 month) Postoperative Period
Margaret Kuhn, MD, Scott J Luhmann, MD, Lawrence G Lenke, MD, Timothy R Kuklo, MD, Keith H Bridwell, MD
Washington University, St. Louis, Missouri

Eposter 52
Longer Surgical Times May Increase Your Complication Rate
Suken A Shah, MD, Harry J Robinson, MD, Baron S Lonner, MD, Randal R Betz, MD, Tracey P Bastrom, MA, Michelle Marks, PT, Harms Study Group
Alfred I. duPont Hospital for Children, Wilmington, Delaware

Eposter 53
Trends in Spine Injuries Caused by All-Terrain Vehicles in Children.
Jeffrey R Sawyer, MD, Matthew Bernard, MD, Derek M Kelly, MD, David Spence, MD, R. Jason Schroeder, PhD, William C Warner Jr., MD
Campbell Clinic, Germantown, Tennessee

Eposter 54
Management of Surgical Risk in High Risk Pediatric Patients: Provider and Family Caregiver Experiences of Spinal Fusion Surgery and Care Program
Juliana G Barnard, MA, Juliana G Barnard, MA, Elaine H Morrato, DrPH, Carolyn T Nowels, MSPH, Elise M Benefield, RN, Nancy Hadley Miller, MD, Allison Kempe, MD, Mark A Erickson, MD
University of Colorado, Boulder, Colorado

Eposter 55
A Survey of Physician Opinion: Adolescent Clavicle Fracture Treatment Preferences Among POSNA Members
Patrick M Carry, BA, Ryan Koonce, MD, Zhaoxing Pan, PhD, John D Polousky, MD
The Children's Hospital, Aurora, Colorado

Eposter 56
Which is the Best Method to Determine the Patellar Height in Children and Adolescents?
Moon Seok Park, MD, Chin Youb Chung, MD, Kyoung Min Lee, MD, Sang Hyeong Lee, In Ho Choi, MD, Tae-Joon Cho, MD, Won Joon Yoo, MD
Seoul National University Bundang Hospital, Seoul, Korea

Eposter 57
Quality of Life for Children with Neuromuscular Scoliosis Two-Years After Spinal Fusion Surgery
Juliana G Barnard, MA, Juliana G Barnard, MA, Elaine H Morrato, DrPH, Carolyn T Nowels, MSPH, Elise M Benefield, RN, Nancy Hadley Miller, MD, Allison Kempe, MD, Mark A Erickson, MD
University of Colorado, Boulder, Colorado

Eposter 58
Benign-Appearing Ewing Sarcoma of the Tibia
Karen Myung, M.D., Leo Mascarenhas, M.D., Alexandre Arkader, M.D.
Childrens Hospital of Los Angeles, Los Angeles, California

Eposter 59
Treatment of Pediatric Femur Fractures with a Distal Femoral Pin and a One Leg Spica Cast
William L Hennrikus Jr, MD, William Hennrikus, MD Matthew Drake, MD
Penn State Medical School, Hershey, Pennsylvania

Eposter 60
Reappraisal of the Silfverskiold Test: Ultrasonographic Assessment of Architectural Properties of the Triceps Surae Muscle Complex
Kun B Park, MD, Hui-Wan Park, MD, Hyun-Woo Kim MD
Haeundae Paik Hospital, Kimhae, Kyungnam, Korea

Eposter 61
Evaluation of Percutaneous Medial Hamstring Lengthening Outcomes in Ambulatory Children with Cerebral Palsy
Kristan A Pierz, MD, Sylvia Ounpuu, MSc, Kristie E Anderson, BS
Connecticut Children’s Medical Center, Hartford, Connecticut

Eposter 62
Age-Related Patterns of Spine Injury Following All-Terrain Vehicle Accidents in Children and Adolescents.
Jeffrey R Sawyer, MD, Michael J Beebe, MD, Aaron T Creek, MD, George H Thompson, MD, Matthew G Yantis, MD, Derek M Kelly, MD, William C Warner Jr., MD
Campbell Clinic-University of Tennessee, Germantown, Tennessee

Eposter 63
Growing Rods as a Salvage Procedure After Convex Staple Epiphyseodesis to Control Curve Progression in Young Patients
Gupta Purnendu, MD, Peter F Sturm, MD, Sahar HassaniKim Hammerberg, MD
Shriners Hospitals for Children, Chicago, Illinois

Eposter 64
Level of Improvement Determined by PODCI is Related to Parental Satisfaction after Single-Event Multilevel Surgery in Children with Cerebral Palsy
Kyoung Min Lee, MD, Chin Youb Chung, MD, Moon Seok Park, MD, Sang Hyeong LeeIn Ho Choi, MD, Tae-Joon Cho, MD, Won Joon Yoo, MD
Seoul National University Bundang Hospital, Seoul, Korea

Eposter 65
Chronic Missed Symptomatic Os Subfibulare in Children
Richard S Davidson, MD, Stephan G Pill, Michael Hatch, MD, Julie M. Linton, MD
The Children's Hospital of Philadelphia, Pennsylvania

Eposter 66
An Orthopaedic Rotation for Pediatric Residents
William L Hennrikus Jr, MD, Robert Wells, PhD, Bjorn Nilson, MD
Penn State Medical School, Hershey, Pennsylvania
Eposter 67
The Quality of Life Of Patients With Hereditary Multiple Exostoses: A Cross Sectional Study Of Adult And Pediatric Populations
Christine M Alvarez, MD, FRCSC, MSc, Harpeet K Chhina, MSC, Mary De Vera, PHD
University Of British Columbia, Vancouver, Canada

Eposter 68
Pediatric Rib Anatomy Changes with Growth
Joshua D Stewart, BS, Richard Schwend, MD, Douglas C Rivard, DO
Children's Mercy Hospital, Kansas City, Missouri

Eposter 69
The Effect of Spinal Arthrodesis on Height in Patients with Congenital Scoliosis
Brent Berger, MD, Scott Mitchell, MD, Richard E Bowen, MD, Anthony Scaduto, MD
Shriners Hospitals for Children Los Angeles, California

Eposter 70
Effectiveness of A Single Incision Percutaneous Epiphysiodesis Technique for Treating Leg Length Discrepancy
Bryan Tompkins, MD, Sean P Kearney, MD, MPH, Glen O Baird, MD, Paul M Caskey, MD
Madigan Army Medical Center, Tacoma, Washington

Eposter 71
Impact of Surgical Waitlist Times on Scoliosis surgery: Surgeon's Perspective
Firoz Miyanji, MD, FRCSC, Christopher W Reilly, MD, Ranjit Abraham Varghese, Suken A Shah, MD, Amer F Samdani, MD, Peter O Newton, MD, Kishore Mulpuri, MD
BC Children's Hospital, Vancouver, Canada

Eposter 72
Contralateral Acetabular Morphology in Patients treated for Unilateral Slipped Capital Femoral Epiphysis
Brian K Brighton, MD, MPH, Wudbhav N Sankar, MD, Young Jo Kim, MD, Michael B Millis, MD
Carolinas Medical Center, Charlotte, North Carolina

Eposter 73
FAI & Prolonged Drehmann's Sign in SCFE
Makoto Kamegaya, MD, Takashi Saisu, MD, Junichi Nakamura, Ryuitirou Akagi, MD, Reiko Murakami, MD, Yuko Segawa, MD, Kinya Ito, MD
Chiba Children & Adult Orthopaedic Clinic, Chiba, Japan

Eposter 74
Quality of Life in Achondroplasia Patients
Hae Ryong Song, MD, Basit MS M.A, MD, Song Sang Heon, MD, Kim Sang Gyun, MD
Korea University Guro Hospital, Seoul. Korea

Eposter 75
The Prevalence of Elbow Flexion Contractures in Children with Brachial Plexus Birth Palsy
Michelle A James, MD, Lindsey Sheffler, BS
Guro Hospital, Korea University Medical Center, Seoul, Korea
University of California Davis, Sacramento California
Paper Poster Program

Paper Poster 1
Personalizing Management of Adolescent Idiopathic Scoliosis: Can DNA-based Prognostic Testing Lead To Evidence Based Care and Lowered Costs?
Baron S Lonner, MD, Vasantha L. Murthy, M.D., Yael Goldstein, PA, Phedra Penn, B.A., Kenneth Ward, M.D.
Lennox Hill Hospital, New York, New York

Paper Poster 2
Cost-effectiveness of Femoral Fracture Immediate Spica Casting in the Operating Room versus the Emergency Department
Alfred A Mansour, MD, Jill C Wilmoth, MD, Ashton S Mansour, BS, Gregory A Mencio, MD, Steven A Lovejoy, MD, Jeffrey E Martus, MD
Vanderbilt University Medical Center, Nashville, Tennessee

Paper Poster 3
MRI Evaluation of the Medial Patello-Femoral Ligament after Acute Patellar Dislocation in Children
Christopher K Kepler, MD, MBA, Eric Bogner, MD, Sommer Hammoud, MD, Hollis Potter, MD, Daniel W Green, MD
Hospital for Special Surgery, New York, New York

Paper Poster 4
Instrumentation Constructs in Pediatric Patients Undergoing Deformity Correction Correlated with SRS Scores
John P Lubicky, MD, Jean Hansen, PhD, Elizabeth H Riley, MLS/MIS
Indiana University School of Medicine, Riley Hospital for Children, Indianapolis, Indiana

Paper Poster 5
A Study in vivo of the Effects of a Static Compressive Load on the Proximal Tibial Physis in Rabbits
Andrew D Bries, MD, Robin D Jacquet, MS, Elizabeth M Lowder, BS, Denise L McBurney, BS, William J Landis, PhD, Mark J Adamczyk, MD, Richard P Steiner, PhD, Michael J Askew, PhD
Akron Children's Hospital, Akron, Ohio

Paper Poster 6
Familial Kyphoscoliosis: Association with the IRX Homeobox Gene Family
Nancy Hadley Miller, MS, MD, Cristina M Justice, PhD, Pedro D Cruz, PhD, Baishali Maskeri, PhD, Jim C Mullikin, PhD, Kandice Swindle, BS, Alexander F Wilson, PhD
University of Colorado Denver, Aurora, Colorado

Paper Poster 7
Periacetabular Osteotomy for Symptomatic, Residual Acetabular Dysplasia after Previous Pediatric Hip Reconstruction
John Clohisy, MD, Daniel J Sucato, MD, David A Podeszwa, MD, Jeffery Nepple, MD, Gail Pashos, BS, MT, Perry L Schoenecker, MD
Washington University School of Medicine, St. Louis, Missouri

Paper Poster 8
Ligamentum Teres (LT) Reattachment at an Isocentric Point: A Porcine Study with Clinical Implications
Harish S Hosalkar, MD, Diana A Glaser, PhD, Eric Varley, DO, Christine Farnsworth, MS, Thomas Nunn, BS, James D Bomar, BBS, Dennis R Wenger, MD
Rady Children's Hospital, San Diego, California

Paper Poster 9
Posterior Surgical Approach for Humeral Lateral Condyle Fracture in Children
Yin-Chun Tien, MD
Kaohsiung Medical University, Kaohsiung, Taiwan

Paper Poster 10
Publication of Abstracts Submitted to the Annual Meeting of the Pediatric Orthopaedic Society of North America: Is There a Difference Between Accepted vs. Rejected Abstracts?
Ranjit Abraham Varghese, Justin Chang, BSc, Firoz Miyanji, MD, Christopher W Reilly, MD, Kishore Mulpuri, MBBS, MS, MHSc
BC Children's Hospital, Vancouver, Canada

Paper Poster 11
Genetic Association Study of MMP-3 and IL-6 Gene with Adolescent Idiopathic Scoliosis: A Case-control Study in Chinese Han
Zhen Liu, PhD, Nelson L.S Tang, MD, Benson H.Y Yeung, PhD, Jack C.Y Cheng, MD, Yong Qiu, MD
The Chinese University of Hong Kong, Hong Kong, China

Paper Poster 12
Muscle Derived Stem Cell for Limb Lengthening in Rabbit Model
Andy Wee, MBBS, James Hoi Po Hui, FRCSE, Eng Hin Lee, MD, FRCSC
National University Health System, Singapore

Paper Poster 13
Percutaneous versus Buried Wires for the Fixation of Fractures of the Lateral Humeral Condyle in Children. Is there a Difference in Outcome?
Hua Ming Siow, MBChB, Lester WM Chan, MBBS;
KK Women's and Children's Hospital, Singapore

Paper Poster 14
Implications of Serial MRI Following Diagnosis of Acute Hematogenous Osteomyelitis Stochastic Simulation Analysis of Economic and clinical Implications
Suneel B. Bhat, MPhil, Kriti Sehgal, BA, Maxwell Courtney, BS, **David A. Spiegel, MD**
The Children's Hospital of Philadelphia, Philadelphia, Pennsylvania

**Paper Poster 15**
Scaphoid Nonunions in Children and Adolescents: Surgical Treatment with Internal Fixation and Bone Grafting.

**R Baxter Willis, MD**, Julio Javier Masquijo
Children's Hospital of Eastern Ontario, Ottawa, Canada

**Paper Poster 16**
A Unique Program Teaching Sustainable Pediatric Orthopaedics in the Developing World

**Robert M Bernstein, MD**, Carol Beth Cozen, AIA, Saul M Bernstein, MD, Hugh G Watts, MD
Cedars-Sinai Medical Center, Los Angeles, California

**Paper Poster 17**
Pathophysiology of Contractures Following Neonatal Brachial Plexus Injury: A Role for Abnormal Postnatal Development of Denervated Muscle

**Roger Cornwall, MD**, Sia Nikolaou, PhD, Elizabeth Peterson, BS, Annie Kim, Christopher Wylie, PhD
Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio

**Paper Poster 18**
Repetitive Physiologic Stresses Generate Osteochondral Lesions

**Eric J Wall, MD**, Stone V Austin, BSDavid L Glos, BSEKeith F Stringer, MD Zachary R Sheppard, Kevin J Little, MDEric J Wall, MD (Cincinnati Children's Hospital Medical Center)
Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio

**Paper Poster 19**
Six Months of Spinal Growth Modulation: Is the Disc Still Normal?

**Peter O Newton, MD**, Vidyadhar V Upasani, MD, Christine L Farnsworth, MS, Reid C Chambers, BA, Tracey P Bastrom, MA, Gregory M Williams, MS, Robert L Sah, MD, Koichi Masuda, MD
Rady Children's Hospital, San Diego, California

**Paper Poster 20**
The Use of rhBMP7 Treatment for Congenital Pseudoarthrosis of the Tibia in Children

**Reggie C Hamdy, MD**, Bruno Dohin, MD, FRCS, **Frangois Fassier, MD, FRCS**
McGill University, Shriners Hospital for Children, Montreal, Canada