

EPOS



European Paediatric Orthopaedic Society

Preliminary
Scientific
Programme



40th EPOS

Annual Meeting

European Paediatric Orthopaedic Society

6-9 April, 2022

Copenhagen, Denmark



40th EPOS Annual Meeting

European Paediatric Orthopaedic Society
Copenhagen (Denmark) - April 6 – 9, 2022



Wednesday, April 6, 2022

AUDITORIUM CARSTENSEN	
12:00-14:30	PRE-MEETING COURSE: THE PAEDIATRIC KNEE. TRAUMATIC INJURIES
14:30-15:00	Coffee break
15:00-17:50	PRE-MEETING COURSE: THE PAEDIATRIC KNEE. TRAUMATIC INJURIES
19:00-20:30	WELCOME CEREMONY at Copenhagen City Hall

Thursday, April 7, 2022

TIVOLI CONGRESS HALL			
08:00-08:20	OPENING CEREMONY		
08:20-09:20	BASIC SCIENCE		
09:20-10:20	BEST OF LOWER LIMB DEFORMITY		
10:20-10:50	Coffee break		
10:50-12:00	DEVELOPMENTAL DYSPLASIA OF THE HIP		
12:00-12:50	MEET THE MENTOR		
12:50-13:50	Lunch break		
	TIVOLI CONGRESS HALL	AUDITORIUM CARSTENSEN	HARLEKIN & COLUMBINE
13:50-14:50	INDUSTRY SYMPOSIUM	INDUSTRY SYMPOSIUM	INDUSTRY SYMPOSIUM
14:50-15:40	HIP 1	SPORTS 1	NEUROMUSCULAR 1
15:40-16:30	HIP 2	SPORTS 2	NEUROMUSCULAR 2
16:30-17:00	Coffee break		
17:00-18:00	SPINE 1	CLUBFOOT	TRAUMA 1
18:00-19:00	SPINE 2	FOOT / CONGENITAL	TRAUMA 2
19:00-20:00	WOW MEETING		



Friday, April 8, 2022

	TIVOLI CONGRESS HALL		
08:30-09:30	BEST OF TRAUMA		
09:30-10:30	BEST OF HIP & NEUROMUSCULAR		
10:30-11:00	Coffee break		
	HARLEKIN & COLUMBINE		
11:00-13:00	GENERAL ASSEMBLY		
13:00-14:00	Lunch break		
	TIVOLI CONGRESS HALL	AUDITORIUM CARSTENSEN	HARLEKIN & COLUMBINE
14:00-15:00		INDUSTRY SYMPOSIUM	INDUSTRY SYMPOSIUM
15:00-16:00	LOWER LIMB DEFORMITY	UPPER LIMB	TUMOURS / MISCELLANEOUS
16:00-16:30	Coffee break		
16:30-17:30	STUDY GROUP NEUROMUSCULAR	STUDY GROUP UPPER LIMB	STUDY GROUP TUMOURS
17:30-18:30	STUDY GROUP TRAUMA	STUDY GROUP SPINE	STUDY GROUP METABOLICS

Saturday, April 9, 2022

	TIVOLI CONGRESS HALL		
08:00-09:00	BEST OF THE BEST		
09:00-10:00	BEST E-POSTERS		
10:00-10:30	PRESIDENTIAL GUEST LECTURE		
10:30-11:00	Coffee break		
11:00-12:00	AWARDS 2020, PRO MAXIMIS MERITIS, TRAVELLING FELLOWSHIPS		
12:00-12:30	PRESIDENCY TRANSFER		
12:30-13:00	CLOSING REMARKS		



Wednesday, April 6, 2022

PRE-MEETING COURSE: THE PAEDIATRIC KNEE. TRAUMATIC INJURIES

AUDITORIUM CARSTENSEN

Chairs: **Martin Gottliebsen** (Denmark), **Marco Turati** (Italy)

12:00 Introduction

12:10 **Marco Turati** (Italy)

12:10 SESSION 1: PATELLO-FEMORAL INSTABILITY

13:25 Chairs: **Julio Duart** (Spain), **Martin Gottliebsen** (Denmark)

12:10 Epidemiology and aetiology. Treatment of first time dislocation
Jaakko Sinikumpu (Finland)

12:20 Imaging, measurements and classifications in PF instability
Nicolas Nicolau (UK)

12:30 Surgical procedures according to growth potential
Daniel Green (USA)

12:45 MPFL and medial quadriceps tendon-femoral ligament for PFI: Surgical technique and outcomes
Mininder Kocher (USA)

13:00 How to manage MPFLR failures?
Franck Accadbled (France)

13:10 Discussion

13:25 SESSION 2: OSTEOCHONDRITIS DISSECANS

14:30 Chairs: **Nicolas Nicolau** (UK), **Jaakko Sinikumpu** (Finland)

13:25 Epidemiology, aetiology and natural history
Marco Turati (Italy)

13:35 Imaging and instability concept & criteriae
Franck Accadbled (France)

13:45 OCD of medial femoral condyle: Surgical strategies
Joao Cabral (Portugal)

13:55 OCD in lateral femoral condyle / patella / trochlea / tibial plateau: How to treat them?
Julio Duart (Spain)



PRE-MEETING COURSE : THE PAEDIATRIC KNEE. TRAUMATIC INJURIES

AUDITORIUM CARSTENSEN

13:25 SESSION 2: OSTEOCHONDRITIS DISSECANS (*cont.*)

14:30

14:05 News from the ROCK Study Group
Mininder Kocher (USA), Daniel Green (USA)

14:20 Discussion

14:30 Coffee break

15:00

15:00 SESSION 3: PEDIATRIC ACL I

16:10 Chairs: **Luca Rigamonti (USA), Marco Turati (Italy)**

15:00 Epidemiology, diagnostic process and imaging
Julio Duart (Spain)

15:10 Non operative management: How? Indications and risks
Nicolas Nicolau (UK)

15:20 Transphyseal or all-epiphyseal ACL reconstruction? The battle
Franck Accadbled (France), Nicolas Nicolau (UK)

15:30 Extraphyseal ACL reconstruction
Mininder Kocher (USA)

15:45 Quadriceps tendon autograft in skeletally ACL reconstruction
Daniel Green (USA)

16:00 Discussion

Wednesday, April 6, 2022



PRE-MEETING COURSE: THE PAEDIATRIC KNEE. TRAUMATIC INJURIES

AUDITORIUM CARSTENSEN

16:10 SESSION 4: PEDIATRIC ACL II

17:00 Chairs: **Joao Cabral** (*Portugal*), **Jaakko Sinikumpu** (*Finland*)

16:10 Is there a role of lateral tenodesis in children with ACL injuries?
Daniel Green (*USA*)

16:20 ACL tears and associated lesions in skeletally immature patients
Marco Turati (*Italy*), **Luca Rigamonti** (*USA*)

16:30 ACL Injury prevention programs in pediatric sports
Barbara Kwiatkowski (*Switzerland*)

16:40 Pediatric ACL rerupture: Risk factors and management
Mininder Kocher (*USA*)

16:50 Discussion

17:00 SESSION 5: MENISCAL INJURIES

17:50 Chairs: **Franck Accadbled** (*France*), **Martin Gottliebsen** (*Denmark*)

17:00 MRI: Anatomical and pathologic characteristics in traumatic meniscal tears
Joao Cabral (*Portugal*)

17:10 Epidemiology, aetiology and physical examination
Manoj Ramachandran (*UK*)

17:20 Surgical management of traumatic meniscal tears
Manoj Ramachandran (*UK*)

17:30 Rehabilitation, return to play and performance after ACL reconstruction
Jaakko Sinikumpu (*Finland*)

17:40 Discussion

COPENHAGEN CITY HALL

19:00 WELCOME CEREMONY

20:30



Thursday, April 7, 2022

TIVOLI CONGRESS HALL

08:00 OPENING CEREMONY
08:20

08:20 BASIC SCIENCE

09:20 Chairs: **Darko Anticevic** (*Croatia*), **Joachim Horn** (*Norway*)
Moderator: **Federico Canavese** (*France*)

08:20 Can manipulation of the mechanical environment improve regenerate
OP-001 bone healing during the consolidation phase of distraction osteogenesis?
Christopher Iobst, **Vaida Glatt**, **Anirejuoritse Bafor**, **Mikhail Samchukov**,
Alex Cherkashin, **Satbir Singh** (*USA*)

08:25 The influence of transepiphyseal implantation of Mg-Zn-Ca screws on the
OP-002 growth plate of growing sheep
Romy Marek, **Valentin Herber**, **Patrick Holweg**, **Maxim Honea**, **Annelie
Martina Weinberg** (*Austria*)

08:30 Changes in the avascular area of the meniscus using growth plate
OP-003 chondrocytes in a pig model
Ryszard Tomaszewski, **Magdalena Rost-Roszkowska** (*Poland*)

08:35 Uncovering pathways regulating chondrogenic differentiation of CHH
OP-004 fibroblasts
Alzbeta Chabronova¹, **Guus van den Akker**¹, **Mandy Meekels-Steinbusch**¹,
Franziska Friedrich², **Andy Cremers**¹, **Don Surtel**¹, **Mandy Peffers**³,
Lodewijk van Rhijn¹, **Ekkehart Lausch**², **Bernhard Zabel**², **Marjolein Caron**¹,
Tim Welting¹ (¹The Netherlands, ²Germany, ³UK)

08:40 Discussion

08:50 Anatomical variations of the lateral cutaneous femoral nerve in a
OP-005 paediatric population - an in vivo study
Line Kjeldgaard Pedersen, **Lise Larsen**, **Ole Rahbek**, **Bjarne Moeller-Madsen**
(*Denmark*)

Thursday, April 7, 2022



TIVOLI CONGRESS HALL

08:20 BASIC SCIENCE (cont.)

09:20

08:55 Systematic isolation of key parameters for estimating skeletal maturity on AP wrist radiographs
OP-006
Ryan Furdock, Lauren Huang, James Sanders, Daniel Cooperman, Raymond Liu (USA)

Thursday, April 7, 2022

09:00 Immersive VR increased the pain threshold and reduced anxiety in children
OP-007
Lucas Yang Vincents Fisker, Line Kjeldgaard Pedersen, Jan Duedal Rölfing, Alexander Juan Møller-San Pedro, Peter Ahlburg, Mette Veien, Lene Vase, Bjarne Moeller-Madsen (Denmark)

09:05 An ovine study of retrograde femoral nail removal with and without fat grafting across the open distal femoral physis
OP-008
Kouami Amakoutou, Alex Benedick, Derrick M. Knapik, Lewis Zirkle, James M. Anderson, Raymond Liu (USA)

09:10 Discussion

TIVOLI CONGRESS HALL

09:20 BEST OF LOWER LIMB DEFORMITY

10:20 Chairs: **Jaroslav Czubak (Poland), Mark Eidelman (Israel)**
Moderator: **Javier Downey (Spain)**

09:20 The long-term effect of femoral leg lengthening on muscle strength - a 10 year follow-up
OP-009
Bernhard Speth, Corina Nüesch, Petros Ismailidis, Marc Schmid, Andreas Krieg (Switzerland)

09:25 The Precice plate: An initial experience
OP-010 **Claire Shannon, Aaron Huser, Dror Paley (Poland)**



TIVOLI CONGRESS HALL

09:20 **BEST OF LOWER LIMB DEFORMITY** (*cont.*)
10:20

09:30 How balance changes during growth in pediatric patients: The role of age
OP-011 and patient anthropometry

Luca Rigamonti^{1,2}, Marco Turati², Massimiliano Piatti², Diego Gaddi², Carlo Alberto Augusti², Andrea Riganti², Marta Gandolla², Giovanni Zatti², Aaron Krych¹, Todd Milbrandt¹, Marco Bigoni² (¹USA, ²Italy)

09:35 Discussion

09:50 The utility of the modified Fels knee skeletal maturity system in limb
OP-012 length prediction

Ryan Furdock, Elizabeth Cho, Alex Benedick, Jiao Yu, Abdus Sattar, Raymond Liu (USA)

09:55 Congenital pseudarthrosis of the tibia: Rate and time to bone union
OP-013 following contralateral vascularized tibial periosteal graft transplantation in 29 cases

Francisco Soldado, Paula Diaz-Gallardo, Jorge Giménez Knorr (Spain)

10:00 Congenital posteromedial bowing of the tibia: Comparison of early and
OP-014 late lengthening

Bhushan Sagade, Naeem Jagani, Ishani Chaudhary, Milind Chaudhary (India)

10:05 Discussion

10:20 *Coffee break*
10:50



TIVOLI CONGRESS HALL

10:50 DEVELOPMENTAL DYSPLASIA OF THE HIP

12:00

Chairs: **Andreas Roposch** (UK), **Ole Rahbek** (Denmark)

Moderator: **Renata Pospischill** (Austria)

10:50 Outcomes following the management of infant immature hips in a
selective screening pathway

OP-016

Belal Darwich, **Ripak Purbe**, **Ben Marson**, **Prithviraj Hallikeri**, **Kathryn Price**
(UK)

10:55 Infants with clinical instability of hip should be seen by 2 weeks of age

OP-017

Hean Wu Kang, **Aidan Cosgrove** (Ireland)

11:00 Children's Hip Predictive Score (CHiP): A triage tool for predicting
dislocations in children referred with hip dysplasia

OP-018

Evelyn Murphy, **Catherine Howell**, **Olga Gallagher**, **Paula Kelly**, **Patrick**
O'Kelly, **Jacques Noel**, **David Moore**, **Patrick O'Toole**, **Jim Kennedy** (Ireland)

11:05 Discussion

11:25 Outcomes of treatment for developmental dislocation of the hip when the
Pavlik method has failed

OP-019

Carlos Pargas, **Karim Masrouha**, **Cordelia Carter**, **Pablo Castaneda** (USA)

11:30 Bilaterality: What influence on the prognosis of developmental hip
dysplasia?

OP-020

Cristina Alves, **André Carvalho**, **Ines Balacó**, **Pedro Sá Cardoso**, **João Cabral**,
Oliana Madeira Tarquini, **Marcos Carvalho**, **Tah Ling** (Portugal)

11:35 The clinical significance of infolded limbus on post-reduction arthrogram
in developmental dysplasia of the hip

OP-021

William Morris, **Sai Chilakapati**, **Sean Hinds**, **John Anthony Herring**, **Harry**
K.W. Kim (USA)

11:40 Brace treatment does not improve acetabular coverage or reduce the
rate of secondary surgery following closed reduction of developmental
dysplasia of the hip

OP-022

Arnav Kak, **William Morris**, **Laura Mayfield**, **Harry K.W. Kim** (USA)

11:45 Discussion



TIVOLI CONGRESS HALL

12:00 **MEET THE MENTOR**

12:50 Chairs: **Dan Cosma** (*Romania*), **Blazej Pruszczyński** (*Poland*)
Moderator: **Salih Marangoz** (*Turkey*)

Mentor: **Alain Dimeglio** (*France*)

12:50 *Lunch break*

13:50

13:50 **INDUSTRY SYMPOSIUM**

14:50 (*see page 46*)

Thursday, April 7, 2022



TIVOLI CONGRESS HALL

Thursday, April 7, 2022

14:50 HIP 1

15:40 Chairs: **Bjarne Moller-Madsen** (Denmark), **Bettina Westhoff** (Germany)
Moderator: **Jiri Chomiak** (Czech Republic)

14:50 Treatment of hip instability in children with Down syndrome: Keys to
OP-023 managing a challenging problem
Jessica Hughes, James Bomar, Dennis Wenger, Vidyadhar Upasani (USA)

14:55 The first North American hip surveillance program: Enrollment after five
OP-024 years
Stacey Miller, Jennifer Farr, Kit Johnson, Kishore Mulpuri (Canada)

15:00 Acetabular retroversion in juveniles - Mostly caused by a reduced lumbo-
OP-025 pelvic angulation
Heimkes Bernhard, Frimberger Vincent, Berger Nina, Hiener Ursula
(Germany)

15:05 Discussion

15:15 Two surgical alternatives for Perthes disease: Intertrochanteric osteotomy
OP-026 vs. trochanteric tethering
Peter Stevens, Olivia Grothaus (USA)

15:20 Publication bias in orthopedics: A study on the reporting of positive
OP-027 outcomes in Legg-Calvé-Perthes disease
Peter Filtes, Timothy Roberts, Keenan Sobol, Pablo Castaneda (USA)

15:25 Effectiveness of triple pelvic osteotomy in patients with Legg-Calve-Perthes
OP-028 disease. Results of minimum 10 years follow up
Cemalettin Aksoy, Elchin Orujov, Vugar Nabi, Guney Yilmaz, Aykut Kocyigit
(Turkey)

15:30 Discussion



TIVOLI CONGRESS HALL

15:40 **HIP 2**

16:30 Chairs: **Andrzej Grzegorzewski** (*Poland*), **Nicolas Nicolau** (*UK*)

Moderator: **Stefan Huhnstock** (*Norway*)

15:40 Femoroacetabular impingement in the unpinned contralateral hip in
OP-029 patients with primary unilateral slipped capital femoral epiphysis -
preliminary radiographic outcomes

**Magdalena Kwiatkowska, Marcin Kwiatkowski, Maria Czubak-Wrzosek,
Jaroslav Czubak, Marcin Tyrakowski** (*Poland*)

15:45 What is the AVN rate of SCFE patients with complete epi-metaphyseal
OP-032 discontinuity treated with the modified Dunn procedure?

**Kai Ziebarth, Thoralf Liebs, Nadine Kaiser, Klaus-Arno Siebenrock, Till
Lerch** (*Switzerland*)

15:50 Discussion

16:00 Is hip dysplasia associated with trochlear dysplasia in skeletally mature
OP-033 patients?

**Andrew Fithian, Ann Richey, Seth Sherman, Kevin Shea, Stephanie Pun,
Steven Frick** (*USA*)

16:05 Incidence and risk factors of heterotopic ossification in a matched cohort
OP-030 adolescent population undergoing hip arthroscopy

**Aliya Feroe, Mahad Hassan, Rachel Flaugh, Stephen Maier, Danielle Cook,
Yi-Meng Yen, Mininder Kocher** (*USA*)

16:10 Cementless ceramic-on-ceramic total hip replacement in children and
OP-031 adolescents

**Stefano Stallone, Giovanni Trisolino, Paola Zarantonello, Stefano Lucchini,
Giovanni Gallone, Barbara Bordini, Dante Dallari, Francesco Traina** (*Italy*)

16:15 Discussion

16:30 Coffee break

17:00

Thursday, April 7, 2022



TIVOLI CONGRESS HALL

17:00 SPINE 1

18:00 Chairs: **Carol Hasler** (*Switzerland*), **Dror Ovadia** (*Israel*)

Moderator: **Brice Illharreborde** (*France*)

17:00 The effect of idiopathic scoliosis on epidural use and natural delivery
OP-034 during childbirth - A matched cohort study

Jeff Kessler, Adam Kessler (*USA*)

17:05 Younger age at spinal cord detethering is potentially associated with a
OP-035 reduced risk of curve progression in children with early onset scoliosis

Rajiv Iyer, Adam Fano, Hiroko Matsumoto, Rishi Sinha, Benjamin Roye, Michael Vitale, Richard Anderson (*USA*)

17:10 Pre-operative carbohydrate drink for early recovery in pediatric spine
OP-036 fusion: Randomized control study

Jennifer Bauer, Kathryn Anderson, Eliot B. Grigg (*USA*)

17:15 Elastic lumbar support versus rigid thoracolumbar orthosis for acute
OP-037 pediatric spondylolysis. A prospective controlled study

Ella Virkki, Milja Holstila, Terhi Kolari, Markus Lastikka, Kimmo Mattila, Sari Malmi, Olli Pajulo, Ilkka Helenius (*Finland*)

17:20 Discussion

17:35 Closed suction wound drain reduces postoperative opioid consumption
OP-038 in adolescents undergoing pedicle screw instrumentation for idiopathic scoliosis. A randomized, clinical trial

Linda Helenius¹, Paul Gerdhem², Matti Ahonen¹, Jenni Jalkanen¹, Johanna Syvänen¹, Ilkka Helenius¹ (¹*Finland*, ²*Sweden*)

17:40 Upper instrumented vertebrae (UIV) selection matters: Increased risk
OP-039 of proximal junctional kyphosis when UIV is below T2 in Scheuermann's kyphosis

Adam Fano, Hiroko Matsumoto, Lisa Bonsignore-Opp, Benjamin Roye, Lawrence Lenke, Elizabeth Herman, Afrain Boby, Andrew Luzzi, Peter Newton, Baron Lonner, Michael Vitale, Harms Study Group (*USA*)

17:45 Association of the LBOX1 gene promoter methylation in deep paraspinal
OP-040 muscles of patients with idiopathic scoliosis with disease severity

Piotr Jansuz, Małgorzata Tokłowicz, Miroslaw Andrusiewicz, Malgorzata Kotwicka, Tomasz Kotwicki (*Poland*)

17:50 Discussion



TIVOLI CONGRESS HALL

18:00 **SPINE 2**

19:00 Chairs: **Rene Castelein** (*The Netherlands*), **Muharrem Yazici** (*Turkey*)

Moderator: **Ilkka Helenius** (*Finland*)

18:00 Mid- and long-term outcomes of lateral thoracotomy: Does the amount of
OP-041 lung parenchyma resection increase the risk of scoliosis? A retrospective review of 129 pediatric patients

Riccardo Sacco¹, **Damien Fron**², **Dyuti Sharma**², **Michel Bonneville**²,
Federico Canavese² (*¹Italy, ²France*)

18:05 Complication risks and costs associated with Ponte osteotomies in
OP-042 surgical treatment of adolescent idiopathic scoliosis: Insights from a national database

Mohammed Shaheen, **Jayme Koltsov**, **Samuel A. Cohen**, **Joanna Langner**,
Japsimran Kaur, **Nicole A. Segovia**, **John S. Vorhies** (*USA*)

18:10 Curve characteristics and clinical outcomes in post-sternotomy/
OP-43 thoracotomy scoliosis undergoing definitive spinal fusion

Joanna Langner, **Teeto Ezeonu**, **Abdul-Lateef Shafau**, **Japsimran Kaur**, **Kiley Poppino**, **Claire Shivers**, **Sai Chilakapati**, **Kimberly Hall**, **Meghan Imrie**,
Lawrence A. Rinsky, **Anthony Riccio**, **John S. Vorhies** (*USA*)

18:15 Discussion

18:30 Pediatric cervical spine fusions: Opportunity for improvement

OP-044 **Edward Compton**, **Stephen Stephan**, **Kenneth Illingworth**, **David Skaggs**,
Lindsay Andras, **Rachel Goldstein** (*USA*)

18:35 Do rib or spinal proximal anchors in growing rod constructs yield more
OP-045 length gain over time?

Vivian Chen¹, **David Skaggs**¹, **Edward Compton**¹, **Kenneth Illingworth**¹, **John Smith**¹, **Francisco J. Sanchez Perez-Grueso**², **Scott Luhmann**¹, **Michael Vitale**¹,
Mark Erickson¹, **Pediatric Spine Study Group**¹, **Lindsay Andras**¹, **Rachel Goldstein**¹ (*¹USA, ²Spain*)

18:40 A comparison of SRS and PROMIS questionnaires in patients presenting
OP-046 with adolescent idiopathic scoliosis

Yousi Oquendo, **Nadine Javier**, **Xochitl Bryson**, **Joanna Langner**, **Clayton Maschhoff**, **Christian Calderon**, **Ann Richey**, **John S. Vorhies** (*USA*)

18:45 Discussion



40th EPOS Annual Meeting

European Paediatric Orthopaedic Society
Copenhagen (Denmark) - April 6 – 9, 2022



TIVOLI CONGRESS HALL

19:00 WOW MEETING 20:00

19:00 Welcome and Introduction
Daniela Dibello (*Italy*), **Elke Viehweger** (*Switzerland*),
Antonio Andreacchio (*Italy*)

Thursday, April 7, 2022

19:05 Film WOW
Camila Bedeschi (*Brazil*)

19:10 Supporting and encouraging female orthopedic surgeons: Experience in UK
Deborah Eastwood (*UK*)

19:20 Experience of WOW Italy
Daniela Dibello (*Italy*)

19:30 A survey of family and changing gender roles of European pediatric orthopedists
Elke Viehweger (*Switzerland*)

19:40 Mentorship, equity and inclusion programs: North America experience
Jennifer Bauer (*USA*), **Maryse Bouchard** (*Canada*), **Jamie Rice Denning** (*USA*)

19:55 Inauguration WOW Europe

AUDITORIUM CARSTENSEN

13:50 INDUSTRY SYMPOSIUM 14:50 (*see page 46*)



AUDITORIUM CARSTENSEN

14:50 SPORTS 1

15:40 Chairs: **Nick Sekouris** (*Greece*), **Marco Turati** (*Italy*)

Moderator: **Jaakko Sinikumpu** (*Finland*)

14:50 Long-term minimum 15-year follow-up after lateral discoid meniscal
OP-047 preservation surgery in children and adolescents

Laura Lins, Aliya Feroe, Brian Yang, Kathryn Williams, Sophia Kocher, Lyle Micheli, Mininder Kocher (*USA*)

14:55 Meniscus tears in pediatric patients with ACL injury: Incidence,
OP-048 management, and outcome

Luca Rigamonti^{1,2}, **Nathaniel A. Bates**¹, **Nathan D. Schilaty**¹, **Bruce Levy**¹,
Michael Stuart¹, **Marco Bigoni**², **Todd Milbrandt**¹, **Aaron Krych**¹ (¹*USA*, ²*Italy*)

15:00 Delays in anterior cruciate ligament reconstruction are associated with
OP-049 higher rates of meniscus and chondral pathology in skeletally immature patients

Andrew Pennock, Matthew Milewski, Lauren Hutchinson, Patricia Miller, Mininder Kocher (*USA*)

15:05 Quadriceps tendon anterior cruciate ligament reconstruction in skeletally
OP-050 immature patients: Clinical and patient reported outcomes

Sofia Hidalgo Perea, Danielle E. Chipman, Frank Cordasco, Daniel Green (*USA*)

15:10 Discussion

15:20 Does harvesting of the semi tendinous tendon really spare the gracilis
OP-051 tendon in pediatric ACL reconstruction?

Testory Maxime, Cavaignac Etienne, Jérôme Sales de Gauzy, Franck Accabbled (*France*)

15:25 Decrease in lateral femoral notch sign depth following ACL reconstruction
OP-052 in pediatric patients

Nicolas Pascual-Leone, Danielle E. Chipman, Daniel Green (*USA*)

15:30 Pediatric partial ACL tears: Outcomes and management practices

OP-053 **Megan Hannon, Nicholas Sullivan, Emily Chang, Patricia Miller, Melissa Christino, William Meehan** (*USA*)

15:35 Discussion

Thursday, April 7, 2022



AUDITORIUM CARSTENSEN

15:40 SPORTS 2

16:30 Chairs: **Catharina Chiari** (*Austria*), **Franck Accadbled** (*France*)

Moderator: **Julio Duarte** (*Spain*)

15:40 Return to preinjury level of sports and the quality of life after tibial spine
OP-054 avulsion fracture with at least 2 years of follow-up

Maija Jääskelä¹, **Marco Turati**^{2,3}, **Lasse Lempainen**¹, **Antoine Henri**², **Aurelien Courvoisier**^{2,3}, **Nicolas Bremond**^{2,3}, **Franck Accadbled**¹, **Jaakko Sinikumpu**¹
(¹*Finland*, ²*France*, ³*Italy*)

15:45 Growth physis sparing medial patellofemoral ligament reconstruction in
OP-055 children with open physes

Thomas Kappe, **Janina Leiprecht**, **Thomas Caffard**, **Heiko Reichel** (*Germany*)

15:50 Incidence of 2nd surgery after medial patellofemoral ligament
OP-056 reconstruction with osteochondral fracture fixation in pediatric patients
after patella dislocation

Alexandra Aitchison, **Sofia Hidalgo Perea**, **Lindsay Schlichte**, **Daniel Green**
(*USA*)

15:55 Discussion

16:05 Technique variation for MPFL reconstruction in skeletally immature
OP-057 patients: Data from the JUPITER cohort

Benton Heyworth, **Sofia Hidalgo Perea**, **Daniel Green**, **Matthew Veerkamp**,
Eric Wall, **Philip Wilson**, **Beth Shubin Stein**, **Shital Parikh** (*USA*)

16:10 Cartilage repair in the skeletally immature knee: A comparative study of
OP-059 different surgical techniques

Ioannes Melas, **Dimitrios Metaxiotis**, **Michael Iosifidis** (*Greece*)

16:15 Infrapatellar realignment for patellar subluxation in the skeletally
OP-060 immature child

John Handelsman, **William Facibene** (*USA*)

16:20 Discussion

16:30 Coffee break

17:00



AUDITORIUM CARSTENSEN

17:00 CLUBFOOT

18:00 Chairs: **Alain Dimeglio** (*France*), **Adhiambo Witlox** (*The Netherlands*)

Moderator: **Julia Funk** (*UK*)

17:00 Gait analysis characteristics in clubfoot relapse

OP-061 **Rachel Goldstein**, **Melissa Bent**, **Maia Hauschild**, **Adriana Conrad-Forrest**, **Susan Rethlefsen**, **Tishya Wren**, **Bob Kay** (*USA*)

17:05 Weight-bearing computed tomography of the foot and ankle in the pediatric population

OP-062 **Derek Kelly**, **Hayden Holbrook**, **Alexander Bowers**, **Karim Mahmoud**, **Benjamin Sheffer** (*USA*)

17:10 The outcomes of congenital talipes equinovarus: A core outcome set for research and treatment

OP-063 **Yael Gelfer**, **Donato Giuseppe Leo**, **Aisling Russell**, **Daniel Perry**, **Anna Bridgens**, **Deborah Eastwood** (*UK*)

17:15 Obesity increases risk for surgical site infections and wound dehiscence after pediatric foot surgery: A retrospective cohort review using the NSQIP-pediatric database

OP-064 **Farzam Farahani**, **Joel Rodriguez**, **Dane Wukich**, **Jacob Zide**, **Anthony Riccio** (*USA*)

17:20 Discussion

17:30 Incidence and outcomes of leg length discrepancy in patients with idiopathic clubfoot deformity

OP-065 **Maryse Bouchard**¹, **Abdullah Addar**^{1,2} (¹*Canada*, ²*Saudi Arabia*)

17:35 Sport ability during walking age in children with clubfeet treated with Ponseti method: A case series

OP-066 **Gianluca Testa**, **Andrea Vescio**, **Alessia Caldaci**, **Marco Sapienza**, **Annalisa Culmone**, **Vito Pavone** (*Italy*)

17:40 The impact of socio-economic factors on drop-out, relapse and non-compliance during Ponseti treatment in low- and middle-income countries: A scoping review

OP-067 **Manon Pigeolet**^{1,2}, **Anchelo Vital**¹, **Hassan Ali Daoud**¹, **Carol Mita**¹, **Blake Alkire**¹, **Daniel Corlew**¹ (¹*USA*, ²*Belgium*)



AUDITORIUM CARSTENSEN

17:00 CLUBFOOT (cont.) 18:00

17:45 Anterior distal epiphysiodesis as treatment of recurrent equinus deformity in Ponseti treated clubfoot patients

OP-068

Arnold Besselaar¹, Isabelle van Tilburg¹, Tessa van de Kerkhof¹, Benedicte Vanwanseele^{1,2}, Lianne Grin^{1,2}, Saskia Wijnands^{1,2}, Marieke van der Steen¹
(¹The Netherlands, ²Belgium)

17:50 Discussion

AUDITORIUM CARSTENSEN

18:00 FOOT & CONGENITAL

19:00 Chairs: **Camilla Bettuzzi (Italy), Ismat Ghanem (Lebanon)**
Moderator: **Vladimir Kenis (Russian Federation)**

18:00 Resection of calcaneo navicular coalition: Arthroscopy or open approach?
OP-069 **Corin Boris, Jérôme Sales de Gauzy, Franck Accadbled (France)**

18:05 Functional results of surgical treatment of tarsal coalitions: Arthroscopic resection versus open resection

OP-070

João Cabral, André Carvalho, Ines Balacó, Marcos Carvalho, Oliana Madeira Tarquini, Pedro Sá Cardoso, Tah Ling, Cristina Alves (Portugal)

18:10 Discussion

18:25 Health related quality of life in achondroplastic patients after global limb lengthening surgery

OP-071

Ignacio Ginebreda-Martí¹, Maximiliano Ibañez¹, Nicole Canu¹, Carolina Echavarría¹, Jordi Tapiolas-Badiella¹, Gianni Amato² (¹Spain, ²USA)

18:30 The fate of bent telescopic rods in children with osteogenesis imperfecta: Do all bent rods need to be revised?

OP-072

David Fralinger, Denver Burton, Kenneth Rogers, Richard Kruse, Jeanne Franzone, Mihr Thacker (USA)

18:35 What are the factors predisposing to failure of Fassier-Duval rodding in children with osteogenesis imperfecta?

OP-073

Bartosz Musielak, Łukasz Woźniak, Jerzy Sułko, Artur Oberc, Marek Jozwiak (Poland)

18:40 Discussion



HARLEKIN & COLUMBINE

13:50 **INDUSTRY SYMPOSIUM**

14:50 (see page 47)

14:50 **NEUROMUSCULAR 1**

15:40 Chairs: **Thomas Dreher** (Germany), **Ana Presedo** (France)

Moderator: **Christian Wong** (Denmark)

14:50 Development of hip displacement in children with cerebral palsy:

OP-074 A longitudinal register study of 1045 children

Philippe Wagner, Gunnar Hägglund (Sweden)

14:55 Hip development after surgery to prevent hip dislocation in children with cerebral palsy: A longitudinal register study of 252 children

OP-075

Philippe Wagner, Gunnar Hägglund (Sweden)

15:00 The incidence of AVN after hip containment surgery in children with cerebral palsy

OP-076

Jeremy Bauer, Ellen Raney, Dennis Roy (USA)

15:05 Discussion

15:15 Practice variation and factors influencing indications for interventions for hip displacement in non-ambulant children with cerebral palsy

OP-077

Max Mifsud, Unni G. Narayanan, U. Givon, K. Graham, Marek Jozwiak, Kishore Mulpuri, Benjamin Shore, T. Theologis, W. Schrader, The CHOP Research Group (Canada)

15:20 Progression of hip displacement after triradiate cartilage closure in non-ambulatory cerebral palsy (CP): Who needs continued radiographic surveillance?

OP-078

Ali Asma, Armagan Can Ulusaloglu, Michael W. Shrader, Kenneth Rogers, Freeman Miller, Jason Howard (USA)

15:25 Femoral head deformity associated with hip displacement in cerebral palsy: Results at skeletal maturity

OP-079

Armagan Can Ulusaloglu, Ali Asma, Michael W. Shrader, Kenneth Rogers, Freeman Miller, Jason Howard (USA)

15:30 Discussion



HARLEKIN & COLUMBINE

15:40 NEUROMUSCULAR 2

16:30 Chairs: **Ignacio Martínez-Caballero** (Spain), **Elke Viehweger** (Switzerland)
Moderator: **Uri Givon** (Israel)

15:40 Observational gait analysis in children with cerebral palsy using the
OP-080 Edinburgh Visual Gait Score (EVGS) and smartphone-based slow-motion
video technology: A pilot study
Bhushan Sagade, **Alaric Aroojis**, **Suresh Chand** (India)

15:45 Patients GMFCS III are more susceptible to gait deterioration after single-
OP-081 event multilevel surgery in cerebral palsy
Mauro César de Morais Filho, **Marcelo Fujino**, **Francesco Blumetti**, **Cátia Kawamura**, **José Augusto Lopes** (Brazil)

15:50 Patients and parents' satisfaction and self-reported evaluation after
OP-082 single-event multilevel surgery in cerebral palsy
Mauro César de Morais Filho, **Francesco Blumetti**, **Marcelo Fujino**, **Daniela Maury Benavides**, **Cátia Kawamura**, **José Augusto Lopes** (Brazil)

15:55 Discussion

16:05 Relation of the sural nerve and medial neurovascular bundle with the
OP-083 Achilles tendon in children with cerebral palsy treated by percutaneous
Achilles lengthening
Ozan Ali Erdağ, **Baris Gorgun**, **Necip Selcuk Yontar**, **Ali Ege Terzibasoglu**,
Ilker Abdullah Sarikaya, **Muharrem Inan** (Turkey)

16:10 Anterior distal femoral hemiepiphyodesis in children with fixed knee
OP-085 flexion deformities: Where should the screws go?
Akshay Seth¹, **Patricia Miller**², **Colyn Watkins**², **Benjamin Shore**² (¹Canada, ²USA)

16:15 Early versus late scoliosis correction in Duchenne muscular dystrophy
OP-086 (DMD): Comparison of post-operative outcomes in the steroid era
Ali Asma, **Armagan Can Ulusaloglu**, **Michael W. Shrader**, **William Mackenzie**,
Robert Heinle, **Mena Scavina**, **Jason Howard** (USA)

16:20 Discussion

16:30 Coffee break

17:00

Thursday, April 7, 2022



HARLEKIN & COLUMBINE

17:00 TRAUMA 1

18:00 Chairs: **Pierre Journeau** (*France*), **Thomas Wirth** (*Germany*)

Moderator: **Luis Moraleda** (*Spain*)

17:00 Development of a core outcome set for childhood limb fractures

OP-088 **Ben Marson**, **Joseph Manning**, **Marilyn James**, **Simon Craxford**, **Sandeep Deshmukh**, **Daniel Perry**, **Benjamin Ollivere** (*UK*)

17:05 Casting, elastic intramedullary nailing, or external fixation for pediatric
OP-089 tibia shaft fracture: Which is the most appropriate treatment?
A multicenter study

Lorenza Marengo, **Enrietti Emilio**, **Melissa Piccinino**, **Luca Ceroni**, **Silvio Boero**, **Daniela Dibello** (*Italy*)

17:10 Virtual fracture clinic pathway for paediatric fractures: A prospective
OP-090 evaluation of 10,000 patients

Flavia Alberghina, **Paula Kelly**, **Jacques Noel**, **Carol Blackburn**, **Turlough Bolger**, **Patrick Kiely**, **Jim Kennedy**, **David Moore**, **Patrick O'Toole** (*Ireland*)

17:15 Discussion

17:30 Medial epicondyle fractures in children: Operative versus non-operative
OP-091 treatment

Emily Chang, **Patricia Miller**, **Evan Stieler**, **Benjamin Shore**, **Carley Vuillermin**, **Collin May** (*USA*)

17:35 Operative treatment of supracondylar humerus fractures - do we practice
OP-092 what we preach?

Morten Jon Andersen (*Denmark*)

17:40 What percent of pediatric femur fractures result from non-accidental
OP-093 trauma?

Hanna Omar, **Natalya Sarkisova**, **Christopher Lee**, **Rachel Goldstein** (*USA*)

17:45 Discussion

Thursday, April 7, 2022



HARLEKIN & COLUMBINE

18:00 TRAUMA 2

19:00 Chairs: **Manuel Cassiano** (*Portugal*), **Pierre Lascombes** (*Switzerland*)

Moderator: **Vito Pavone** (*Italy*)

18:00 Pediatric phalanx fractures: A retrospective study and review of the literature
OP-094 **Stéphanie Schizas**, **Nicolas Lutz**, **Elif Vardar**, **Sophie Mercakert**, **Pierre-Yves Zambelli**, **Eri Samara** (*Switzerland*)

18:05 Anesthesia and secondary interventions can be avoided by casting
OP-095 overriding distal metaphyseal radius fractures in children under 11 without reduction in emergency department

Topi Laaksonen¹, **Nicolas Nietosvaara**¹, **Jani Puhakka**², **Antti Stenroos**¹, **Yrjänä Nietosvaara**¹, **Jussi Kosola**¹ (¹*Finland*, ²*Switzerland*)

18:10 Seymour fractures. Better do not underestimate it
OP-096 **Laura M. Perez-Lopez**, **Isabel Parada-Avenidaño**, **Melisa Stitzman**, **Maria Luisa Cabrera**, **Cesar Galo Garcia Fontecha** (*Spain*)

18:15 Epidemiology of pediatric pelvic fractures registered in the Swedish
OP-097 Fracture Register
Yasmin Hailer, **Lisa Larsson**, **Olof Wolf** (*Sweden*)

18:20 Discussion

18:35 Predictors of healing in paediatric tibial fractures using the RUST score:
OP-098 A 12 year retrospective review
Antony Roy, **Pranai Buddhdev** (*UK*)

18:40 Comparison between two protocols of procedural sedation and analgesia
OP-099 in the treatment of pediatric both-bone forearm fractures
Joaquín Núñez De Armas, **Luis Moraleda Novo**, **Gaspar González Morán**, **Enrique Gil Garay** (*Spain*)

18:45 Displaced tibial shaft fractures in children: Method of treatment in
OP-100 children weighing 50 kg or more
Dorota Hanf-Osetek, **Paweł Bilski**, **Dawid Łabadz**, **Sławomir Snela** (*Poland*)

18:50 Discussion



Friday, April 8, 2022

TIVOLI CONGRESS HALL

08:30 BEST OF TRAUMA

09:30 Chairs: **Yrjana Nietosvaara** (Finland), **Marcell Varga** (Hungary)

Moderator: **Annelie Weinberg** (Germany)

08:30 The use of clinical photographs and patient reported outcome
OP-101 questionnaire as a tool to predict functional outcome in supracondylar humeral fractures treated operatively

Marie-Caroline Nogaro, Senol Bekmez, Mark Camp, Unni Narayanan
(Canada)

08:35 Intramedullary fixation for pediatric femoral nonunion in low- and
OP-102 middle-income countries

Ryan Furdock, Lauren Huang, George Ochenjele, Lewis Zirkle, Raymond Liu
(USA)

08:40 Outcomes of suture-button versus screw fixation for pediatric and
OP-103 adolescent syndesmosis injuries

Emily Chang, Blair Stewig, Amy Steele, Patricia Miller, Dennis Kramer, Yi-Meng Yen, Benjamin Shore, Collin May (USA)

08:45 Discussion

09:00 Diaphyseal forearm fractures treated by bioabsorbable intramedullary
OP-104 nailing. Challenges to use the nailing technique

Gergő Józsa¹, Annelie Martina Weinberg², Nicolas Lutz³, Morten Jon Andersen⁴, Erich Rutz⁵, Marcell Varga¹ (¹Hungary, ²Austria, ³Switzerland, ⁴Denmark, ⁵Australia, ⁶Hungary)

09:05 Is the X-ray control 4 weeks after ESIN osteosynthesis of forearm fractures
OP-105 an indispensable standard or can it be spared?

Sven-Oliver Dietz, Nora Laubach, Martin Schwind, Pol Rommens (Germany)

09:10 Complications in elective removal of bone lengthening nails: A report of
OP-106 225 patients

Markus Winther Frost¹, Ole Rahbek¹, Søren Kold¹, Anirejuoritse Bafor², Molly Duncan², Christopher Iobst² (¹Denmark, ²USA)

09:15 Discussion

Friday, April 8, 2022



TIVOLI CONGRESS HALL

09:30 BEST OF HIP & NEUROMUSCULAR

10:30 Chairs: **Deborah Eastwood** (UK), **Hakan Omeroglu** (Turkey)

Moderator: **Cristina Alves** (Portugal)

09:30 How much remodelling can we expect after fixation in situ of SCFE?
OP-107 A multicentric study of the German Speaking Paediatric Orthopaedic Society

Fritz Hefti¹, **Danimir Cerkez²**, **Katharina Burger³**, **Bjoern Vogt¹**, **Bernd Bittersohl¹**, **Kiril Mladenov¹**, **Kerstin Remmel¹** (¹Switzerland, ²Germany, ³Austria)

09:35 Prospective evaluation of in situ screw fixation for slipped capital femoral epiphysis

OP-108

Clarabelle DeVries, **Raghav Badrinath**, **Samuel Baird**, **James Bomar**, **Vidyardhar Upasani** (USA)

09:40 Comparison of acetabular morphology changes after pediatric pelvic osteotomies using patient-specific 3-D models

OP-109

Samuel Baird, **Jason Caffrey**, **James Bomar**, **Christine Farnsworth**, **Vidyardhar Upasani** (USA)

09:45 Clinical and kinematic outcomes after femoral rotational osteotomy

OP-110

Jeremy Bauer¹, **Patrick Do¹**, **Jehan Hamid²** (USA)

09:50 Discussion

10:05 Proximal femoral screw hemiepiphysiodesis can alter the growth of the proximal femur in children with cerebral palsy

OP-111

James McCarthy, **Allyson Zakrzewski**, **Jacob Carl** (USA)

10:10 Morbidity of the Dega pelvic osteotomy after triradiate closure in patients with cerebral palsy. A comparative study

OP-112

Thomas Krausse, **Brice Iharreborde**, **Cindy Mallet**, **Jason Chinnappa**, **Florence Julien-Marsollier**, **Ana Presedo**, **Anne-Laure Simon** (France)

10:15 Discussion

10:30 Coffee break

11:00



HARLEKIN & COLUMBINE

11:00 GENERAL ASSEMBLY
13:00

13:00 Lunch break
14:00

TIVOLI CONGRESS HALL

15:00 LOWER LIMB DEFORMITY
16:00 Chairs: **Christof Radler** (Austria), **Salih Marangoz** (Turkey)
Moderator: **Robert Elbaum** (Belgium)

15:00 Radiographs of 366 removed internal lengthening nails reveal differences
OP-113 in bone abnormalities between different nail types: Fitbone, Precice and Stryde
Christopher Iobst¹, Markus Winther Frost², Søren Kold², Ole Rahbek², Anirejuoritse Bafor¹, Molly Duncan¹, Jan Duedal Rølving² (¹USA, ²Denmark)

15:05 Two-stage lengthening with reuse of a single intramedullary telescopic
OP-114 nail in patients with achondroplasia
Javier Alonso, María Galán-Olleros, Carlos Miranda, Rosa M. Egea-Gámez, Ignacio Martínez-Caballero, Angel Palazon Quevedo (Spain)

15:10 3D printed cutting guides for lower limb deformity correction in the young
OP-115 population
Roy Gigi, Yair Gortzak, Eran Golden, Ronnie Gabay, Netta Rumack, Moshe Yaniv, Solomon Dadia, Eitan Segev (Israel)

15:15 Discussion

15:30 Lower limb lengthenings for congenital and acquired deficiencies using
OP-116 external fixation combined with flexible intramedullary nailing: A multicenter EPOS study
Dmitry Popkov¹, Szymon Pietrzak², Alexandre Antonov¹, Tomasz Parol², Mikan Lazovic³, David Podeszwa⁴, Arnold Popkov¹ (¹Russian Federation, ²Poland, ³Serbia, ⁴USA)



TIVOLI CONGRESS HALL

15:00 LOWER LIMB DEFORMITY (cont.)

16:00

15:35 Longterm follow up of retrograde femoral approach in lengthening: Is there
OP-118 an impact for the knee?

**Andreas Krieg, Chao Dong, Schmid Marc, Harder Dorothee, Donners
Ricardo** (Switzerland)

15:40 Discussion

16:00 Coffee break

16:30

TIVOLI CONGRESS HALL

16:30 STUDY GROUP NEUROMUSCULAR

17:30 FREE PAPERS

Chairs: **Reinald Brunner** (Switzerland), **Ana Presedo** (France)

16:30 Concurrent hip dysplasia and scoliosis in children with cerebral palsy:
SG-01 Should we fix the hip or spine first?

**Michael W. Shrader, Ali Asma, Armagan Can Ulusaloglu, Kenneth Rogers,
Freeman Miller, Jason Howard, Mutlu Cobanoglu, Suken Shah** (USA)

16:35 Kinematic parameters may differentiate between idiopathic and
SG-02 neurologic toe-walking

Martin Svehlik, Andreas Habersack, Tanja Kraus, Stefan Fischerauer
(Austria)

16:40 Somatosensory profiles in children and adolescents with cerebral palsy

SG-03

**Johanne Villars Jørgensen, Mads U. Werner, Josephine S. Michelsen,
Christian Wong** (Denmark)

16:45 The importance of restoring a heel-toe gait pattern in patients with
SG-04 unilateral spastic cerebral palsy: The correlation between femoral
anteversion and asymmetrical hip internal rotation

**Michèle Kläusler, Enrico De Pieri, Rosa Visscher, Elke Viehweger, Reinald
Brunner** (Switzerland)

16:50 Discussion



TIVOLI CONGRESS HALL

17:30 **STUDY GROUP TRAUMA**

18:30 **CURRENT CHALLENGES IN THE MANAGEMENT OF DIAPHYSEAL FOREARM FRACTURES**

Chairs: **Nicolas Lutz** (*Switzerland*), **Melinda Witbreuk** (*The Netherlands*)

17:30 Avoiding the complications of orthopedic treatment or nailing

SG-05 **Virginie Rampal** (*France*)

17:40 Management of refractures

SG-06 **Dirk Sommerfeldt** (*Germany*)

17:50 Current trends in the choice of material and bones to nails

SG-07 **Morten Jon Andersen** (*Denmark*)

18:00 Clinical experience with resorbable nails

SG-08 **Louise Klingenberg** (*Denmark*)

18:10 Discussion

AUDITORIUM CARSTENSEN

14:00 **INDUSTRY SYMPOSIUM**

15:00 (*see page 48*)

15:00 **UPPER LIMB**

16:00 Chairs: **Nunzio Catena** (*Italy*), **Sebastian Farr** (*Austria*)

Moderator: **Sergio Martinez** (*Spain*)

15:00 Vascularized palmar intermetacarpal flap for skin graftless syndactyly

OP-119 release: Anatomical study and report of 41 cases

Francisco Soldado, **Paula Diaz-Gallardo**, **Jorge Giménez Knorr** (*Spain*)

15:05 Does older age and glenoid dysplasia affect outcome of soft tissue release

OP-121 and tendon transfer in shoulders with brachial plexus birth palsy?

Gholamhossain Shahcheraghi, **Mahzad Javid** (*Iran*)

15:10 Estimating skeletal maturity using wrist radiographs during pre-

OP-122 adolescence: The epiphyseal:metaphyseal ratio

Lauren Huang, **Raymond Liu**, **Ryan Furdock**, **Naveen Uli** (*USA*)

15:15 Discussion



AUDITORIUM CARSTENSEN

15:00 UPPER LIMB (cont.) 16:00

15:35 Carpal tunnel syndrome and finger deformities in children with
OP-123 mucopolysaccharidoses and mucopolipidoses: A retrospective review of 52 cases
Clément Thirache, Mathilde Gaume, Cyril Gitiaux, Arielle Salon, Caroline Dana, Stéphanie Pannier (France)

15:40 Transposition of distal part of pectoralis major to biceps brachii in
OP-124 children with arthrogryposis
Olga Agranovich, Petrova Ekaterina, Sergey Batkin (Russian Federation)

15:45 Radial club hand treated by ulnarization generation 3: The new centralization
OP-125 **Jaroslaw Deszczynski, Tomasz Albrewczyński, Claire Shannon, Dror Paley (USA)**

15:50 Discussion

16:00 Coffee break
16:30

AUDITORIUM CARSTENSEN

16:30 **STUDY GROUP UPPER LIMB**
17:30 **WHICH HAND PATHOLOGIES SHOULD A PEDIATRIC ORTHOPEDIC SURGEON KNOW?**
Chairs: **Nunzio Catena (Italy), Sebastian Farr (Austria)**

16:30 Trigger thumb
SG-09 **Marcos Carvalho (Portugal)**

16:39 Ganglion cysts
SG-10 **Sebastian Farr (Austria)**

16:48 Polydactyly
SG-11 **Sergio Martínez (Spain)**

16:57 Thumb hypoplasia/absence
SG-12 **Nunzio Catena (Italy)**

17:06 Syndactyly
SG-13 **Francisco Soldado (Spain)**

17:15 Discussion



AUDITORIUM CARSTENSEN

17:30 **STUDY GROUP SPINE**

18:30 **LATE COMPLICATIONS IN PEDIATRIC SPINAL DEFORMITY SURGERY**

Chairs: **Moyo Kruyt** (*The Netherlands*), **Jorge Mineiro** (*Portugal*)

17:30 Introduction

SG-14 **Brice Ilharreborde** (*France*)

17:35 Delayed infection

SG-15 **Brice Ilharreborde** (*France*), **Sebastian Pesenti** (*France*)

17:45 Neurological

SG-16 **René Castelein** (*The Netherlands*)

17:55 Implant related

SG-17 **Ilkka Helenius** (*Finland*), **Muharrem Yazici** (*Turkey*)

18:05 Deformity related

SG-18 **Dror Ovadia** (*Israel*)

18:15 Conclusion and take away messages

SG-19 **Brice Ilharreborde** (*France*)

HARLEKIN & COLUMBINE

14:00 **INDUSTRY SYMPOSIUM**

15:00 (*see page 48*)

15:00 **TUMOURS & MISCELLANEOUS**

16:00 Chairs: **Marta Salom** (*Spain*), **Bartu Sarisozen** (*Turkey*)

Moderator: **Bartek Kowalczyk** (*Poland*)

15:00 Treatment of aneurysmal bone cysts in the proximal femur in 85 children and adolescents: Retrospective multi-center analysis

OP-126 **Lizz van der Heijden**¹, **Thom van Geloven**¹, **Dietmar Dammerer**², **Masood Umer**³, **Kevin Doering**², **C. Soto-Montaya**⁴, **Mohamed Mesregah**⁵, **Philipp Scheider**², **Valentino Coppa**⁶, **Tanja Kraus**², **M. Haara**⁷, **Giovanni Beltrami**², **Minna Laitinen**⁷, **Domenico Campanacci**⁶, **Pieter-Bas de Witte**¹, **Michiel van de Sande**¹ (*The Netherlands*, ²*Austria*, ³*Pakistan*, ⁴*Colombia*, ⁵*Egypt*, ⁶*Italy*, ⁷*Finland*)

15:05 Efficacy and safety of tranexamic acid in resection and endoprosthetic reconstruction of distal femoral osteosarcomas in children: A retrospective cohort study

OP-127 **Bulent Erol**, **Omer Sofulu**, **Ozer Ozturk**, **Murat Polat**, **Omer Buyuktopcu**, **Mehmet Deniz Kesimer** (*Turkey*)



HARLEKIN & COLUMBINE

15:00 TUMOURS & MISCELLANEOUS (cont.)

16:00

15:10 Treatment of unicameral bone cysts in the proximal femur in 89 children and adolescents: Retrospective multi-center study

OP-128

Thom van Geloven¹, Lizz van der Heijden¹, Dietmar Dammerer², Masood Umer³, Kevin Doering², C Soto-Montaya⁴, I. Badr⁵, Philipp Scheider², Tanja Kraus², M. Haara⁶, Giovanni Beltrami⁷, Minna Laitinen⁶, Domenico Campanacci⁷, Pieter-Bas de Witte¹, Michiel van de Sande¹ (*The Netherlands, ²Austria, ³Pakistan, ⁴Colombia, ⁵Egypt, ⁶Finland, ⁷Italy*)

15:15 Treatment outcomes of monostotic fibrous dysplasia in the proximal femur in 47 children and adolescents: Retrospective multi-center cohort study

OP-129

Thom van Geloven¹, Maartje Meier¹, Dietmar Dammerer², Masood Umer³, Kevin Doering², C. Soto-Montaya⁴, I. Badr⁵, Philipp Scheider², Tanja Kraus², M. Haara⁶, Giovanni Beltrami⁷, Minna Laitinen⁶, Domenico Campanacci⁷, Pieter-Bas de Witte¹, Michiel van de Sande¹ (*The Netherlands, ²Austria, ³Pakistan, ⁴Colombia, ⁵Egypt, ⁶Finland, ⁷Italy*)

15:20 Discussion

15:35 Can Virtual reality headsets be used safely as a distraction method for paediatric orthopaedic patients? A feasibility study

OP-130

Karen Shepherd, Yogita Shanmugaraj, Obada Kattan, Michail Kokkinakis (*UK*)

15:40 Asymmetric growth after percutaneous epiphysiodesis

OP-131

Hannah Weinmayer, Anne Breen, Harald Steen, Joachim Horn (*Norway*)

15:45 Use of resorbable magnesium screws in children: Systematic review of the literature and short-term follow-up from our series

OP-132

Danya Falcioni, Valentina Maestri, Valentino Coppa, Antonio Pompilio Gigante (*Italy*)

15:50 Discussion

16:00 Coffee break

16:30



HARLEKIN & COLUMBINE

16:30 STUDY GROUP TUMOUR

17:30 Chairs: **Bartu Sarisozen** (*Turkey*), **Michiel van de Sande** (*The Netherlands*)

16:30 Pyomyositis
SG-20 **Marta Salom** (*Spain*)

16:39 Chronic recurrent multifocal osteomyelitis
SG-21 **Bartek Kowalczyk** (*Poland*)

16:48 Vertebral infections
SG-22 **Ilkka Helenius** (*Finland*)

16:57 Treatment of postoperative and implant related infections
SG-23 **Deborah Eastwood** (*UK*)

17:06 Septic arthritis 2022
SG-24 **Dimitri Ceroni** (*Switzerland*)

17:14 Discussion

HARLEKIN & COLUMBINE

17:30 STUDY GROUP METABOLICS

18:30 Experts: **Deborah Eastwood** (*UK*), **Joachim Horn** (*Norway*)
Ralph Sakkers (*The Netherlands*), **Thomas Wirth** (*Germany*)

17:30 X-linked hypophosphatemic rickets: My best case & my worst case
SG-25 **Gabriel Mindler** (*Austria*)

17:45 Osteogenesis imperfecta: My best case & my worst case
SG-26 **Muharrem Inan** (*Turkey*)

18:00 Spondyloepiphyseal dysplasia: My best case & my worst case
SG-27 **Darko Anticevic** (*Croatia*)

18:15 Larsen syndrome: My best case & my worst case
SG-28 **Valdimir Kenis** (*Russian Federation*)



Saturday, April 9, 2022

TIVOLI CONGRESS HALL

08:00 BEST OF THE BEST

09:00 Chairs: **Antonio Andreacchio** (*Italy*), **Steven Frick** (*USA*)

Moderator: **David M. Farrington** (*Spain*)

08:00 Development of the LIMB-Q Kids: A new patient reported outcome
OP-133 measure for children with lower limb deformities

Harpreet Chhina, **Anne Klassen**, **Jacek Kopec**, **Anthony Cooper** (*Canada*)

08:05 Persistently raised titanium levels in children after spinal instrumentation

OP-134 **Peter John Cundy**, **Brian Freeman**, **Georgia Antoniou**, **William Cundy**
(*Australia*)

08:10 The effect of knee height asymmetry on gait biomechanics

OP-135 **Haluk Altioik**, **Jeremy Bauer**, **Jacqueline C. Simon**, **Abdal Kawaiah**, **Robert Burnham**, **Cathleen Buckon**, **Susan Sienko**, **Ann Flanagan**, **Karen Kruger**, **Joseph Krzak** (*USA*)

08:15 Discussion

08:30 Patient-reported outcomes of over 900 adults who had childhood
OP-136 Legg-Calve-Perthes disease (LCPD)

Harry K.W. Kim, **Molly McGuire**, **Roi Armakias**, **Michael Millis**, **Bella Vakulenko-Lagun** (*USA*)

08:35 Operative treatment of distal tibial epiphyseal fractures with
OP-137 bioabsorbable screws - nine years of experience

Marcell Varga, **Tamás Kassai**, **Gergő Józsa** (*Hungary*)

08:40 Short bioresorbable intramedullary nailing of severely displaced distal
OP-138 forearm fractures in children - an alternative to K-wires

Marcell Varga, **Gergő Józsa**, **Zsófia Krupa**, **Tamás Kassai** (*Hungary*)

08:45 Discussion



TIVOLI CONGRESS HALL

09:00 BEST E-POSTERS

10:00 Chairs: **Ignacio Sanpera** (*Spain*), **Jeff Sawyer** (*USA*)

Moderator: **Martin Gottliebsen** (*Denmark*)

09:00 Demographic and clinical characteristics of patellar instability
EP-50 patients from prospective JUPITER (Justifying Patellar Instability
Treatment by Early Results) cohort

**Meghan Bishop, Jacqueline Brady, Simone Gruber, Matthew Veerkamp,
Joseph Nguyen, Benton Heyworth, Marc Tompkins, Daniel Green, Eric Wall,
JUPITER Study Group, Beth Shubin Stein, Shital Parikh** (*USA*)

09:03 Displaced midshaft clavicle fractures treated with ORIF vs non-op:
EP-82 Equivalent strength, endurance, and kinematics

**Clare Kehoe, Roger Widmann, Nicolas Pascual-Leone, David Scher, Emily
Dodwell** (*USA*)

09:06 Treatment of recurrent patellar dislocation in children and adolescents
EP-59 with medial patellofemoral ligament reconstruction - pediatric technique
**João Cabral, Ines Balacó, Marcos Carvalho, Oliana Madeira Tarquini, Pedro
Sã Cardoso, Tah Ling, Cristina Alves** (*Portugal*)

09:09 Appropriate surgical timing of Salter innominate osteotomy for acetabular
EP-07 dysplasia in children

**Kenta Sawamura, Hiroshi Kitoh, Hiroshi Kaneko, Akiko Kitamura, Saori
Matsuyama, Kenichi Mishima, Masaki Matsushita, Yasunari Kamiya,
Tadashi Hattori** (*Japan*)

09:12 Sprengel deformity - clinical and radiographic outcome following
EP-84 surgical intervention

**Antfang Carina, Andrea Laufer, Georg Gosheger, Anna Maria Rachbauer,
Gregor Toporowski, Adrien Frommer, Henning Tretow, Robert Rödl, Bjoern
Vogt** (*Germany*)

09:15 Discussion

09:30 Firearm-associated orthopedic injuries in the pediatric population of
EP-63 New York State (2016-2020)

Cordelia Carter, Charles Lin, Utkarsh Anil (*USA*)

09:33 Corrective procedure for flexion contracture of the elbow in neonatal palsy
EP-73 sequelae: Long term follow up

Filippo M. Senes, Anna Maria Nucci, Annalisa Valore, Nunzio Catena (*Italy*)



TIVOLI CONGRESS HALL

09:00 BEST E-POSTERS (cont.) 10:00

09:36 Electromyography role in children with split cord malformation diagnosis
EP-52 **Margarita Savina, Vissarionov Sergey, Vahtang Torja, Alina Khodorovskaya**

09:39 Participation and motor abilities in children with idiopathic clubfeet after treatment with the Ponseti method
EP-24 **Arnold Besselaar¹, Lianne van Dijk¹, Lianne Grin^{1,2}, Saskia Wijnands^{1,2}, van der Marieke Steen¹, Benedicte Vanwanseele^{1,2} (The Netherlands)**

09:42 Objectively measured sleep metrics in infants and toddlers undergoing night-time boots and bar brace treatment for clubfoot compared to age matched controls
EP-27 **Charlotte Sununu, Natalie Barnett, Clare Kehoe, David Scher, Emily Dodwell (USA)**

09:45 Discussion

TIVOLI CONGRESS HALL

10:00 PRESIDENTIAL GUEST LECTURE 10:30

10:30 Coffee break
11:00

TIVOLI CONGRESS HALL

11:00 AWARDS 2020
11:15

11:15 PRO MAXIMIS MERITIS
11:45

11:45 TRAVELLING FELLOWSHIPS
12:00

12:00 PRESIDENCY TRANSFER
12:30

12:30 CLOSING REMARKS
13:00

Saturday, April 9, 2022



E-POSTERS

- EP-01** Prolonged bisphosphonate therapy in children with severe osteogenesis imperfecta could create intramedullary canal obliteration or sclerosis
Darko Anticevic, Željko Jeleč (*Croatia*)
- EP-02** Progress and recurrence of the disease in dysplasia epiphesealis hemimelica: A systematic review of literature
Alina Khodorovskaya, Vladimir Kenis, Eugeniy Melchenko (*Russia*)
- EP-03** Allografting is an effective biological method of fixation and increases bone trophicity in osteogenesis imperfecta
Sarah El Yahiaoui, Marine De Tienda, Georges Finidori, Valérie Dumaine, Alina Badina, Stéphanie Pannier, Mathilde Gaume, Zagorka Péjin (*France*)
- EP-04** Role of fibular shortness in genu valgum deformity in multiple hereditary exostosis patients
Ravot Chloé, Adrien Roy, Launay Franck, Antoine Couvreur, Jean-Luc Jouve, Sebastien Pesenti (*France*)
- EP-05** An evidence-based clinical practice guideline for developmental dysplasia of the hip under the age of 1 year. Part 1: Centered hips
Christiaan van Bergen, Pieter-Bas de Witte, Willeboordse Floor, Babette L. de Geest, Margret Foreman - van Dronghelen, Bart J. Burger, Yvon Den Hartog, J.H. van Linge, Renske M. Pereboom, Simon Robben, Adhiambo Witlox, Melinda M.E.H. Witbreuk (*The Netherlands*)
- EP-06** Gestational week and sonographic acetabular roof a-angle. A prospective, pilot, cohort of Caucasian - Greek population
Vasiliki Chatziravdeli, Christos Kazas, Ilias Chatziioannidis, George Mitsiakos, Elissavet Diamanti, Dimitrios Metaxiotis (*Greece*)
- EP-07** Appropriate surgical timing of Salter innominate osteotomy for acetabular dysplasia in children
Kenta Sawamura, Hiroshi Kitoh, Hiroshi Kaneko, Akiko Kitamura, Saori Matsuyama, Kenichi Mishima, Masaki Matsushita, Yasunari Kamiya, Tadashi Hattori (*Japan*)
- EP-08** What is the interobserver reliability of an Ultrasound enhanced physical examination of the hip in infants? A prospective study on the ease of acquisition of skills to diagnose hip dysplasia
Neha Jejurikar, Leon Moscona Mishy, Monica Rubio, Romina Cavallaro, Pablo Castaneda (*USA*)



- EP-09** Development and validation of a diagnostic aid for DDH in early infancy: Building on the results of a multinational EPOS study
Andreas Roposch, Annie Hurley, Rachel Buckingham, Claudia Maizen, Pranai Buddhdev, Aresh Hashemi-Nejad (UK)
- EP-10** Does age at start of treatment have an influence of follow-up development of unstable hips?
Bettina Westhoff, Hannes Kubo, Hakan Pilge, Jan-Philipp Holthoff, Martin Hufeland, Ruediger Krauspe (Germany)
- EP-11** AVN: How to minimize it? The effectiveness of Morel progressive traction in DDH (III-IV grade IHDI)
Federica De Rosa, Daniele Sini, Chiara Arrigoni, Carlo Origo (Italy)
- EP-12** Comparison of pubo femoral distances in lateral versus supine positioning of the child
Hans-Christen Husum, Christian Klitt Jensen, Michel Bach-Hellfritsch, Mads Henriksen, Ole Rahbek (Denmark)
- EP-13** Residual dysplasia in left-sided and right-sided hip dislocation in children with developmental dysplasia of the hip
Hsin-Ying Lin, Suzanne de Vos-Jakobs, Stijn Westerbos, Max Reijman (The Netherlands)
- EP-14** Parental experiences of children with developmental dysplasia of the hip: A qualitative study
Wesley Theunissen, Marieke van der Steen, Florens van Douveren, Adhiambo Witlox, Jaap Tolck (The Netherlands)
- EP-15** Traction assisted reduction compared with surgical reduction for treatment of walking age developmental dysplasia of the hip
Jason Chinnappa^{1,2}, Anne-Laure Simon¹, Alexandre Gounot¹, Philippe Souchet¹, Brice Ilharreborde¹ (¹France, ²Australia)
- EP-18** The importance of monitoring and factors that may influence leg length difference in developmental dysplasia of the hip
Rajiv Merchant, Jaap Tolck, Anouska Ayub, Deborah Eastwood, Aresh Hashemi-Nejad (UK)



- EP-19** A delayed imaging protocol for risk-factor based screening for developmental dysplasia of the hip reduces treatment rates: A COVID induced study
Anish Sanghrajka, Rajiv Merchant, Rachael Fisher, Helen Chase (UK)
- EP-20** Total hip arthroplasty followed by intramedullary femoral lengthening for staged reconstruction of unilateral neglected hip dislocation
Bjoern Vogt, Robert Roedel, Georg Gosheger, Adrien Frommer, Christoph Theil, Gregor Toporowski, Andrea Laufer (Germany)
- EP-21** Is the lateral cuneiform large enough to support interference screw fixation for tibialis anterior tendon transfer in children aged 3 to 6 years?
Jordan Polk, Zachary Meyer, Jacob Zide, Yassine Kanaan, Anthony Riccio (USA)
- EP-22** The Ponseti method for the treatment of clubfeet associated with Down syndrome
Edwin Portalatin-Perez¹, Sarah Parenti², Jordan Polk², Chan-Hee Jo², Anthony Riccio² (¹Portorico, ²USA)
- EP-23** Interrelations between the too-long anterior calcaneal process, hind and mid-tarsal bone volumes, angles and osteochondral lesion of the dome of the talus. Analysis by software slicer of 69 CT scan of feet
Giovanni Lucchesi¹, François Bonnel², Alain Dimeglio², Giovanni Beltrami¹, Federico Canavese² (¹Italy, ²France)
- EP-24** Participation and motor abilities in children with idiopathic clubfeet after treatment with the Ponseti method
Arnold Besselaar¹, Lianne van Dijk¹, Lianne Grin^{1,2}, Saskia Wijnands^{1,2}, Marieke van der Steen¹, Benedicte Vanwanseele^{1,2} (The Netherlands)
- EP-25** Atypical triplane fractures in adolescents: How much displacement is acceptable for conservative treatment?
Chaemoon Lim (South Korea)
- EP-26** Location of sustentaculum tali on foot AP radiographs reduces the risk of subtalar joint articular facets damage in calcaneal lengthening osteotomy
Sapogovskiy Andrey, Vladimir Kenis (Russia)
- EP-27** Objectively measured sleep metrics in infants and toddlers undergoing night-time boots and bar brace treatment for clubfoot compared to age matched controls
Charlotte Sununu, Natalie Barnett, Clare Kehoe, David Scher (USA)



- EP-30** The optimized Oxford hip skeletal maturity system proves resilient to rotational variation
Julio Castillo Tafur, Ryan Furdock, Abdus Sattar, Raymond Liu (USA)
- EP-31** Long term follow-up (35 years) of untreated patients with idiopathic increased femoral anteversion
Anders Grønseth, Suki Liyanarachi, Joachim Horn, Terje Terjesen (Norway)
- EP-32** Hip morphology in periacetabular osteotomy patients treated for developmental dysplasia of the hip as infants compared to those without infant treatment
Bridget Ellsworth, Joshua Bram, Ernest Sink (USA)
- EP-34** The mini open approach for the correction of femoral-acetabular impingement after a slipped upper femoral epiphysis is effective and reproducible
Karim Masrouha, Pablo Castaneda, Leon Moscona Mishy, Salim Habib (USA)
- EP-35** Testing a new surgical principle of guided growth for correction of rotational deformity of long bones in children
Andreas Peter Balslev-Clausen, Klaus Hindsø, Peter Buxbom, Christian Wong (Denmark)
- EP-36** How are pre-operative surgeon and patient expectations related to patient-reported outcomes after periacetabular osteotomy?
Samantha Ferraro, Patricia Miller, Michael Millis (USA)
- EP-37** Hip instability in children with trisomy 21
Milud Shadi, Pawel Glowka, Marek Józwiak, Tomasz Kotwicki (Poland)
- EP-38** An anatomic study of the proximal tibial epiphysis with relevance to percutaneous epiphysiodesis using transphyseal screws
Michael Do, Conor McCarthy, Daniel Cooperman, Raymond Liu (USA)
- EP-39** Femur lengthening over nail in adolescents: Is the lateral shift of the mechanical axis inevitable?
Kyeong-Hyeon Park¹, Chang-Wug Oh² (¹South Korea, ²USA)
- EP-40** Drop landing analysis of rotational osteotomies
Peter Stevens, Bruce Macwilliams (USA)



- EP-41** Tension band plating for correction of leg length difference
Jaap Tolk, Rajiv Merchant, Aresh Hashemi-Nejad, Deborah Eastwood
(UK)
- EP-42** Morphology of the knee joint after tension-band plating
Emma Julie Hvidberg, Maria Kirstine Møller-Madsen, Jan Duedal Rølfing, Bjarne Moeller-Madsen, Ahmed A. Abood *(Denmark)*
- EP-43** Our experience of treatment of congenital pseudoarthrosis of tibia using X-union protocol
Petr Vvedenskiy, Maxim Vlasov *(Russia)*
- EP-44** Bone age assessment by 3 methods. A comparison of 3 different methods for assessment of skeletal age when treating leg length discrepancies: An inter- and intra-observer study
Anne Breen, Joachim Horn, Harald Steen, Are Pripp, Ragnhild Gunderson, Else Merckoll, Ivan Hvid, Wajeeha Zaidi, Hilde Kristine Sandberg Mentzoni
(Norway)
- EP-46** MPLF reconstruction and hemi-epiphysiodesis for patellar instability with genu valgum
Dayna Philips¹, Matthew Veerkamp¹, Eric Wall, Matthew Ellington¹, Nicole Friel¹, John Schlechter¹, Daniel Green¹, Javier Masquijo², Shital Parikh¹ *(¹USA, ²Argentina)*
- EP-47** Lengthening of the femur in adolescents with congenital diseases. Comparison of three different techniques
Szymon Pietrzak, Dariusz Grzelecki, Tomasz Parol, Jaroslav Czubak
(Poland)
- EP-48** Many radiologic indices for patellofemoral instability are unreliable
Peter Fabricant, Madison Heath, Douglas Mintz, Kathleen Emery, Matthew Veerkamp, Simone Gruber, Daniel Green, Eric Wall, Marc Tompkins, Benton Heyworth, JUPITER Study Group, Beth Shubin Stein, Shital Parikh *(USA)*
- EP-49** Management of first-time patellar dislocation: A survey of PRISM members
Shital Parikh, Matthew Veerkamp, PRISM Patellofemoral RIG *(USA)*



- EP-50** Demographic and clinical characteristics of patellar instability patients from prospective JUPITER (Justifying Patellar Instability Treatment by Early Results) cohort
Meghan Bishop, Jacqueline Brady, Simone Gruber, Matthew Veerkamp, Joseph Nguyen, Benton Heyworth, Marc Tompkins, Daniel Green, Eric Wall, JUPITER Study Group, Beth Shubin Stein, Shital Parikh (USA)
- EP-51** Suicidal ideation in pediatric orthopedic patients
Whitney Herge, Farzam Farahani, Aaron Hurd, Claire Shivers, Shelby Cerza, Sarah Parenti, Anthony Riccio (USA)
- EP-52** Electromyography role in children with split cord malformation diagnosis
Margarita Savina, Vissarionov Sergey, Vahtang Torja, Alina Khodorovskaya (Russia)
- EP-53** Validity of the patient reported outcome information system (PROMIS) in children and adolescents with lower extremity conditions
Nicholas Sullivan, Patricia Miller, Susan Mahan, Samantha Spencer, James Kasser, Matthew Milewski, Dennis Kramer, Collin May (USA)
- EP-54** Using a digital inclinometer significantly improves the accuracy of derotation osteotomy: A simulation study
Anish Sanghrajka, Daniel Watts, Helen Chase, Daniel Bye (UK)
- EP-55** Double calcaneal osteotomy in correction of severe planovalgus foot deformity in ambulatory children with spastic cerebral palsy. A prospective case series study
Ahmad Saeed Aly, Shady Abdelghaffar (Egypt)
- EP-56** Hip displacement in spinal muscular atrophy: The influence of genetic severity and functional level
Armagan Can Ulusaloglu, Ali Asma, Michael W. Shrader, Mena Scavina, William Mackenzie, Amanda Erb, Jason Howard (USA)
- EP-57** The influence of baseline gait velocity on treatment results after single-event multilevel surgery in patients with cerebral palsy
Mauro César de Morais Filho, Marcelo Fujino, Francesco Blumetti, Cátia Kawamura, José Augusto Lopes (Brazil)



- EP-58** Predictors of postoperative urinary retention after posterior spinal fusion for adolescent idiopathic scoliosis
Tommi Yrjälä, Linda Helenius, Markku Taittonen, Hanna Oksanen, Heli Keskinen, Terhi Kolari, Ilkka Helenius (Finland)
- EP-59** Treatment of recurrent patellar dislocation in children and adolescents with medial patellofemoral ligament reconstruction - pediatric technique
João Cabral, Ines Balacó, Marcos Carvalho, Oliana Madeira Tarquini, Pedro Sá Cardoso, Tah Ling, Cristina Alves (Portugal)
- EP-60** First report and analysis of anterior inferior iliac spine avulsion re-fracture of the hip
Javier Besomi, Jose Tomas Bravo, Cristian Olmedo, Jorge Joannon, Daniela Landea, Pedro Salgado (Chile)
- EP-61** Walking hip spicas for paediatric femoral shaft fractures: improving outcomes & reducing caregiver burden
Ben Steward, Helen Gille, Pranai Buddhdev (UK)
- EP-62** Fully displaced pediatric supracondylar humerus fractures: Which ones need to go at night?
Susan Mahan, Patricia Miller, Jiwoo Park, Nicholas Sullivan, Carley Vuillermin (USA)
- EP-63** Firearm-associated orthopedic injuries in the pediatric population of New York State (2016-2020)
Cordelia Carter, Charles Lin, Utkarsh Anil (USA)
- EP-64** Global variations in the management of diaphyseal forearm fractures in children: A survey of EPOS and POSNA members
Ludger Tüshaus¹, Christoph Roeder², Annelie Martina Weinberg², Louise Klingenberg³, Sven-Oliver Dietz¹, Nicolas Lutz⁴, Federico Canavese⁵, Cristina Alves⁶ (¹Germany, ²Austria, ³Denmark, ⁴Switzerland, ⁵France, ⁶Portugal)
- EP-65** Construct validity of a novel simulator for pinning of supracondylar humeral fractures
Jan Duedal Rölving¹, Steven Long², Ahmed A. Abood¹, Emily Connor¹, Emily Wagstrom¹, Geb Thomas¹, Don Anderson¹, Heather Kowalski¹ (¹Denmark, ²USA)



- EP-66** Two-fold risk of fractures among children whose mother smoked during the pregnancy
Roope Parviainen, Juha-Jaakko Sinikumpu (Finland)
- EP-67** Clinical outcome of supracondylar humerus fractures in patients younger than 30 months
Ahmet Hamdi Akgülle, Bulent Erol, Yavuz Şahbat, Hayati Kart, Özgür Baysal (Turkey)
- EP-69** Surgical exploration of the pink pulseless supracondylar fracture
Philip McKeag, Hean Wu Kang, Richard Napier (UK)
- EP-70** Treatment of unicameral bone cysts: A comparative study during 8-year period
Bojan Bukva, Sinisa Ducic, Mikan Lazovic, Filip Milanovic (Serbia)
- EP-71** Percutaneous alcohol-based sclerotherapy in aneurysmal bone cyst in children and adolescents. A retrospective study of 41 patients
Maria Tirta, Georgia Antoniou, Anastasia Pilichou, Panagiotis Krallis, Maria Stefanou, John Anastasopoulos (Greece)
- EP-72** The proximal congenital radioulnar synostosis: Quality of life of paediatric patients. A multicentre study
Paola Zarantonello, Giovanni Luigi Di Gennaro, Sebastian Farr, Giovanni Trisolino, Diego Antonioli, Giovanni Gallone, Stefano Stallone (Austria)
- EP-73** Corrective procedure for flexion contracture of the elbow in neonatal palsy sequelae: Long term follow-up
Filippo M. Senes, Anna Maria Nucci, Annalisa Valore, Nunzio Catena (Italy)
- EP-74** The treatment outcome of pediatric trigger thumb: Open surgery versus nonoperative management according to age
Jung Yun Bae, Ju Mi Hwang (South Korea)
- EP-75** Temporary epiphysiodesis in adolescent patients with ulnocarpal impaction syndrome
Philipp Scheider, Rudolf Ganger, Sebastian Farr (Austria)
- EP-76** Age-related outcomes and complications of osteodistraction in the pediatric upper extremity: A large retrospective single-center study of 61 cases
Philipp Scheider, Rudolf Ganger, Sebastian Farr (Austria)



- EP-77** Testing a new method of osteosynthesis of antebrachium fractures in children; A prospective randomized controlled longitudinal study
Lærke Gyllenborg, Christian Wong, Ture Karbo (Denmark)
- EP-78** Flexor tendon injuries in the pediatric age: What results can be expected?
Marcos Carvalho, Ricardo Marques, Pedro Sá Cardoso, Tah Ling, Ines Balacó, Oliana Madeira Tarquini, João Cabral, Cristina Alves (Portugal)
- EP-79** Peripheral nerve injuries of the upper extremity in paediatric population: long-term outcomes and prognostic factors
Justine Fleurette, Mathilde Gaume, Marine De Tienda, Caroline Dana, Stéphanie Pannier (France)
- EP-80** Signaling overuse sports injuries in the pediatric elbow: Physicians' item collection
Brinne Roorda, Christiaan van Bergen, Denise Eygendaal, Bertram The, Iris van Oost (The Netherlands)
- EP-81** Innovation of COVID-19 pandemic; A prospective study on paediatric forearm fractures manipulations in A&E department of a District General Hospital
Hafiz Umer, Hafiz-Javaid Iqbal, Matthew Nixon, Mark Webb, Peter Kenyon, Sophie Dodd (UK)
- EP-82** Displaced midshaft clavicle fractures treated with ORIF vs non-op: Equivalent strength, endurance, and kinematics
Clare Kehoe, Roger Widmann, Nicolas Pascual-Leone, David Scher, Emily Dodwell (USA)
- EP-84** Sprengel deformity - clinical and radiographic outcome following surgical intervention
Antfang Carina, Andrea Laufer, Georg Gosheger, Anna Maria Rachbauer, Gregor Toporowski, Adrien Frommer, Henning Tretow, Robert Rödl, Bjoern Vogt (Germany)
- EP-85** Measurement for objective diagnosis of multidirectional instability of shoulder in adolescent patients
Mason Yoder, Matthew Veerkamp, Colin McDonald, Shital Parikh (USA)
- EP-86** Sulphur biology in skeletal development: An explorative study into the aetiology of developmental dysplasia of the hip
Amanda Rhodes, Sehrish Ali, Ling Lee, Brijil Joseph, Judwin Ndzo, Nicholas Clarke, Martin Feelisch, Alexander Aarvold (UK)



40th EPOS Annual Meeting

European Paediatric Orthopaedic Society
Copenhagen (Denmark) - April 6 – 9, 2022



INDUSTRY SYMPOSIA

TIVOLI CONGRESS HALL



13:50

ORTHOPEDIATRICS INDUSTRY SYMPOSIUM

14:50

CHALLENGES IN PEDIATRIC FOOT SURGERY AN INTERACTIVE CASE-BASED DISCUSSION

Faculty:

Cristina Alves (*Portugal*)

Luis Moraleda (*Spain*)

Sebastian Farr (*Austria*)

Thursday, April 7, 2022

AUDITORIUM CARSTENSEN



13:50

ORTHOFIX INDUSTRY SYMPOSIUM

14:50

DIGITAL APPLICATION TECHNOLOGY IN PEDIATRIC LIMB RECONSTRUCTION SURGERY. WHERE ARE WE?

Points of view and experiences about how technology can support surgeons in their most complex cases and patients before and after surgery

Faculty:

Ignacio Sanpera (*Spain*)

Manuel Cassiano (*Portugal*)

Jan Rölfing (*Denmark*)



INDUSTRY SYMPOSIA

HARLEKIN & COLUMBINE



13:50
14:50

**NUVASIVE SPECIALIZED ORTHOPEDICS INDUSTRY SYMPOSIUM
A GUIDELINE FOR INTRAMEDULLARY DEFORMITY CORRECTION
AND LENGTHENING**

Faculty:

Christof Radler (*Austria*)

Micha Langendörfer (*Germany*)

Thursday, April 7, 2022



40th EPOS Annual Meeting

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INDUSTRY SYMPOSIA

AUDITORIUM CARSTENSEN



14:00

ORTHOFIX INDUSTRY SYMPOSIUM

15:00

USE OF THE FITBONE® LENGTHENING NAIL IN ADOLESCENT POPULATIONS

Shared experiences and case discussions focused on using the Fitbone intramedullary lengthening nail in younger patients (greater than 12 through 21 years of age)

Faculty:

Franck Accadbled (France)

Andreas Krieg (Switzerland)

Jan Rölfing (Denmark)

Friday, April 8, 2022



HARLEKIN & COLUMBINE

14:00

IPSEN INDUSTRY SYMPOSIUM

15:00

HOW CAN WE HARNESS ARTIFICIAL INTELLIGENCE TO IMPROVE THE DIAGNOSIS OF RARE BONE CONDITIONS?

Chairperson: **David Elvira (Ipsen Pharma)**

14:00

Chairperson's welcome and introduction
David Elvira (Ipsen Pharma)

14:05

Advances in orthopaedic diagnosis using artificial intelligence: A fracture case study
Soheil Ashkani Esfahani (USA), Hamid Ghaednia (USA)

14:20

Man versus machine: Can you beat the algorithm?
David Elvira (Ipsen Pharma)

14:25

Fibrodysplasia ossificans progressiva (FOP): How can we advance diagnosis?
Zulf Mughal (UK)

14:40

Panel discussion and Q&A

48 EPOS - Copenhagen (Denmark)

EPOS Future Annual Meetings

Join EPOS 41st Annual Meeting
from 29 March - 1 April 2023, in Krakow, Poland



EPOSNA Meeting
on May 2024 in Washington DC, USA



EPOS



European Paediatric Orthopaedic Society



40th EPOS

Annual Meeting

European Paediatric Orthopaedic Society