

2024

Howard H. Steel

CONFERENCE

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Scottsdale, Arizona

DECEMBER 13-16

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CONFERENCE

on Pediatric Spinal Cord Injury/Dysfunction

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Howard H. Steel CONFERENCE on Pediatric Spinal Cord Injury/Dysfunction

Friday, December 13

PRECOURSE:

Stimulating the Conversation:

Moving Neuromodulation from Adults to Children

LOCATION: Trailblazers E

Time	Topic/Title	Presenter
8:00 AM	Welcome	Rebecca Martin, OTR/L, OTD • Baltimore, MD, USA
8:05 AM	Overview of NM Modalities and Evolution in Clinical Practice	Monica Perez, PT, PhD • Chicago, IL, USA
8:35 AM	Q & A	
8:50 AM	Lessons from Deep Brain Stimulation: From Adults to Peds	Ammar Shaikhouni, MD, PhD • Columbus, OH, USA
9:20 AM	Q & A	
9:35 AM	Break	
	Autonomic Function/B&B, Trunk/Posture	Moderator: Laura Krisa, PhD
9:50 AM	Spinal Cord Stimulation and Cardiovascular Effects in SCI	Dr. Andrei Krassioukov, MD, PhD, FRCPC, FASIA • Vancouver, BC, Canada
10:05 AM	Opportunities for Tibial Nerve Stimulation in Pediatric Neurogenic Bladder Management	Argyrios Stampas, MD • Houston, TX, USA
10:20 AM	Q & A	
10:35 AM	Neuromodulation of Spinal Sensorimotor Networks Using Invasive and Non-Invasive Spinal Stimulation: “Determining the Right Fit”	Dimitry Sayenko, MD, PhD • Houston, TX, USA
10:50 AM	Combinatorial Neuromodulation for Children with Cerebral Palsy	Darryn Atkinson, PT, PhD • Austin, TX, USA
11:05 AM	Neuromodulation to Enhance Sitting Posture and Trunk Control in Children with Spinal Cord Injury	Goutam Singh, PhD • Louisville, KY, USA
11:20 AM	Q & A	
11:35 AM	Lunch	
	Upper Extremity	Moderator: Rebecca Martin, OTR/L, OTD
12:35 PM	Paired Associative Stimulation Following SCI	Monica Perez, PT, PhD • Chicago, IL, USA
12:50 PM	Amplifying Activation: Training + Non-Invasive Spinal Stim to Improve Hand/Arm Function in SCI	Edelle Field-Fote, PT, PhD, FAPTA, FASIA
1:05 PM	Q & A	
1:20 PM	Break	
	Lower Extremity/Ambulation	Moderator: Dana R. Johnson, PT, DPT
1:35 PM	Pediatric Cerebral Palsy and Neuromodulation	Parag Gad • Northridge, CA, USA
1:50 PM	Transcutaneous Spinal Cord Stimulation to Enable Stepping in Children with SCI	Katie Lucas, PT, DPT, PhD • Phoenix, AZ, USA
2:05 PM	TSS+ Training improves Walking in Children with SCI	Lia Brunn OTR/L, OTD • Baltimore, MD, USA
2:20 PM	Transcutaneous and Epidural Stimulation to Impact Voluntary Stepping in SCI	Claudia Angeli, PhD • West Orange, NJ, USA
2:35 PM	Q & A	
2:50 PM	Considerations to Move Forward from Adults to Children. A Call to Action.	Andrea Behrman, PhD, PT, FAPTA • Louisville, KY, USA
3:05 PM	Q & A	
3:20 PM	Wrap-up	



Time	Topic/Title	Presenter(s)	Moderator
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Friday, December 13, 2024 • PRECOURSE

7:30 AM-8:00 AM	Registration		
8:00 AM-3:30 PM	Precours Program		LOCATION: Trailblazers E
4:00 PM-6:00 PM	Registration, Hang Posters, Vendor Set Up		
6:00 PM-8:00 PM	Welcome Reception The Westin-Kierland Resort & Spa		

LOCATION: Northern Sky Terrace



Saturday, December 14, 2024 • CONFERENCE

LOCATION: Trailblazers A/B

7:00 AM-7:45 AM	Registration & Continental Breakfast with Partners & Exhibitors		
7:45 AM-8:30 AM	Opening Session with Partner Recognition	MJ Mulcahey, PhD, OTRL Philadelphia, PA, USA	
8:30 AM-9:30 AM	Session #1: Diaphragmatic Pacing and Neuromodulation		Craig M. McDonald, MD Sacramento, CA, USA
	The Role of Diaphragm Pacing in the Non Spinal Cord Injured Pediatric Population: Decreasing Invasive Mechanical Ventilation	Raymond Onders, MD Cleveland, OH, USA	
	The Role of Diaphragm Pacing in Pediatric Spinal Cord Injury: Decreasing Invasive Mechanical Ventilation	Raymond Onders, MD Cleveland, OH, USA	
	Transcutaneous Stimulation to Improve Trunk Control: Impact on Autonomic Nervous System in Children with Spinal Cord Injury	Goutam Singh, PT, PhD Louisville, KY, USA	
	Paired Associative Stimulation After Pediatric Incomplete Spinal Cord Injury: A Protocol	Piia Haakana, PhD Candidate Helsinki, Finland	
	Transcutaneous Spinal Stimulation Is Safe, Feasible, and Promising for Improved Walking in Children with Acute Flaccid Myelitis	Elizabeth Neighbors, PT, DPT Baltimore, MD, USA	
9:30 AM-10:30 AM	Session #2: Course - Respiratory Pacing		
	The Road Less Traveled: Respiratory Pacing for Children with Cervical Spinal Cord Injury	Tami McMichael, MS, APRN CPNP, Course Director Baltimore, MD, USA	
10:30 AM-11:00 AM	Poster Session 1		LOCATION: Trailblazers D
10:30 AM-11:00 AM	Break with Partners & Exhibitors		LOCATION: Trailblazers C

continued

Howard H. Steel CONFERENCE on Pediatric Spinal Cord Injury/Dysfunction

Time	Topic/Title	Presenter (s)	Moderator
Saturday, December 14, 2024 (continued)			
LOCATION: Trailblazers A/B			
11:00 AM-12:00 PM	Session #3: Implications of Wheeled Mobility on the Upper Limb		Loren Davidson, MD Sacramento, CA, USA
	Shoulder Pathology in Pediatric Manual Wheelchair Users with Spinal Cord Injury or Dysfunction	Alysa J. Schnorenberg, PhD Milwaukee, WI, USA	
	Intrinsic Factors and Shoulder Pain in Young Adult Manual Wheelchair Users with Pediatric-Onset Disability	Matthew Hanks, PhD, ATC Urbana-Champaign, IL, USA	
	Classification and Diversity of Stroke Pattern Use in Pediatric Manual Wheelchair Users	Alyssa, Schnorenberg, PhD Milwaukee, WI, USA	
	Wheelchair Fit and Patient-Reported Outcomes in Manual Wheelchair Users with Pediatric SCI/D	Brooke Slavens, PhD, MS Milwaukee, WI, USA	
	Wheelchair Fit and Accessories to Prevent Upper Limb Impairment	Dana Johnson, DPT Philadelphia, PA , USA	
12:00 PM-12:45 PM	The Stephen M. Haley Memorial Lecture: The Current & Future Management of Pediatric Spinal Cord Injury	Nicholas Theodore MD, MS Director of the John Hopkins Neurosurgical Spine Center	Cristina Sadowsky, MD Baltimore, MD, USA
12:45 PM-12:50 PM	Stretch Break		
12:50 PM-1:50 PM	Session #4: The Critically Injured Child		Randal R. Betz, MD Lawrenceville, NJ, USA
	Management of the Multi-Injured Child with Spine Trauma	Jessica Burns, MD Phoenix, AZ, USA	
	Panel Discussion	Jessica Burns, MD Jamal McClendon, Jr., MD Tami McMichael, CPNP Ray Onders, MD Nicholas Theodore, MD Cristina Sadowsky, MD	Craig M. McDonald MD Sacramento, CA, USA
1:50 PM	Adjourn / Lunch on Own / Afternoon Off		

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Time	Topic/Title	Presenter (s)	Moderator
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Sunday December 15, 2024 • CONFERENCE

7:00 AM-7:30 AM	Registration and Continental Breakfast with Partners & Exhibitors		
7:30 AM-8:00 AM	Session #5: Award-Eligible Poster Presentations & Breakfast	LOCATION: Trailblazers A/B	Randal R. Betz Lawrenceville, NJ, USA
	1. Epidemiology of Pediatric Spinal Cord Injury in Ireland 2016 - 2025	Eimear Smith, MD Dublin, Ireland, USA	
	2. Subthreshold TMS-Induced Supraspinal Modulation of Spinal Excitability in Children and Adolescents	Piia Haakana, PhD Candidate Helsinki, Finland	
	3. Dissemination of a Newly Revised Evidence Based Pediatric Neurogenic Bowel Management Standard of Care (SOC)	Louise Rudden, NP Toronto CA, USA	
	4. Muscle Mass, Bone Mineral Density, and Functional Outcome Scores in Children with Spinal Cord Injuries	Isabella Ferrara Baltimore, MD, USA	
	5. Noninvasive Spinal Stimulation with Activity-Based Training to Improve Trunk Control in Children with Spinal Cord Injury	MacKenzie Goode-Roberts, PT, DPT Louisville, KY, USA	
	6. Emergency Department Visits for Children with Spinal Cord Injury: Reasons for Visits and Associated Hospitalization	Jennifer Thompson, MD Louisville, KY, USA	
8:00 AM-8:30 AM	Poster Session 2	LOCATION: Trailblazers D	
8:00 AM-8:30 AM	Break with with Partners & Exhibitors	LOCATION: Trailblazers C	
8:30 AM-9:15 AM	Keynote Talk: Paediatric Spinal Cord Injury Epidemiology: Findings and Opportunities for Collaboration	LOCATION: Trailblazers A/B Jacquelyn Cragg, MPH, PhD University of British Columbia, Canada	Linda Jones, PhD Boulder, CO, USA
9:15 AM-10:25 AM	Session #6: Pediatric SCI/D Rehabilitation and Outcomes	LOCATION: Trailblazers A/B	Kyle Deane, PhD Chicago, IL, USA
	Use of the Physical Abilities and Mobilities Scale (PAMS) in Children Receiving Inpatient Rehabilitation	Courtney Porter PT, DPT Baltimore, MD, USA	
	Participation During Youth- Experiences from Young Adults with Pediatric-Onset Spinal Cord Injury	Karin Erklint Linköping, Sweden	
	What Happens when Children Grow Up? Living with Pediatric-Onset Spinal Cord Injury	Kathy Zebracki, PhD Chicago, IL, USA	
	Rehabilitation Outcomes of Pediatric Inpatients with Transverse Myelitis	Charlotte Davis London, United Kingdom	
	Chronic Rehabilitation of the Pediatric Patient with Spinal Cord Injury	Courtney Porter PT, DPT Baltimore, MD, USA	
	Decision-Making for Health of Children with Spinal Cord Injury: A Qualitative Study of Caregivers	Jennifer, Thompson MD Louisville, KY, USA Jacob Lewis, BS Louisville, KY, USA	

continued

Howard H. Steel CONFERENCE on Pediatric Spinal Cord Injury/Dysfunction

Time	Topic/Title	Presenter (s)	Moderator
Sunday December 15, 2024 (continued)			
10:25 AM-10:55 AM	Poster Session 3	LOCATION: Trailblazers D	
10:25 AM-10:55 AM	Break with Partners & Exhibitors	LOCATION: Trailblazers C	
10:55 AM-11:55 AM	Session #7: CONCURRENT COURSES Speech, and Scoliosis		
	Ahead of the Curve: Alternative Considerations for Management of Scoliosis following Pediatric Spinal Cord Injury	Stacey Hall, DO Houston, Texas, USA Simra Javaid, DO, Course Director Houston, TX, USA Anthony Kennedy, MS, OT, OTR/L Houston, Texas, USA Emily Klein, PT, DPT Houston, Texas, USA	
	LOCATION: Trailblazers A/B		
	What's Speech Got to Do With It?	Glendaliz Bosques, MD, Course Director Austin TX, USA	
	LOCATION: Trailblazers E		
11:55 AM-12:55 PM	Session #8: Cognitive Appraisals and Perceived Injustice Following Spinal Cord Injury	LOCATION: Trailblazers A/B	Kathy Zebracki, PhD Chicago, IL, USA
	Cognitive Appraisals in Pediatric-Onset Spinal Cord Injury	Kyle Deane, PhD Chicago, IL, USA	
	Cognitive Appraisals of Disability and Spinal Cord Injury: A Pediatric Measure for Children and their Parents/Caregivers	Alexis M. Ortiz, MA Chicago, IL, USA	
	Perceived Injustice: A Distinct Psychological Construct and a Predictor of Physical and Psychological Outcomes	Kimberley R. Monden, PhD Minneapolis, MN, USA	
12:55 PM-2:30 PM	Midday Break - Lunch on Own		

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Time	Topic/Title	Presenter (s)	Moderator
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Sunday December 15, 2024 (continued)

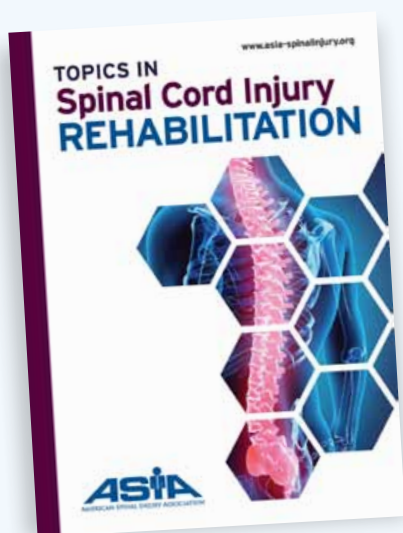
2:30 PM-3:30 PM	<p>Session #9: CONCURRENT COURSES Respiratory Management, and Ultrasound Evaluation of the Diaphragm</p> <p>Respiratory Management in Cervical Spinal Cord Injury/Dysfunction: A Multidisciplinary Approach</p> <p>LOCATION: Trailblazers A/B</p> <p>Interdisciplinary Approach to Ultrasound Evaluation of the Diaphragm in Children with Spinal Cord Injury/Dysfunction</p> <p>LOCATION: Trailblazers E</p>	<p>Travis Edmiston, MD Baltimore, MD, USA Kofi Anoh RT Baltimore, MD, USA Kristen Chao M.S. CCC-SLP, CBIS Owings Mills, MD, USA Elizabeth Williams, PT, DPT, MS Baltimore, MD, USA</p> <p>Philippines Cabahug MD, FAAPMR Baltimore, MD, USA Janet Dean MS, RN, CRNP Baltimore, MD, USA Kofi Anoh RT Baltimore, MD, USA Jacqueline Newman CLS Baltimore, MD, USA</p>	
3:30 PM-3:40 PM	Stretch Break		
3:40 PM-5:10 PM	<p>Session #10: Pediatric Spinal Cord Injury Research/Clinical Trials</p> <p>Measuring Pertinent Outcomes and Endpoints in Clinical Trials</p> <p>Update on Adult SCI Clinical Trials</p> <p>Update on Pediatric SCI Clinical Trials</p> <p>Voices and Experiences of Children who Engage in Research</p>	<p>LOCATION: Trailblazers A/B</p> <p>MJ Mulcahey, PhD Philadelphia, PA, USA</p> <p>Linda Jones, PhD Boulder, CO, USA</p> <p>Cristina Sadowsky, MD Baltimore. MD, USA</p>	<p>Laura Krisa, PhD Philadelphia, PA, USA</p>
5:10 PM-5:30 PM	Break		
5:30 PM-7:30 PM	<p>Session #11: Cases and Cocktails</p> <p>LOCATION: Trailblazers A/B/C/D</p> <p>Poster Session 4</p> <p>Break with Partners & Exhibitors</p> <p>Complex Cases</p>	<p>Randal R. Betz, MD Lawrenceville, NJ, USA Jamal McClendon, MD Phoenix, AZ, USA</p>	
7:30 PM	Adjourn		



continued

Howard H. Steel CONFERENCE on Pediatric Spinal Cord Injury/Dysfunction

Time	Topic/Title	Presenter (s)	Moderator
Monday December 16, 2024 • CONFERENCE			
LOCATION: Trailblazers A/B			
7:30 AM-8:30 AM	Registration and Continental Breakfast		
8:30 AM-9.15 AM	The Newton C. McCollough Lecture Introduction The Past, Present, and Future Landscape for Orthopaedic/Neurosurgical Management of Children and Adolescents with SCI	Randal R. Betz, MD Lawrenceville, NJ, USA	Larry Vogel, MD Chicago, IL, USA
9:15 AM-10:00 AM	Keynote Talk: Precision Medicine, Therapeutics, and Rehabilitation Engineering in Patients with Neuromuscular Disease	Craig M. McDonald MD Sacramento, CA, USA	Raymond Onders, MD Cleveland, OH, USA
10:00 PM-10:10 PM	Stretch Break		
10:10 AM-11:10 AM	Session 12: Course: Sports and Exercise Options for Children with Spinal Cord Injury	Pamela Wilson, MD Aurora, CO, USA	
11:10 AM-11:55 AM	Keynote: Inclusive Sport & Recreation: My Paralympic Story, Research and More!	Anjali Forber-Pratt, PhD, PLY	Andrea Behrman, PhD, PT, FAPTA Louisville, KY, USA
11:55 AM	Awards & Final Announcements	MJ Mulcahey, PhD, OTR/L Philadelphia, PA, USA	
12:10 PM	Meeting Adjourned		



Topics in Spinal Cord Rehabilitation

Topics in Spinal Cord Injury Rehabilitation (TSCIR) is an interdisciplinary journal devoted to the study and dissemination of practical and theoretical information related to the subject of spinal cord injury rehabilitation.



The TSCIR Online Archive is fully indexed and includes all articles from 1997 to present.

Award-Eligible Posters

1 Epidemiology of Pediatric Spinal Cord Injury in Ireland, 2016 - 2025.

Eimear Smith, MD • *Dublin, Ireland, USA*

2 Subthreshold TMS-Induced Supraspinal Modulation of Spinal Excitability in Children and Adolescents

Piia Haakana, PhD Candidate • *Helsinki, Finland*

3 Dissemination of a Newly Revised Evidence-Based Pediatric Neurogenic Bowel Management Standard of Care (SOC)

Louise Rudden, NP • *Toronto CA, USA*

4 Muscle Mass, Bone Mineral Density, And Functional Outcome Scores in Children with Spinal Cord Injuries

Isabella Ferrara • *Baltimore, MD, USA*

5 Noninvasive Spinal Stimulation with Activity-Based Training to Improve Trunk Control in Children with Spinal Cord Injury

MacKenzie Goode-Roberts, PT, DPT • *Louisville, KY, USA*

6 Emergency Department Visits for Children with Spinal Cord Injury: Reasons for Visits and Associated Hospitalization

Jennifer Thompson, MD • *Louisville, KY, USA*

Posters

7 Mobile Arm Supports: Bridging Recovery-Based Therapy and Community Engagement for Arm and Hand Function

Kathryn Eaton, MSOT, OTR/L • *Louisville, KY, USA*

8 A Case Series Report on Recovery of Motor Function and Mobility Following Spinal Cord Decompression in Severe Congenital Spinal Deformity with Pre-Operative Myelopathy

Kimberly Scharff, PT, DPT, PCS • *Philadelphia, PA, USA*

9 Restoration Of Upper Extremity Function Post Nerve Transfers in Children with Acute Flaccid Myelitis (AFM)

Alaena McCool, MS, OTR/L, CPAM • *Severna Park, MD, USA*

10 Case Study – A Confounding Pediatric Spinal Cord Injury: Anterior, Central, Or Both?

Mara Martinez-Santori, MD, MS • *Houston, TX, USA*

11 Paediatric Spinal Cord Injury and Long-Term Social Outcomes

Richa Kulshrestha, MRCPCH • *Gobowen, England*

12 Use Of Lower Extremity Braces with Activity Based Restorative Therapy

Elizabeth Williams, PT, DPT, MS • *Baltimore, MD, USA*

13 Multiple Lumbosacral Radiculopathies Following Craniospinal Radiation in a 13-Year-Old

Melanie White, DO • *Rochester, MN, USA*

14 A New Horizon for OT And PT Practice: Treatment of An Infant with Prenatal Repair of Myelomeningocele

Matthew Davis, PT, DPT, ATP • *Louisville, KY, USA*

15 Case Report: Rehabilitation Interventions in a 15-Year-Old Male with Transverse Myelitis

Charlotte Davis • *London, UK*

Dr. Jan Gawronski FRCP • *London, UK*

Late Breaking Posters

16 Assessing Community Needs of Individuals with Spina Bifida and Their Families

Ava S. Jefson • *Chicago, IL, USA*

17 Identifying Preventive and Corrective Seating Strategies for Secondary Neuromuscular Scoliosis in Children: A Scoping Review

Selina Mendieta Morgan, PT, DPT, NCS • *San Antonio, TX, USA*

18 Revision Of the International Spinal Cord Injury (SCI) Urinary Tract Infection (UTI) Basic Data Set: Applications in Pediatric SCI

Suzanne Groah, MD, MSPH • *Washington DC, USA*

19 Interdisciplinary Approach to Locomotor Training in Pediatrics: Optimizing Translation of Principles Into the Child's Community

Courtney Mullen PT, DPT, PCS • *Philadelphia, PA, USA*

20 Hip Joint Status of a Childhood Spinal Cord Injured Population

Kirsten Hart, MSc • *Aylesbury, Bucks, UK*

continued

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Late Breaking Posters

21 A Review of Childhood Onset Spinal Cord Injury Born 1930-1964

Kirsten Hart, MSc • *Aylesbury, Bucks, UK*

22 Predicting Severity of Pediatric Spinal Cord Injuries Using Structural MRI Measures and Deep Learning: A Comprehensive Analysis Across All Vertebral Levels

Laura Krisa, PhD • *Mount Laurel, NJ, USA*

23 Perinatal Spinal Cord Injury: A Qualitative Study Exploring Parent Perspectives, Clinical Presentations and Health Challenges

Heba Kourahbi • *Louisville, KY, USA*

24 Development of a Longitudinal Survey for Youth with Spina Bifida and their Caregiver

Margaux Linde, BS • *Rochester, MN, USA*

25 Epidemiology of Spinal Cord Injury in Pediatric Patients at the Institut Guttmann in Barcelona: Analysis of Temporal Trends Over the Last 20 Years (2003-2023)

Claudia Teixidó • *Barcelona, Spain*



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