# **11th Annual** Children's Hospital of Philadelphia **Chronic Lung Disease Conference**

Tuesday, March 4 and Wednesday, March 5, 2025



This conference is intended for the multidisciplinary team: physicians, nurses, respiratory therapists, occupational therapists, physical therapists, speech pathologists, social workers and dietitians who provide care for patients with Chronic Lung Disease/Bronchopulmonary Dysplasia.



### LEARN MORE: CHOP.CLOUD-CME.COM

### **COURSE OVERVIEW**

Severe chronic lung disease (CLD) of infancy, also known as bronchopulmonary dysplasia (BPD), is the most common chronic complication of premature birth. It affects approximately 25% of preterm infants with birth weights less than 1,500 grams and more than 50% of infants weighing less than 750 grams. Infants with BPD frequently require lengthy hospital stays and costly post discharge medical care. A diagnosis of BPD is a strong predictor of long-term impairment in lung function, cardiovascular health, growth and neurodevelopment.

Management of infants with severe CLD/BPD presents a unique challenge due to its multisystem involvement and common association with multiple non-lung comorbidities. A coordinated, evidence-based, multidisciplinary approach is crucial to achieve the best outcomes for this high-risk population. Ideally, this strategy includes cohesive management between neonatal and pediatric care providers to facilitate high-level continuity of care during the transition to home and throughout the child's life.

This multidisciplinary course is intended for physicians, advanced practice nurses, physician assistants, nurses, respiratory therapists and other members of the healthcare team such as occupational therapists, physical therapists, speechlanguage pathologists, pharmacists, dietitians and social workers who provide care for patients with CLD/BPD and their families. This course will explore the pathophysiology, current research and key aspects of the management of severe CLD, including diagnostic and treatment options. This course will also discuss the long-term needs of infants with severe CLD, highlighting the chronic nature of this illness extending beyond the neonatal period.

### **GENERAL INFORMATION**

This conference will be held at the Hilton Philadelphia at Penn's Landing, 201 South Columbus Blvd., Philadelphia, 19106

Attendees will have access to the PowerPoint slides via **chop. cloud-cme.com**. The in-person conference will be held Tuesday, March 4 and Wednesday, March 5, 2025. Registration will begin at 7 a.m., March 4. The registration fee includes continental breakfast both days, buffet lunch on Tuesday, and program materials.

### **COURSE OBJECTIVES**

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

- 1. Discuss the long term psychosocial and neurodevelopmental consequences of a diagnosis of severe BPD
- 2. Discuss strategies in ventilator management for high grade BPD
- 3. Participate in a debate regarding the use of chronic steroids to manage BPD
- 4. Discuss evidenced-based best practice for neurodevelopmental assessments and intervention planning for infants with severe BPD
- 5. Discuss current evidenced based research in the developing lung
- 6. Explore management strategies and communication tools used by the multidisciplinary team in the care of babies with severe BPD

# **CALL FOR ABSTRACTS**

### Share Your Knowledge and Expertise

The course directors and planning committee invite you to submit an abstract for consideration for the poster session held during the conference. Abstracts related to any aspects of the pathophysiology, prevention or clinical care of Bronchopulmonary Dysplasia or Chronic Lung Disease of Prematurity are welcomed. The top two abstracts will be invited to deliver an oral presentation.

#### Submission Deadline: Sunday, January 26, 2025 (11:59 p.m. EST)

Accepted abstracts will be published in the conference syllabus. To learn more and submit an abstract, go to **chop.cloud-cme.com** and search Chronic Lung Disease conference.

Notification of Acceptance: Friday, February 14, 2025

**REGISTER ONLINE: CHOP.CLOUD-CME.COM** 





### MEETING LOCATION

The Hilton Philadelphia at Penn's Landing is located on the picturesque Delaware River waterfront. It gives you convenient access to the best of Philadelphia destinations making the hotel the perfect place to experience all the many great sites the "City of Brotherly Love" offers. Enjoy the beautiful and picturesque waterfront while being surrounded by panoramic views of City Center and the New Jersey skyline, the Delaware River and the iconic Benjamin Franklin Bridge. Located right on the water, the hotel is the only waterfront property in the area and features world-class dining, new stylish event venues, Hilton Honors Executive Lounge, and spacious and comfortable accommodations all coupled with impeccable service.

# **REGISTRATION FEES**

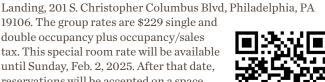
<b>Before Feb. 3, 2025</b>		After Feb. 3, 2025
Physicians	\$400	\$425
Fellows, Residents, Nurses and all other Healthcare Professionals	\$250	\$275

### **Optional Mid-Conference Session**

Inaugural Bench to Bedside: The Developing Lung and BPD Tuesday, March 4, 2025 • 6 p.m. to 9 p.m. \*Registration fees include dinner.

Physicians \$100 Fellows, Resident, Nurses and all other Healthcare Professionals \$75

until Sunday, Feb. 2, 2025. After that date, reservations will be accepted on a space



Participants are required to make their own hotel reservations. Please use the link: 2025 CHOP CLD Conference/BPD Collaborative Meeting

HOTEL ACCOMMODATIONS

Children's Hospital of Philadelphia has reserved a block of

rooms with reduced rates at the Hilton Philadelphia at Penn's

or QR code to reserve your room.

and rate availability basis.



This exciting session will feature established early-career speakers and will feature neonatal lung scientists and clinicians.

The goal is to create networking opportunities for basic and clinical scientists in developmental biology, injury and repair, physiology, and clinical/translational research.

We hope to use the session to highlight emerging science and researchers and foster the exchange of ideas for the next breakthrough in lung disease related to prematurity.

\*Continuing Education credits will be offered for all disciplines except Occupational and Physical Therapy . A certificate of attendance will be provided for any OT or PT who attend this session.

# **CANCELLATION AND REFUND POLICY**

Children's Hospital of Philadelphia reserves the right to cancel or postpone any course due to any unforeseen circumstances. In the event of cancellation or postponement, Children's Hospital of Philadelphia will refund any registration fees, but is not responsible for any related costs, charges, or expenses to participants, including cancellation charges assessed by airlines/travel agencies.

In order to process refunds for in-person course withdrawals, cancellation must be received in writing by Monday, Feb. 24, 2025. Refunds will be issued for the amount of registration minus a \$50 administrative fee. No refunds will be issued thereafter.

# SERVICES FOR PEOPLE WITH DISABILITIES

If special arrangements are required for an individual with a disability to attend this meeting, please contact the Continuing Medical Education Department at 215-590-5263.

# **REGISTER ONLINE: CHOP.CLOUD-CME.COM**



### ASHA CONTINUING EDUCATION CREDITS



ASHA CE APPROVED PROVIDER

Children's Hospital of Philadelphia, CCC

This program is offered for up to 1.35 ASHA CEUs (Various levels, Professional area). Instructional Personnel Disclosures, financial and non-financial, can be found at chop.cloud-cme.com.

# **CLINICAL NUTRITION CPEU** STATEMENT

Children's Hospital of Philadelphia is a Continuing Professional Education (CPE) Accredited Provider with the Commission on Dietetic Registration (CDR). Registered Dietitians (RDs) and Dietetic Technicians (DTRs), will receive 12 continuing education credits (CPEUs) pending approval, upon completion of this course.

# PHYSICAL THERAPY CEU STATEMENT

Application has been made to the New Jersey State Board of Physical Therapy Examiners and the Pennsylvania State Board of Physical Therapy Examiners.



### **DESIGNATION OF CREDIT**



# **Approved Provider**

The Children's Hospital of Philadelphia is an AOTA Approved Provider of professional development. Course approval #11268. This live event is offered at 1.15 CEUs, Introductory,

Foundational Knowledge OT Service Delivery

AOTA does not endorse specific course content, products, or clinical procedures.

### **RESPIRATORY ACCREDITATION** STATEMENT

Pending approval from The American Association for Respiratory Care, this conference will be eligible for 13.25 Continuing Respiratory Care Education contact hours.



The educational content of this program has been endorsed by the PSRC.

### SOCIAL WORK CONTINUING EDUCATION CREDIT STATEMENT

CHOP is a preapproved provider of continuing education credits for Pennsylvania Licensed Social Workers, Marriage and Family Therapists, and Professional Counselors. Participants licensed in Pennsylvania who attend the full workshop and complete the required evaluation are eligible for 13.5 continuing education credits. Participants licensed in other states should check with local licensing boards to determine continuing education approval.

# ACCREDITATION STATEMENT



In support of improving patient care, this activity has been planned and implemented by the Children's Hospital of Philadelphia. The Children's Hospital JOINTLY ACCREDITED PROVIDER" Of Philadelphia is jointly accredited by the Accreditation Council for Continuing

ONAL CONTINUING EDUCATION

Medical Education (ACCME), the Accreditation Council for Pharmacy Education (ACPE), and the American Nurses Credentialing Center (ANCC), to provide continuing education for the healthcare team.

Physicians: Children's Hospital of Philadelphia designates this live activity for maximum of 13.0 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity. Nurses: This program provides 13.0 ANCC contact hours.



### JOINT ACCREDITATION

This activity was planned by and for the healthcare team, and learners will receive 13.0 Interprofessional Continuing Education (IPCE) credit for learning and change.



# PROGRAM | TUESDAY, MARCH 4, 2025

- 7 a.m. Continental Breakfast/Registration/Hang Posters
- 7:45 a.m. Welcome, Introductions and Program Overview Eric C. Eichenwald, MD

#### Moderator: Steven H. Abman, MD

- 8 a.m.Keynote Speaker: Patrick J. McNamara, MB, BCh, BAO, MRCPCHHemodynamic Precision in the Optimization of BPD related Outcomes for Extremely Preterm Infants
- 8:45 a.m. Discussion/Questions

#### Moderator: Amy G. Kelly, BSN, RNC-NIC

- 9 a.m. The Art of Nursing: Making a Difference for Patients with Chronic Lung Disease *Kristin Atlas, MSN, CPNP-AC, ACCNS-P; Jayne Celeste, BSN, RN*
- 9:35 a.m. Discussion/Questions
- 9:45 a.m. Break/Visit Exhibitors/View Posters

#### Journey Through an Aera—Living with Bronchopulmonary Dysplasia Moderator: Kristin J. McKenna, MD, MPH

10:15 a.m. The Relevance of Preterm Birth History: Acknowledging Risk to Maximize Potential Lauren Ingledow and Michelle M. Kelly, PhD, CRNP, CNE

**Keynote Speaker:** Anne Greenough, MD(Cantab), MB BS, DCH Chronic Respiratory Morbidity following Preterm Birth

12:30 p.m. Lunch/Visit Exhibitors/Posters Available for Viewing

#### Poster Symposium *Moderator: Timothy Nelin, MD*

- 1:15 p.m. Poster Viewing/Speak to Authors
- 1:45 p.m. Oral Platform Presentations Top Two Selected Abstracts Will be Presented

### 2:15 p.m. ASK THE EXPERT WORKSHOP (bring your difficult questions for discussion)

Ask the Expert: The Physician Perspective Challenges in Ventilation Strategies	Ask the Expert: Multidisciplinary Care Team Outlook Let's Talk about Impacts of Musculoskeletal Impairments and Interventions	Ask the Expert: The Bedside Providers' View A Conversation: "Agitation, PRN Medications and Non-pharmacological Approaches"
Satya Houin, MD	Dawn Drumm, PT, DHSc	Aimee Cunningham, MPH, MMS, PA-C
University of Colorado	Ann & Robert H. Lurie Children's Hospital of Chicago	Children's Hospital of Philadelphia
Howard Panitch, MD	Lee Ryan, OTR/L, MS	Hayley Dadouris, BSN, RNC-NIC
Children's Hospital of Philadelphia	Ann & Robert H. Lurie Children's Hospital of Chicago	Children's Hospital of Philadelphia
Rebecca S. Rose, MD	Brooke Smith, MHA, RRT-NPS	Rebekah Halpern, PA-C, MPAS
Riley Children's Health	Children's Mercy Kansas City	Children's Hospital Los Angeles
Huayan Zhang, MD	Jaqueline Vicenio, PT, DPT	Caitlin Knox, BSN, RN
Children's Hospital of Philadelphia	Children's Hospital of Philadelphia	Nationwide Children's Hospital



#### 3:15 p.m. Break/Visit Exhibitors/View Posters

#### Moderator: Meaghan Ransom, MD, MPH

- **3:30 p.m.** Abnormal Tracheal Epithelial Differentiation in Patients with Evolving BPD *Laurie Eldredge, MD, PhD*
- 4 p.m. Discussion/Questions

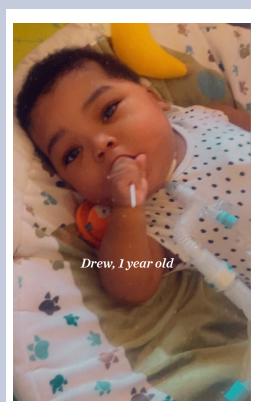
#### Moderator: Laura Sillers, MD

- 4:05 p.m. Parent Important Breathing Outcomes Katharine Press Callahan, MD, MSME
- 4:35 p.m. BPD Collaborative Neurodevelopmental Point Prevalence Sara B. DeMauro, MD, MSCE
- 5:05 p.m. Discussion/Questions
- 5:15 p.m. Adjourn

# **RESEARCH & DINNER: BENCH TO BEDSIDE—THE DEVELOPING LUNG**

Optional Mid-Conference Session: Inaugural Bench to Bedside: The Developing Lung and BPD Tuesday, March 4, 2025 – 6 p.m. – 9 p.m. (Must register to attend this session: separate fee charged)

5:45 p.m.	Registration/Networking
6 p.m.	Welcome/Opening Remarks Steven H. Abman, MD; Krithika Lingappan, MD, MS, PhD
6:05 p.m.	Buffet Dinner
6:30 p.m.	<b>The Role of Vitamin D in Lung Development and Disease</b> <i>Erica Mandell, DO</i>
7 p.m.	The Placental-Pulmonary Niche: Defining Human Placental-Derived Mechanisms of Developmental Lung Injury <i>Elizabeth S. Taglauer, MD, PhD</i>
7:30 p.m.	Lung Stroma: Shaping Alveolar Maturation Jarod A. Zepp, PhD
8 p.m.	Break
8:15 p.m.	Furosemide Pharmacology in BPD: Lessons in Developmental Pharmacology Nicolas A. Bamat, MD, MSCE
8:55 p.m.	Closing Remarks Steven H. Abman, MD/Krithika Linaappan, MD, MS, PhD





# PROGRAM | WEDNESDAY, MARCH 5, 2025

7:30 a.m. Registration/Continental Breakfast/Poster Viewing

### 8 a.m. Concurrent Workshops

Workshop I Ventilator Strategies in BPD: An Interactive Workshop Moderator: Kathleen Gibbs, MD	Workshop II Informing Clinical Practice to Improve Developmental Outcomes of Infants with Severe BPD Moderator: Audrey Wood, PT, MS, DPT, PCS
<ul> <li>A workshop focused on ventilator strategies in infants with evolving and established BPD.</li> <li>Through the use of a lung simulator and mechanical ventilators, the audience will be able to engage with faculty to identify ventilator strategies for an infant with evolving and established BPD.</li> </ul>	<ul> <li>An interactive workshop focusing on the use of standardized neuromotor and developmental assessments to screen for early signs of neuromotor dysfunction/cerebral palsy.</li> <li>The aim is to gain a better understanding of the utilization of these tests and measures to guide not only therapy practice but assess respiratory status and adequacy of respiratory support.</li> </ul>
Christopher D. Baker, MD; Pamela S. Griffiths, MD; Natalie Napolitano, PhD, MPH, RRT-NPS; Howard Panitch, MD; Rebecca S. Rose, MD	Meghan Burkhardt, MS, OTR/L, BCP; Denise Gibbs, PT, DPT, CNT, Schroth Therapist; Melissa Hanin, MS, OT/L, CNT; Kelly Susey, MPT, CNT; Louise Wulfsohn, MS, OTR/L

#### A Panel Perspective and Audience Debate Moderator: Jason Stoller

10:30 a.m.The What, When, and Why's of Chronic Steroids for BPD ManagementAnna O'Brien, PharmD, BCPPA; Emma L. Rose, PharmD, BCCPS; Audrey Miller, MD; Meaghan Ransom, MD, MPH

### 12:15 p.m. Closing Remarks

Huayan Zhang, MD; Kathleen Gibbs, MD





Unless otherwise noted, faculty is from Children's Hospital of Philadelphia and the Perelman School of Medicine at the University of Pennsylvania.

# **COURSE DIRECTORS**

Kathleen Gibbs, MD

Medical Director, Newborn and Infant Chronic Lung Disease Program Medical Director, Quality Improvement and Patient Safety (N/IICU) Attending Neonatologist Professor of Clinical Pediatrics

### Kathleen A. Nilan, RN

Nurse Coordinator Newborn and Infant Chronic Lung Disease Program Harriet and Ronald Lassin Newborn/Infant Intensive Care Unit (N/IICU)

### Huayan Zhang, MD

Director, Newborn and Infant Chronic Lung Disease Program Attending Neonatologist, N/IICU Professor of Clinical Pediatrics Director, Center for Newborn Care Chief, Division of Neonatology Guangzhou Women and Children's Medical Center (Guangzhou, Guangdong, China)

### **COURSE FACULTY**

Kristin Atlas, MSN, CNPN-AC, ACCNS-P Clinical Nurse Specialist- N/IICU East

Nicolas A Bamat, MD, MSCE Attending Neonatologist, N/IICU Assistant Professor of Pediatrics

#### Meghan Burkhardt, MS, OTR/L, BCP Education and Development Coordinator Pediatric Occupational Therapy Fellowship Coordinator

Anna O'Brien, PharmD, BCPPS Clinical Pharmacy Specialist, N/IICU

Katherine Press Callahan, MD, MSME Assistant Professor of Pediatrics Medical Ethics and Health Policy University of Pennsylvania

Jayne Celeste, BSN, RN Continuity Nurse Chronic Lung Disease Team N/IICU

Aimee Cunningham, MPH, MMS, PA-C Physician Assistant Division of Neonatology

Hayley Dadouris, BSN, RNC-NIC Clinical Nurse, N/IICU Peak II

#### Sara B. DeMauro, MD, MSCE Program Director, Neonatal Follow-up Associate Director, Neonatal Clinical and Epidemiological Research Attending Neonatologist, N/IICU Associate Professor of Pediatrics Associate Scholar, Center for Clinical Epidemiology and Biostatistics

#### Natalie Napolitano, PhD, MPH, RRT-NPS

Research Clinical Specialist Director, Tobacco Dependence Program Respiratory Therapy Department

### Howard Panitch, MD

Director, Technology Dependence Center Division of Pulmonary and Sleep Medicine Emeritus Professor of Pediatrics

### Jaqueline Vicenio, PT, DPT

Physical Therapist III Division of Pulmonary Medicine Sleep Medicine Specialty Clinic Wyss/Campbell Center for Thoracic Insufficiency Syndrome Specialty Clinic

Jarod A. Zepp, PhD Assistant Professor of Pediatrics Division of Pulmonary and Sleep Medicine

Louise Wulfsohn, MS,OTR/L Occupational Therapist III

# **KEYNOTE SPEAKERS**

London, England, United Kingdom

Anne Greenough, MD, (Cantab), MB BS, DCH, FRCP, FRCPCH Professor of Neonatology and Clinical Respiratory Physiology Department of Women and Children's Health, School of Life Course Sciences Faculty of Life Sciences and Medicine, King's College London Neonatal Intensive Care Unit, King's College Hospital

### Patrick J. McNamara, MB, BCh, BAO, MRCPCH

Professor of Pediatrics and Internal Medicine Regan Giesinger Professor of Neonatology Director, Division of Neonatology University of Iowa Stead Family Children's Hospital



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# **GUEST FACULTY**

Christopher D. Baker, MD Director, Ventilator Care Program Children's Hospital Colorado Professor of Pediatrics — Pulmonary Medicine University of Colorado School of Medicine

Dawn Drumm, PT, DHSc Physical Therapist II, NICU Ann & Robert H. Lurie Children's Hospital of Chicago

Laurie Eldredge, MD, PhD Co-director, Seattle Children's BPD Team Principal Investigator, Seattle Children's Center for Respiratory Biology and Therapeutics Assistant Professor, Pediatric Pulmonary and Sleep Medicine University of Washington School of Medicine and Seattle Children's Hospital

Denise Gibbs, PT, DPT, CNT, Schroth Therapist Physical Therapist Morgan Stanley Children's Hospital

### Pamela S. Griffiths, MD

Division of Neonatology, Phoenix Children's Hospital Co-Director of Bronchopulmonary Dysplasia Program Clinical Assistant Professor Department of Child Health, University of Arizona College of Medicine—Phoenix Clinical Assistant Professor, Department of Pediatrics Creighton University, Phoenix Campus

**Rebekah Halpern, PA-C, MPAS** *Physician Assistant Children's Hospital of Los Angeles* 

Melissa Hanin, MS, OT/L, CNT Neonatal Therapist Diversity and Inclusion Council Nationwide Children's Hospital (Columbus, Ohio)

Satya Houin, MD Director, Supporting Preemie Respiratory OUTcomes (SPROUT) team for severe BPD NICU Lead, Vent Care Program for Chronic Ventilation Section of Neonatology, University of Colorado Assistant Professor of Pediatrics

Lauren Ingledow Co-founder / Director Adult Preemie Advocacy Network CIC United Kingdom

Michelle M. Kelly, PhD, CRNP Associate Professor, Villanova University Co-Director, Mid-Atlantic Center for Children's Health and the Environment

Caitlin Knox, BSN, RN NICU Nationwide Children's Hospital, Columbus, Ohio

### Erica Mandell, DO

Assistant Director, Supporting Preterm Respiratory OUTcomes (SPROUTS) transitional ventilation team Children's Hospital of Colorado Associate Professor of Pediatrics, Division of Neonatology University of Colorado School of Medicine

### Audrey Miller, MD

Medical Director, Bronchopulmonary Dysplasia NICU Nationwide Children's Hospital, Columbus, Ohio Assistant Professor of Pediatrics Ohio State University School of Medicine

### Meaghan Ransom, MD, MPH

Associate Director for Translational Research Vanderbilt Biodevelopmental Origins of Lung Disease Center Mildred Stahlman Division of Neonatology Monroe Carell Jr. Children's Hospital at Vanderbilt, Nashville Assistant Professor of Pediatrics Vanderbilt University School of Medicine

### Rebecca S. Rose, MD, MS

Neonatology Assistant Chief of Quality Interim Medical Director, Riley Simon Family Tower NICU (Level IV), Riley Children's Health Associate Professor of Clinical Pediatrics Indiana University

### **Emma L. Ross, PharmD, BCPPS** *NICU Clinical Pharmacy Specialist*

Children's Hospital Colorado

Lee Ryan, OTR/L, MS Occupational Therapist II, NTMTC Ann & Robert H. Lurie Children's Hospital of Chicago

Brooke Smith, MHA, RRT-NPS NICU RT Clinical Supervisor Children's Mercy Kansas City

Kelly Susey, MPT, CNT Comprehensive Center for Bronchopulmonary Dysplasia Nationwide Children's Hospital (Columbus, Ohio)

Elizabeth S. Taglauer, MD, PhD Assistant Professor of Pediatrics Boston University Chobanian & Avedisian School of Medicine Boston Medical Center



# MODERATORS

**Steven H. Abman, MD** Director of the Pediatric Heart Lung Center Children's Hospital Colorado and the University of Colorado Denver Anschutz Medical Center Professor, Department of Pediatrics University of Colorado School of Medicine

Eric C. Eichenwald, MD Chief, Division of Neonatology Attending Neonatologist, N/IICU Professor of Pediatrics

Amy G. Kelly, BSN, RNC-NIC Interim Nurse Manager N/IICU East Clinical Nurse Expert, N/IICU East Co-Lead, N/IICU Transport Team

Krithika Lingappan, MD, MS, PhD Attending Neonatologist, N/IICU Associate Professor of Pediatrics

Kristen J. McKenna, MD, MPH Attending Neonatologist Associate Professor of Clinical Pediatrics

Timothy Nelin, MD Attending Neonatologist, N/IICU

Laura Sillers, MD Attending Neonatologist, N/IICU Assistant Professor of Clinical Pediatrics Jason Z. Stoller, MD Attending Neonatologist, N/IICU Professor of Clinical Pediatrics

Audrey Wood, PT, MS, DPT, PCS Physical Therapist III, N/IICU

### CONFERENCE PLANNING COMMITTEE

Steven H. Abman, MD Patricia Achuff, MBA, RRT-NPS Emily Bingham, RD-AP, CNSC, LDN, RD Meghan Burkhardt, MS, OTR/L, BCP Anna O'Brien, PharmD, BCPPS Jayne Celeste, BSN, RN Kathleen Gibbs, MD Erik A. Jensen, MD, MSCE Amy G. Kelly, BSN, RNC-NIC Krithika Lingappan, MD, MS, PhD Rachel MacKenzie, MBA, RRT-NPS Heidi Morris, MMS, PAC-C Leif D. Nelin, MD Kathleen A. Nilan, RN Patricia O'Connor, RN, MS Jason Z. Stoller, MD Karen Warren, MSN, NNP-BC Julia Welc, MA, CCC/SLP Audrey Wood, PT, MS, DPT, PCS Huayan Zhang, MD

