SUNDAY, JUNE 2

12:00 - 5:00 Registration

1:00 - 4:35 Pre-Conference: Mechanic Studies into the Prevention and Treatment of NEC
Facilitated by: Steven McElroy, MD; Agostino Pierro, MD; and Akhil Maheshwari, MD
With presentations from: Christopher Gayer, MD, PhD; David Hackam, MD, PhD, FACS; Catherine Hunter, MD; Camilla Martin, MD, Isabelle De Plaen, MD; Misty Good, MD, MS; Mark Underwood, MD; Matthew Ralls, MD, Doug Burrin, PhD; Venkatesh Sampath, MBBS, MRCPCh

4:35 - 5:05 Podium presentation for select abstracts
4:35 Recombinant human soluble thrombomodulin reduces the severity and incidence of NEC in a newborn rat model
4:50 Human breast milk-derived exosomes in the protection against experimental NEC

5:05 - 5:30 Break / Registration / Exhibits / Refreshments

5:30 Welcome address by Anne Trontell, MD, MPH
Associate Director
Clinical Effectiveness and Decision Science
Patient-Centered Outcomes Research Institute (PCORI)

5:45 - 7:00 Networking

Spotlight: Pre-conference Session
Sunday afternoon’s session will allow an in-depth look at advances in basic science related to NEC.

MONDAY, JUNE 3

7:00 - 7:45 Registration and continental breakfast

7:45 - 8:00 Welcome remarks
Jennifer Canvasser, MSW; Samir Gadepalli, MD, MBA

8:00 - 9:00 NEC: Recent Breakthroughs and Promising Directions
Facilitator: Mark Underwood, MD

9:00 - 10:00 Disparities in the Care of Fragile Infants and Opportunities to Overcome Them
Facilitators: Jochen Probst, MD, MPH; Krista Sigurdson, PhD
Patient-Family Representative: Lelis Vernon

10:00 - 10:30 Break

10:30 - 11:30 Defining NEC: Using Patient-Family Driven Outcome Measures
Facilitators: Steven McElroy, MD; Ravi Patel, MD, MSc
Patient-Family Representative: Simone Rosito, MA

11:30 - 12:30 Diagnosing NEC: Diagnostic Criteria, Proposed Changes, and Emerging Diagnostic Tools
Facilitators: Jae Kim, MD, PhD; Karl Sylvester, MD
Patient-Family Representative: Cristal Grogan

12:30 - 1:30 Lunch (networking)

1:30 - 2:30 Risks and Benefits of Probiotic Use in Fragile Infants
Facilitators: Ravi Patel, MD; Joe Kim, MD, PhD;
with moderating by Mark Underwood, MD
Patient-Family Perspective: Erin Umberger, M. Arch

2:30 - 3:30 New Directions in NEC with Early Investigators Committed to Bridging the Translation Gap from Bench to Bedside
Facilitators: Misty Good, MD, MS; Colin Martin, MD; Troy Markel, MD; Haifa Chaaban, MD;
with moderating by David J. Hackam, MD, PhD, FACS
Patient-Family Representatives: Heather Denchik, RN, BSN; Heather Tanner, MSA

3:30 - 3:45 Break

3:45 - 4:45 Empowering Families and Driving Patient-Centered Outcomes Research
Facilitators: Heather Denchik, RN, BSN;
Noah Canvasser, MD; Linseigh Green;
with moderating by Mark Underwood, MD

4:45 - 5:45 Evaluating Strategies to Increase the Use of Mothers Own Milk in the NICU
Facilitators: aloka Patel, MD; Paula Meier, PhD, RN
Patient-Family Perspective: Jennifer Canvasser, MSW

5:45 - 6:00 Podium presentation for select abstract
Lactobacillus rhamnosus induces SIGIRR and ameliorates NEC-like intestinal injury in a dose-dependent manner

7pm Optional: “Big House” Michigan Stadium tour (limited tickets available)
TUESDAY, JUNE 4

7:00 - 8:00 Networking and continental breakfast

8:00 - 9:00 Uniting Providers and Patient-Families Towards NEC Prevention and Improved Outcomes
Facilitator: Roger Soll, MD

9:00 - 10:00 Promising Novel Therapies for NEC in Preclinical and Clinical Trials
Facilitators: Gail Besner, MD; Eamonn Connolly, PhD
Patient-Family Representative: Ryan Raab, PE

10:00 - 10:30 Break

10:30 - 11:30 How Human Milk Protects Against NEC: Breaking Down the Science
Facilitators: Tarah Calazay, MD, MPH; Christina Valentine, MD
Patient-Family Representative: Simone Rosito, MA

11:30 - 12:30 Opportunities for the Federal Government to Help Advance NEC Research
Facilitators: Gerri Baer, MD; Tanse Raju, MD, DCH
Patient-Family Representative: Jennifer Canavas, MSW

12:30 - 1:30 Lunch (networking)

1:30 - 3:00 Workgroups Round 1 (six workgroups, each repeat once)
Participants will choose to attend two different workgroup sessions, the first at 1:30 and the second at 3:15.

1. NEC Biorepository: A New Tool to Improve Our Understanding of the Disease (Michigan Room)
Facilitators: Misty Good, MD, MS; Sunyoung Kim, PhD; Troy Markel, MD; Matthew Ralls, MD;
Patient-Family Representative: Erin Umberger, MArch

2. Innovative Quality Improvement Projects in the NICU (Ballroom)
Facilitators: Minesh Khashu, MD, FRCPCH; Robert E. Schumacher, MD
Patient-Family Representative: Ryan Raab, PE

3. NEC Advocacy and the Prioritization of Resources (Kalamazoo Room)
Facilitators: Samir Gadoepall, MD, MBA; Camilla Martin, MD MS
Patient-Family Representatives: Heather Tanner, MSA; Heather Denchik, RN, BSN

4. Advancing the Needs of Patient-Families through the NEC Research Collaborative (Knossler Room)
Facilitators: Iae Kim, MD, PhD; Ravi Patel, MD; Anne Trontell, MD, MPH
Patient-Family Representative: Jennifer Canavas, MSW

5. Medically Fragile Term Infants with NEC (Henderson Room)
Facilitators: Amy Hair, MD; Steven McElroy, MD
Patient-Family Representative: Simone Rosito, MA

6. Tools to Support Families with NEC Survivors (Room D)
Facilitators: Sheila Gephart, RN, PhD; Wakako Eklund, DNP
Patient-Family Representatives: Cristal Grogan, Leila Bauxd Vennon, Lineigh Green

3:15 - 4:45 Workgroups Round 2

4:45 - 5:00 Podium presentation for select abstract
Remote ischemic conditioning improves NEC-induced intestinal injury by improving structure & microvasculature of the intestinal villi

5:00 - 5:30 Workgroup reports and proposed next steps

5:30 - 6:30 Poster Session

Spotlight: Workgroups
Workgroups will be interactive, with participants actively engaging with the faculty facilitators to develop PCOR/CER.
Each workgroup should culminate in a patient-family-centered project for the NEC Society Research Collaborative to investigate.

“I met colleagues at this meeting that will stimulate collaborative projects related to NEC research. I was especially pleased and informed by having a multidisciplinary perspective on this disease; it increased my awareness of the obstacles and challenges we face in preventing this disease.”
- 2017 NEC Symposium Attendee
WEDNESDAY, JUNE 5

7:00 - 8:00 Networking and continental breakfast

8:00 - 9:00 Probiotics and NEC: What We Learn From Experience Resulting in Litigation
- Facilitators: Matthew Bizzarro, MD; and Adam Masin, Esq.
- Patient-Family Representative: Jennifer Canvasser, MSW

9:00 - 9:15 Podium presentation for select abstract
- Restoration of intestinal motility prevents disease progression in NEC through enteric neuron signaling

9:15 - 10:15 Adding Fortifier to Human Milk: How to Optimize Safety
- Facilitators: Amy Hair, MD; Sarah Taylor, MD, MSCR;
  with moderating by Jae Kim, MD, PhD
- Patient-Family Representative: Cristal Grogan

10:15 - 10:45 Break

10:45 - 11:45 NEC Risk: Early Identification and Risk Stratification
- Facilitators: Sheila Gephart, RN, PhD; Karl Sylvester, MD
  Patient-Family Representative: Leilis Dauzà-Vernon

11:45 - 12:45 International Opportunities to Improve NEC Practices and the Patient-Family Experience
- Facilitators: Wakako Ekiund, DNP; Minesh Khashu, MD, FRCPCH; Agostino Pierro, MD; Simone Rustio, MA;
  with moderating by Steven McElroy, MD

12:45 - 1:15 Closing remarks: Priorities for Driving PCOR and NEC Prevention
- Facilitators: Jennifer Canvasser, MSW; Samir Gadeppali, MD, MBA; Erin Umberger, M.Arch

1:15 Adjourn, take-away lunch

FACULTY

COURSE CHAIRS
- Jennifer Canvasser, MSW
  Founder, Director
  NEC Society

- Samir K. Gadeppali, MD, MBA
  Pediatric Surgery and Surgical Critical Care
  C.S. Mott Children’s Hospital
  University of Michigan, Ann Arbor, MI

- Erin Umberger, M.Arch
  Director
  NEC Society

PLANNING COMMITTEE
- Gail E. Besner, MD, FACS, FAAP
  H. William Clatworthy Jr.
  Professor of Surgery
  Chief, Department of Pediatric Surgery
  Nationwide Children’s Hospital
  Columbus, OH

- Michael Caplan, MD
  Chairman, Department of Pediatrics
  Chief Scientific Officer
  NorthShore University HealthSystem
  Clinical Professor of Pediatrics
  University of Chicago, Pritzker School of Medicine

- Sheila M. Gephart, RN, PhD
  Associate Professor
  Robert Wood Johnson Foundation
  Nurse Faculty Scholar
  University of Arizona College of Nursing
  Tucson, Arizona

- Misty Good, MD, MS
  Assistant Professor of Pediatrics
  Co-Director of Neonatal-Perinatal Medicine Fellowship
  Washington University School of Medicine
  Department of Pediatrics
  Division of Newborn Medicine
  St. Louis Children’s Hospital

- Amy Hair, MD
  Assistant Professor
  Program Director of Neonatal Nutrition
  Program Director of NICU Intestinal Rehab Team
  Section of Neonatology
  Department of Pediatrics
  Baylor College of Medicine
  Texas Children’s Hospital

The NEC Symposium is certified as a Patients Included meeting.

The NEC Symposium has received support from the National Institute of Child Health and Human Development (NICHD)
Faculty (continued)

David J. Hackam, MD, PhD, FACS
Pediatric Surgeon, Chief and Co-Director, Johns Hopkins Children’s Center
Carrick Professor and Chief of Pediatric Surgery
Professor of Surgery, Pediatrics and Cell Biology
Johns Hopkins University School of Medicine

Catherine J. Hunter, MD
Associate Professor of Surgery
Northwestern University Feinberg School of Medicine

Minesh Khashu, MD, FRCPC
Founder, SIGNEC
Consultant in Neonatal Medicine

Sunyoung Kim, PhD
Professor, Department of Biochemistry & Molecular Biology
LSU School of Medicine & Health Sciences Center
Stanley S. Scott Cancer Center

Akhil Maheshwari, MD
Professor of Pediatrics
Josephine S. Sutliff Endowed Chair of Newborn Medicine
Director, Division of Neonatology
Associate Chair (Integration), Department of Pediatrics
Johns Hopkins University School of Medicine

Colin Martin, MD
Assistant Professor of Pediatric Surgery
Children’s of Alabama
University of Alabama at Birmingham

Adam M. Masin, Esq.
Partner, Shipman & Goodwin LLP
Hartford, Connecticut

Paula Meier, PhD, RN, FAAN
Director for Clinical Research and Lactation, Neonatal Intensive Care
Professor of Women’s, Children and Family Nursing
Professor of Pediatrics
Rush University Medical Center
Past President, International Society for Research in Human Milk and Lactation

Aloka L. Patel, MD
Associate Professor of Pediatrics
Section of Neonatology
Research Director for the Section of Neonatology
Rush University Medical Center

Agostino Pierro, MD
Head of the Division of General and Thoracic Surgery
Children’s Hospital of Philadelphia
Robert M. Figer Professor of Surgery
University of Toronto, Canada
Co-Editor in Chief Pediatric Surgery International

Jochen Profit, MD, MPH
Associate Professor of Pediatrics
Eunice Kennedy Shriver National Institute of Child Health and Development, National Institute of Health

Ryan Raab, PE
Bereaved father

Tonse Raju, MD, DCH
Chief, Perinatology Branch
National Institute of Child Health and Human Development

Matthew Rails, MD
Assistant Professor
Pediatric Surgery and Surgical Critical Care
C.S. Mott Children’s Hospital
University of Michigan, Ann Arbor, MI

Simone Rosito, MA
Director, President, Founder
Pequenas Grandes Guerreiros, Brazil

Venkatesh Sampath, MBBS, MRCPCh
Professor of Pediatrics
University of Missouri at Kansas City
Director of Neonatal Lung and Immunology Laboratories
Division of Neonatology

Robert E. Schumacher, MD
Professor of Pediatrics
Neonatal Perinatal Medicine
Michigan Medicine
Medical Director, Brandon Newborn ICU
C. S. Mott Children’s Hospital

Krista Sigurdson, PhD
Post Doctoral Research Fellow
Neonatal and Developmental Medicine
Stanford University

Roger Soll, MD
Professor of Pediatrics, University of Vermont
Coordinating Editor, Cochrane Neonatal
President, Vermont Oxford Network

Karl Sylvester, MD
Professor of Surgery & Pediatrics
Executive Director, Fetal and Pregnancy Health Program
Lucile Packard Children’s Hospital
Stanford Associate Dean, Maternal Child Health - Research
Stanford University School of Medicine

Heather Tanner, MSA, BSBA
Mother of NEC survivor
Project Coordinator, NEC Society

Sarah N. Taylor, MD, MSCR
Director of Clinical Research
Associate Professor of Neonatology
Yale School of Medicine

Anne Trontell, MD, MPH
Associate Director
Clinical Effectiveness and Decision Science
Patient-Centered Outcomes Research Institute

Christina Valentine, MD, MS, RD, FAAP
Neonatologist, Central Ohio Newborn Medicine
Visiting Associate Professor, Obstetrics and Gynecology, The University of Cincinnati, and Medical Director, North America, RB Health

Lelis Bauzá Vernon
Mother of NEC survivors
DEDICATED SESSIONS

We are honored to dedicate each NEC Symposium session to babies impacted by this devastating disease. These babies and families are the reason we are committed to building a world without NEC. Join us in remembering and honoring each of them.

**Dedicated to Lydia and Carol Nell**
Mechanistic Studies into the Prevention and Treatment of NEC (Sunday, June 2 1:15 PM)

**Dedicated to Paige and Patrick Bibbee**
NEC: Recent Breakthroughs and Promising Directions (Monday, June 3 8:00 AM)

**Dedicated to Charlie and Bobby Vernon**
Disparities in the Care of Fragile Infants and Opportunities to Overcome Them (Monday, June 3 9:00 AM)

**Dedicated to Makenna Mebane**
Defining NEC: Using Patient-Family Driven Outcome Measures (Monday, June 3 10:30 AM)

**Dedicated to Reid Denchik**
Diagnosing NEC: Diagnostic Criteria, Proposed Changes, and Emerging Diagnostic Tools (Monday, June 3 11:30 AM)

**Dedicated to Matilda Grant**
Risks and Benefits of Probiotic Use in Fragile Infants (Monday, June 3 1:30 PM)

**Dedicated to Guy Ferguson**
New Directions in NEC with Early Investigators Committed to Bridging the Gap from Bench to Bedside (Monday, June 3 2:30 PM)

**Dedicated to Kaleb and Kadence Soash**
Empowering Families and Driving Patient-Centered Outcomes Research (Monday, June 3 3:45 PM)

**Dedicated to Desmond Boatright**
Evaluating Strategies to Increase the Use of Mothers Own Milk (Monday, June 3 4:45 PM)

**Dedicated to Henry Gu**
Uniting Providers and Patient-Families Towards NEC Prevention and Improved Outcomes (Tuesday, June 4 8:00 AM)

**Dedicated to Sarah Rose Raab**
Promising Novel Therapies for NEC in Preclinical and Clinical Trials (Tuesday, June 4 9:00 AM)

**Dedicated to Antonio Rosito**
How Human Milk Protects Against NEC: Breaking Down the Science (Tuesday, June 4 10:30 AM)

**Dedicated to Micah Canvasser**
Opportunities for the Federal Government to Help Advance NEC Research (Tuesday, June 4 11:30 AM)

**Dedicated to Lakevia Ward**
NEC Biorepository: A New Tool to Improve Our Understanding of the Disease (Tuesday, June 4 1:30 PM)

**Dedicated to Elijah Correa**
Innovative Quality Improvement Projects in the NICU (Tuesday, June 4 1:30 PM)

**Dedicated to Colton Tanner**
NEC Advocacy and the Prioritization of Resources (Tuesday, June 4 1:30 PM)

**Dedicated to Hope Marie Luchsinger**
Advancing the Needs of Patient-Families through the NEC Society Research Collaborative (Tuesday, June 4 1:30 PM)

**Dedicated to Leyden Dlugolecki**
Medically Fragile Term Infants with NEC (Tuesday, June 4 1:30 PM)

**Dedicated to Linseigh Green**
Tools to Support Families with NEC Survivors (Tuesday, June 4 1:30 PM)

**Dedicated to Sophie Clinick**
Advancing the Needs of Patient-Families through the NEC Society Research Collaborative (Tuesday, June 4 3:15 PM)

**Dedicated to Keaton, Dorian, and Aiden Davis**
Probiotics and NEC: What We Learn From Experience Resulting In Litigation (Wednesday, June 5 8:00 AM)

**Dedicated to Seth Grogan**
Adding Fortifier to Human Milk: How to Optimize Safety (Wednesday, June 5 9:15 AM)

**Dedicated to Brooks Cavellini**
NEC Risk: Early Identification and Risk Stratification (Wednesday, June 5 10:45 AM)

**Dedicated to Freddie Spruce**
International Opportunities to Improve NEC Practices and the Patient-Family Experience (Wednesday, June 5 11:45 AM)

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Thank you to our NEC Symposium exhibitors!

Abbott Nutrition
Bronson Mothers’ Milk Bank
Child and Family Life at C.S. Mott Children’s Hospital
Evolve Biosystems
FloraTummys
Human Milk Banking Association of North America (HMBANA)
Mallinckrodt Pharmaceuticals, Inc.
Mead Johnson Nutrition
MedEd on-the-go
Medela
MEDNAX

National Association of Neonatal Nurses (NANN)
NEC Society
NEC Society Research Collaborative
NEC-Zero Project at the University of Arizona College of Nursing
NeoMed
NICUniversity
Nutricia Advanced Medical Nutrition
Pequenos Grandes Guerreiros
Prolacta
Scioto Biosciences
Sister Friend Up
The NEC Symposium is made possible through a partnership between the NEC Society and Section of Pediatric Surgery at the University of Michigan, with support from a Eugene Washington PCORI Engagement Award (Contract #EAIN-10633), the NICHD, and our generous community of supporters.

HIGHLIGHTS

• NEC: Recent Breakthroughs and Promising Directions
• Disparities in the Care of Fragile Infants and Opportunities to Overcome Them
• International Opportunities to Improve NEC Practices and the Patient-Family Experience
• Risks and Benefits of Probiotic Use in Fragile Infants
• Evaluating Strategies to Increase the Use of Mothers Own Milk in the NICU
• Promising Novel Therapies for NEC in Preclinical and Clinical Trials
• Opportunities for the Federal Government to Help Advance NEC Research
• NEC Biorepository

TARGET AUDIENCE

This activity is designed for physicians, scientists, nurse practitioners, physician assistants, nurses, pharmacists, dietitians, lactation consultants, health policy makers, nonprofit leaders, industry, and other diverse stakeholders committed to driving patient-centered outcomes research, comparative effectiveness research, and improving prevention and treatment for infants at risk of necrotizing enterocolitis.

WHY YOU SHOULD ATTEND

The NEC Symposium will convene multidisciplinary stakeholders to fundamentally improve the understanding, prevention, and treatment of NEC. It will support the development of quality improvement projects, novel research, and refined clinical guidelines.

The Symposium will provide opportunities for education, collaboration, and networking for junior and senior providers and investigators. Attendees will be actively engaged throughout the meeting and encouraged to share their diverse expertise and perspectives to help cultivate specific recommendations and standards. Content from the NEC Symposium will be published in Pediatric Research.

The NEC Society supports breastfeeding mothers. Mothers are welcome to breastfeed their child anywhere throughout the conference. A lactation room will be available for mothers who need to pump or prefer privacy.

EDUCATIONAL PURPOSE

Despite significant advances in neonatal care, NEC remains a leading cause of death for neonates, with survivors frequently facing lifelong health challenges. This conference will provide a rare opportunity to have a multidisciplinary conversation about improving NEC outcomes and driving patient-centered outcomes research. It will convene some of the most committed NEC professionals and patient-families from around the world. The Symposium will foster collaboration, develop new strategic lines of research, empower families, and refine protocols to help diagnose, prevent, and treat NEC.

EDUCATIONAL OBJECTIVES

• Summarize recent breakthroughs in NEC basic science research
• Understand current disparities in the care of fragile infants and opportunities to overcome them
• Summarize potential new treatments for NEC
• Understand the need for a refined definition of NEC
• Articulate emerging tools for NEC diagnosis
• Explain the risks and benefits of probiotic use in fragile infants
• Summarize strategies to increase the use of mothers own milk in the NICU
• Describe international practice differences related to NEC
• Identify methods to partner with and empower families in reducing the risks of NEC

“One of the best conferences I’ve been to. The ability to convene scientific researchers, families and health care providers is astounding and much appreciated”  - 2017 NEC Symposium Attendee
LOCATION

The NEC Symposium will be held at the Michigan League on the University of Michigan campus (911 N University Ave, Ann Arbor, MI 48104). The Michigan League is located in the heart of Ann Arbor, where you can walk to incredible restaurants, unique galleries and independent bookstores.

TRANSPORTATION

Ann Arbor is a 24-mile drive from Detroit Metropolitan Wayne County International Airport (DTW), which has direct flights from around the United States, Canada, Europe, South America and Asia. There are multiple ground transportation options between DTW and Ann Arbor, including private cars, taxis, and shuttles.

LODGING

Rooms have been booked at the Bell Tower, The Inn at the Michigan League, and Graduate Hotels. Additional lodging information can be found at VisitAnnArbor.org. NEC Symposium participants are encouraged to stay in or near downtown Ann Arbor.

CONFERENCE MATERIALS

Conference materials will be available to pre-registered attendees prior to the conference for downloading and printing.

ACCREDITATION

This activity has been planned and implemented in accordance with the accreditation requirements and policies of the Accreditation Council for Continuing Medical Education (ACCME) through the joint providership of the University of Michigan and the NEC Society. The University of Michigan is accredited by the ACCME to provide continuing medical education for physicians.

CREDIT DESIGNATION

PHYSICIAN CREDIT: The University of Michigan designates this live activity for a maximum of 24.75 AMA PRA Category 1 Credits.™ Physicians should claim only the credit commensurate with the extent of their participation in the activity.

AMA PRA Category 1 Credits™ acceptable for other health care providers:
NURSE: For the purpose of recertification, the American Nurses Credentialing Center accepts AMA PRA Category 1 Credits™ issued by organizations accredited by the ACCME. Report a maximum of 24.75 hours of credit and fill in “CME Category 1” for the provider number.
PHARMACIST: You may petition the Michigan State Board of Pharmacy for CE credit for this symposium.
PHYSICIAN ASSISTANT: The National Commission on Certification of Physician Assistants (NCCPA) states that AMA PRA Category 1 Credits™ are acceptable for continuing medical education requirements for recertification.

CONFERENCE REGISTRATION

Please register early - space is limited.

Early bird registration ends May 1. For tuition rates and to register, please visit https://necsymposium.eventbrite.com

Tuition includes welcome reception, continental breakfasts, refreshment breaks, lunches, electronic syllabus, and an online certificate of attendance for those earning CMEs.

Cancellation and Refund Policy: Registration is non-refundable.

For further information contact: Jennifer Canvasser, NEC Society
Jennifer@NECsociety.org

To register for the NEC Symposium, visit https://necsymposium.eventbrite.com