Year in Review
Over the last year the Motor Development Lab (MDL) and its staff have continued to grow, improved pediatric rehabilitation research, and train the next generation of leaders in rehabilitation researchers. The MDL continues its roots in Richmond VA where PhD students Shaaron Brown, Becky Molinini, and Ketaki Inamdar, clinical research coordinator Meagan Miller, Co-Investigator Audrey Kane, Christine Spence, and Mary Shall have been keeping the VCU MDL running along to finishing enrollment for the SPEEDI2 clinical trial. This team, along with an outstanding group of clinicians providing intervention and assessment and collaborators at University of Virginia have made it possible to weather a tough few years doing clinical research in Virginia.

In Los Angeles our team has been growing with new PhD students, coordinators, visiting Fulbright scholars, clinicians, and students interested in research. The MDL contributed to over 5 conferences, mentored high school, undergraduate, and graduated students from diverse backgrounds, disseminated research in peer reviewed publications and presented on the state of the science for rehabilitation research at the NIH strategic planning meeting on Cerebral Palsy.

While the MDL focuses on research, the need to translate research to practice and provide services to those with the greatest needs prompted another venture. The USC MDL is providing clinical PT services! This small clinical practice was started to enhance the evaluation and treatment of infants and young children who were born preterm or would benefit from a rapid initiation of services during the transition from hospital to home. I feel incredibly lucky to share my passion for the research we do with clinicians and families, all with the goal of improving outcomes for infants and children with a high risk of disability, including those facing racial and ethnic inequities. We are grateful to all the families who have participated in research to improve care now and in the future. Many thanks to the amazing MDL team for your passion and dedication to this meaningful work.

~Stacey C. Dusing, PT, PhD, FAPTA, Director MDL
This study uses Ecological Momentary Assessment methodology to measure infants' everyday experiences in different positioning contexts. Families complete frequent, brief smartphone-based surveys about their baby's current activities over a two-week period. We aim to learn how early experience for infants at high risk for cerebral palsy differs from that of their same-aged peers with typical development. Recruitment is ongoing for 9- and 12-month-olds with typical development and 6-, 9, and 12-month-olds born very preterm or with perinatal brain injury. Note this study is 100% virtual so families may participate from anywhere in the United States!

This collaborative project between MDL Director Dr. Dusing and DIMPL Director Dr. Barbara Sargent will evaluate the feasibility and begin to evaluate the effect of a sensorimotor intervention (SMI) provided in the first 6 months of life. Twenty infants with moderate or severe HIE will be recruited and randomized into one of two groups: 1) standard care, and 2) standard care plus SMI. Infants in the SMI group will receive 2 intervention sessions in the NICU and 8 sessions in the home from 1 week to 6 months post discharge. The SMI will focus on supporting parents' ability to enhance motor-based problem solving and global development during the transition from NICU to home. Through this combined parent and therapist support intervention, the parents are empowered to provide their infants daily opportunities for sensorimotor play, increasing the likelihood of developmental change.

Funding: NICHD via C-Progress NCT05130528

The original study of the efficacy of usual care plus START-Play compared to usual care alone was completed this year. There will be outcome results published in 2023.

Funding: Institute of Educational Science. NCT 02593825

SIT-PT

The purpose of the SIT-PT study is to compare the effectiveness of two physical therapy interventions — MORE-PT and START-Play — while providing the same amount (dose) of intervention to participants in both groups.

We are looking for participants who are 7-24 months of age and have some signs of atypical neurological development and a motor delay. Contact us if you live in Omaha, Nebraska, Seattle, Washington or the greater Los Angeles area.

Funding: Eunice Kennedy Shriver National Institute of Child Health and Development. NCT04230278

Effects of posture and seating on learning opportunities in infants with typical development and infants with motor delay

This study examines immediate effects of positioning on infants' ability to interact with toys and with their caregivers. We are using dual head-mounted eye tracking to measure visual attention during naturalistic parent-infant interaction under different postural conditions. Recruitment is ongoing for typically developing infants (5-7 months of age) and infants with motor delay (8-14 months of age) who are unable to sit independently or just starting to sit.

Funding: Academy of Pediatric Physical Therapy

SIT-Prem

In Australia, the MDL collaborated with Alicia Spittle to increase the mental health component of SPEEDI using a telemedicine platform. In addition, collaborations with therapists in Bhutan, Brazil, and across the USA are helping to demonstrate the importance and feasibility of providing evidence-based therapy during the transition from NICU to home.

Funding: Australian Government Health Department Medical Research Future Fund (MRFF). ACTRN12621000364875

Does Timing Matter? Supporting Play and Exploration and Developmental Intervention (SPEEDI2)

After 3 years, including 2 during the COVID pandemic, the SPEEDI2 study closed to enrollment with 85 preterm infants and their caregiver. All 85 infants are being followed for 2 years to evaluate the impact of intervention on development. (Please give us a call if you missed a visit but want to resume visits. We want you back.)

Funding: Eunice Kennedy Shriver National Institute of Child Health and Development. NCT 03518736

Daily positioning experience in infants with typical development and infants at risk for cerebral palsy

This study uses Ecological Momentary Assessment methodology to measure infants' everyday experiences in different positioning contexts. Families complete frequent, brief smartphone-based surveys about their baby's current activities over a two-week period. We aim to learn how early experience for infants at high risk for cerebral palsy differs from that of their same-aged peers with typical development. Recruitment is ongoing for 9- and 12-month-olds with typical development and 6-, 9, and 12-month-olds born very preterm or with perinatal brain injury. Note this study is 100% virtual so families may participate from anywhere in the United States!

Funding: NICHD via C-Progress NCT05130528

Coming Soon

Dr. Dusing and Dr. Sargent will collaborate to evaluate the impact of in-home body weight support on infant movements!
Meet the MDL Team

New team members

**Silvana**
Silvana Pereira is a full-time professor in Brazil and a Fulbright visiting scholar at the Motor Development Lab. Her project aims to assist with the development of a culturally appropriate telemedicine program to be implemented in Brazil. This requires her to learn the principles of the Supporting Play, Exploration, & Early Development Intervention, translate the parent education materials and video dialogue into Portuguese, and prepare for a pilot study to implement in Brazil.

**Giselle**
Giselle is the clinical research coordinator for the Motor Development Lab. She received her B.S. in biochemistry from UCLA. Giselle is working towards becoming a physician.

**Claire**
Claire is a research assistant for the Motor Development Lab. She recently graduated with her B.S. in neuroscience with a minor in dance at USC! Claire is working towards going to medical school to become a pediatrician.

Interested in joining our team? Contact us to learn more about a career in research, and the fully funded PhD program in Biokinesiology with a concentration in Pediatrics!
HONORS AND AWARDS

DR. DUSING
- American Academy for Cerebral Palsy and Developmental Medicine Mentorship Award
  Awarded to Dr. Dusing
- American Physical Therapy Association Chattanooga Award
  Awarded to Dr’s Harbourne & Dusing
- APTA John H.P. Maley Lecture Award
  Awarded to Dr. Dusing

AMERICAN ACADEMY FOR CEREBRAL PALSY AND DEVELOPMENTAL MEDICINE, GAYLE G. ARNOLD AWARD
Awarded: Karl L. Jancart, Iryna Babik, Andrea Baraldi Cunha, Natalie Koziol, Dongho Choi, Regina T. Harbourne, Michele A. Lobo, Sarah Westcott McCoy, Sandy L. Willett, Stacey C. Dusing, James Bovaird
Nominated: Christiana Butera, Claire Rhee, Shaaron Brown, Claire Kelly, Thijs Dhollander, Deanne Thompson, Natasha Lepore, Natalie Koziol, Barbara Sargent, Jennifer Burnsed, Mary Shall, SPEEDI Research Team, Stacey Dusing

USC ZUMBERGE RESEARCH COORDINATION & TEAM BUILDING AWARD
The Early Identification and Intervention for Infants in Los Angeles project brings together research, policy makers, administrators, and clinicians to evaluate the need for and methods to enhance identification of children who need rehabilitation services in the first months of life.
Awarded: Amy Yeh & Stacey Dusing

FOUNDATION FOR PHYSICAL THERAPY RESEARCH PROMOTION OF DOCTORAL STUDIES AWARD
Awarded: Corri Stuyvenberg

NIH R01 COLLABORATION
Dr. Dusing is happy to collaborate with Dr. Bobbi Pineda (USC Occupational Science) on Implementing the Baby Bridge Program via Telemedicine, (Occupational Therapy Research Foundation) and Multisensory interventions to improve neurodevelopmental outcomes of preterm infants hospitalized in the neonatal intensive care unit.

AMERICAN ACADEMY OF CEREBRAL PALSY AND DEVELOPMENTAL MEDICINE GRANT
Measuring Gross Motor Function Change in 3- to 24-Month-Old Children with or at High Risk for CP: Validation of the Gross Motor Function Measure 66 Item Sets.
Awarded: Natalie Koziol

Ketaki Inamdar passed her dissertation defense and officially became Dr. Inamdar! She will start a faculty position in January.
HELP US IMPROVE THE LIVES OF INFANTS BORN PRETERM OR WITH NEUROLOGICAL INJURIES BY GIVING A DONATION!

Text: “MDL” to 71777
Type: igfn.us/vf/MDL
Scan the QR code below with your smart phone camera

Donations support patient care, clinician training, research studies, and help us provide care for populations who have difficulty accessing care in the community

Contact Us!
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ABSTRACTS


MANUSCRIPTS


