MDL Newsletter

2023  sites.usc.edu/mdl/

Year in Review

The Motor Development Lab (MDL) had another productive year expanding evidence to support pediatric development and rehabilitation. With more than 10 ongoing research studies, our teams in Los Angeles and Richmond have worked seamlessly with the joint missions of improving the lives of all children and families.

MDL in Richmond, Virginia

In Richmond, we celebrated the graduation of Ketaki Inamdar and Becky Molinini from the Rehabilitation and Movement Science PhD Program. Dr. Inamdar's dissertation entitled Tummy Time in Infancy: Real World Assessment and Association with Developmental Outcomes in Early Childhood highlights the importance of tummy time or prone play, provides validated tools for use in measuring time in prone over the course of a full day, and highlighting the finding that parents of preterm infants in her sample over estimated the amount of tummy time completed in a given day. Her first paper will be recognized with the best abstract award in February at the American Physical Therapy Association Combined Sections Meeting in Boston. She is now an Assistant Professor in Physical Therapy at the University of West Virginia. Dr. Molinini’s dissertation entitled Exploring the Effect of Early Motor Delay and Physical Therapy Intervention on the Parent–Child Relationship highlights the importance of the parent child relationship in development for typically developing children and children with motor delays. She will be awarded the best dissertation award by the Academy of Pediatric Physical Therapy at the APTA Combined Sections meeting in Boston. Dr. Molinini is completing a post-doctoral fellowship with the Partnership for People with Disability at Virginia Commonwealth University. Corri Stuyvenberg and Shaaron Brown continue to make steady progress in their dissertation research both moving into candidacy status this year while working full time.

Highlights

- Year in Review
- Projects
- Continuing Education in the MDL and Honors
- Donate & Contact
- Publications

Click here for a video on the MDL!
Consensus conference on Play in Physical Therapy

Thanks to the Sykes Family Endowment, the lab hosted a consensus conference on the role of play in Physical Therapy. This meeting which followed with Feb 2023 Combined Sections Meeting brought together researchers from 3 countries and 5 states who conduct research on play, early intervention, and/or parent child interactions. The group was able to reach a consensus on how to describe play in rehabilitation (Fiss et al 2023), applied for and was awarded a systematic review grant from APTA, and built new collaborations between junior and senior faculty.

John HP Maley Lecture

I had the great honor of presenting the John HP Maley lecture at the American Physical Therapy Associate Leadership Congress. The lecture entitled Igniting the Fire of Discovery: Creating Partnerships Between Research, Education, and Practice highlighted the need to train more clinician scientists who could blend clinical practice and research within academia and medical centers.

An Amazing team

Many thanks to the amazing MDL team from coast to coast for your passion and dedication to this meaningful work. Thank you to the donors who help support our research, clinical practice, and community outreach through donations made directly to the MDL. Donations can be made in honor of a child, a specific program, or in lieu of gifts at birthday parties or other celebrations. Each contribution helps us ensure we can provide the needed support to engage all families in research and rehabilitation for their infants and young children.

- Stacey C. Dusing, PT, PhD, FAPTA, Director MDL
Early Identification and Intervention for Infants (EI3) Network Launches Resources and Training in Los Angeles.

The EI3 project brought 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. The consortium strives to clarify the roles of contributing agencies, provide parent and provider resources, and begin to introduce the impact of this knowledge on translation on practice patterns.

In July and August the EI3 Network trained over 50 therapist and physicians in the use of the Hammersmith Infant Neurological Exam (HIEN) and the EI3 resources available to increase awareness and clarity on the roles of various agencies in California who provide services for infants and young children with or at risk of having disabilities including but not limited to cerebral palsy.

The EI3 website provides freely downloadable handouts and guidelines for parents and providers. In addition, the EI3 network is providing scholarships for the April 2024 General Movement Assessment training to Los Angeles providers who work with High-Risk Infant Follow up Clinics (HRIF) in Los Angeles in the use of the General Movement Assessment and implementation of the International Guidelines for the Early and Accurate Diagnosis of Cerebral Palsy. For access to free EI3 resources, for more information or to sign up for the EI3 listserv go to steps2home.org. Funding from USC CTSI.

Development and Exploration with Dynamic Body Weight Support:

The purpose of this new study is to assess the impact of dynamic body weight support (DBWS) introduced early in development will have on self-directed exploration during play. Infants and children between 3 months to 5 years with and without developmental delay will participate while learning to sit, crawl, or walk. The Baby G (Artech) will offload a certain percentage of the infant’s body weight. The infant’s mobility and play behaviors are recorded and behaviorally coded for proportion of the time the infant is moving, who initiates transitions (infant or caregiver) and will allow us to evaluate the impact of child directed, but supported movement against therapist directed and supported. Comparison of these behaviors with and without the dynamic body weight support to allow us to determine the impact of the DBWS on movement.

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

The purpose of this study was to evaluate the efficacy and timing of intervention provided either in the transition from NICU to home or starting at 4 months. The SPEEDI intervention is based on well-established evidence of the need for intervention to be active, functional, start early, and monitor signs of stress and performance to provide the just right challenge in all developmental domains. This nearly completed clinical trial enrolled 83 infants born very premature, the youngest of whom will have their final visit at 24 months of age during 2024. While COVID required that some intervention and assessment be completed remotely during the peak of the pandemic, the majority was delivered in person. We anticipate having short term results ready to share in early 2024 and long term outcomes in late 2024.

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

Clinical Pediatric Physical Therapy Services Available in the Motor Development Lab

The USC MDL is providing clinical pediatric physical therapy 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 or in the first year of life. Parents or providers can refer infants for services in two ways.

1) With a referral from a medical provider and insurance call 323-442-0191 to schedule.

2) Not sure if your child needs therapy or interested in a free assessment? Sign up for a research assessment. We will provide recommendations for treatment options. No insurance or physician referral required. Consent for research assessment required. Call 323-442-0191 or sign up here:

Therapeutic Intervention Supporting Development From NICU to 6 Months for Infants Post Hypoxic-Ischemic Encephalopathy

This collaborative project between MDL Director Dr. Dusing and DIMPL Director Dr. Barbara Sargent is evaluating the feasibility of a sensorimotor intervention (SMI) provided in the first 6 months of life. Twenty infants with HIE born at any Los Angeles area hospital can enroll. If enrolled at the Children's Hospital of Los Angeles or Los Angeles General Hospital intervention can start before NICU discharge. Infants enrolled from other hospitals can set up their first visit prior to beginning the study following discharge. Parents can select between being in the standard care group or the standard care plus the SMI intervention. In the SMI group will receive 2 intervention sessions in the NICU (CHLA or LAG) 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. Enrollment early 2024.

Funding: NICHD via C-Progress NCT05130528

SIT-PT: Comparison of Two Physical Therapy Approaches for Young Children Beginning to Sit

The purpose of the SIT-PT study is to compare the effectiveness of two physical therapy interventions – MORE-PTand 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, Richmond, Virginia or the greater Los Angeles area.

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

Tummy Time Toy

This study aims to evaluate learning in infants during tummy time. The goal of this study is to understand if babies can learn and control their movements during tummy time. Infants’ ability to activate an AI based toy by raising their head at a set threshold will determine their ability to learn the mobile contingency in proine. The mobile contingency will reinforce movement during tummy time.
2024 SYKES SYMPOSIUM IN PEDIATRIC REHABILITATION: EVIDENCE BASED THERAPEUTIC INTERVENTION FOR BIRTH TO THREE-YEAR OLDS

The Sykes Symposium is a biannual conference to support the translation of new evidence into practice. This year's focus on evidence-based intervention for children under 3-years of age will include interventions that can be implemented in the home, clinic, or preschool and will all be based on current evidence.

Objectives:
1. Compare and contrast interventions for children with and at high risk of having Cerebral Palsy, Down Syndrome, and developmental delay.
2. Discuss the impact of evidence-based, diagnosis-specific interventions on early identification policy and early intervention service utilization.
3. Critically consider your current practices and plan for implementing earlier intervention.

REGISTER HERE: https://tinyurl.com/SYKES2024

SITTING TOGETHER AND REACHING TO PLAY TRAINING COURSE

This course outlines the theory and scientific background of the START-Play intervention. Clinical trial results on START-Play’s effectiveness are explained and linked to key ingredients of the intervention. Therapists will learn critical concepts, ways to incorporate those concepts into an early intervention program and how to actively problem solve to advance the developmental skills of young children with motor dysfunction. There are 12 self-paced lessons, each 20 to 30 minutes in length.

ENROLL HERE: https://tinyurl.com/SP-COURSE

HAMMERSMITH INFANT NEUROLOGICAL EXAM TRAINING

The HINE evaluates nerve function, movements, reflexes and reactions, posture, and tone and can help clinicians identify movement disorders. If you are a California resident and would like to receive training in this assessment, please use the link below:

tinyurl.com/HINELA

TOMMY AWARD FOR EXCELLENCE IN RESEARCH

Congratulations to our lab director, Dr. Stacey Dusing, on being awarded the Tommy Award for excellence in research. This award was presented by the USC division of Biokinesiology and Physical Therapy.

Rebecca Molinini passed her dissertation defense and officially became Dr. Molinini! She started a post-doctoral position in the Fall.

ADOPT-A-DOC SCHOLARSHIP: APTA ACADEMY OF EDUCATION

The APTA Academy of Education Adopt-A-Doc program seeks to increase the number of doctorally prepared PTs and PTAs by providing financial support to Academy members who are in the dissertation phase of their post-professional doctoral programs. Awarded: Corri Stuyvenburg
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!
Motor Development Lab

USC Division of Biokinesiology and Physical Therapy
1540 E Alcazar St, Los Angeles, CA 90033
Phone: (323) 442-0191
Email: motordevelopmentlab@pt.usc.edu

VCU Physical Therapy, College of Health Professions
900 E Leight St, Richmond, VA 23298
Phone: (804)628-5037
Email: mdlinpt@vcu.edu

Motor Development Lab
@motordevlab
@motordevlab
ABSTRACTS


2023 Rebecca Molinini, PT, DPT, Tom Choi, Natalie A Koziol, Corri Lynn Stuyvenberg, PT, DPT, MA, Regina Tambellini Harbourne, PT, PhD, FAPTA, Michele A. Lobo, PT, MPT, PhD, FAPTA, Sarah Westcott McCoy, PT, PhD, FAPTA and Stacey Chapman Dusing, PT, PhD, FAPTA. START—Play Physical Therapy Intervention Impacts Emotional Availability in Children with Neuromotor Disorders. Poster Presentation at Combined Sections Meeting.

2023 Ragnhild Barclay Håkstad, PT, MSPT, PhD, Gunn Kristin Øberg, Gay L. Girolami, PT, MS, PHD and Stacey Chapman Dusing, PT, PhD, FAPTA. Explorations of Therapeutic Handling in Children's Enactive Sensory-Motor Play and Learning. Poster Presentation at Combined Sections Meeting.

2023 Shaaron E. Brown, PT, DPT, Ketaki Inamdar, Rebecca Molinini, PT, DPT, Meagan Miller, Arya Salgoankaer, PT and Stacey Chapman Dusing, PT, PhD, FAPTA. Motor Based Problem Solving Intervention: Effective Changes in Development of Older Child with Cerebral Palsy. Poster Presentation at Combined Sections Meeting.

2023 Lin-Ya Hsu, Stacey Chapman Dusing, PT, PhD, FAPTA, Michele A. Lobo, PT, MPT, PhD, FAPTA, Sarah Westcott McCoy, PT, PhD, FAPTA, Natalie A Koziol, Sandra Louise Jensen-Willet, PT, MS, PhD, Andrea Cunha, PT, James A Bovaird and Regina Tambellini Harbourne, PT, PhD, FAPTA. Longer-Term Effect of START—Play Intervention in Infants with Neuromotor Disorders: A Multisite Randomized Clinical Trial. Poster Presentation at Combined Sections Meeting.


MANUSCRIPTS


