

Understanding the Role of NICU Experiences in Support of Growth, Brain Development, Neurocognitive Outcomes in Children Born Preterm

October 24

Tuesday, 12:30 pm

Billings Building—Rosedale Room

SPEAKER:



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Abstract

Medical advances in the past 20 years have dramatically improved rates of survival from preterm birth. Despite these advances, current care practices in the neonatal intensive unit (NICU) have had limited success in preventing adverse neurodevelopmental outcomes in children born very preterm (< 32 weeks gestation). A major focus of our lab is to understand how experiential factors during NICU hospitalization impact brain development and later neurodevelopmental outcomes in infants and children born preterm. We use a combination of observational and randomized control trial studies involving interventions in the NICU, measures of brain development, and neurocognitive outcomes. Taking this research approach, we aim to identify and test novel therapeutic approaches that can successfully support brain and neurocognitive development in children born preterm. In this talk, I will present both published and unpublished data which suggests that enhancing infants' exposure to speech or to parental skin-to-skin care (a.k.a. Kangaroo care) in the NICU benefits infant growth, brain development, and neurodevelopmental outcomes. I will end by presenting my ideas for follow-on research and clinical intervention studies.



Publications

1. Dubner S, Rose J, Bruckert L, Feldman H., Travis KE. (2020) Neonatal white matter tract microstructure and 2-year language outcomes after preterm birth. *NeuroImage Clinical* 28: 102446. PMC7554644
2. Brignoni-Pérez E, Morales MC, Marchman VA, Scala M, Feldman HM, Yeom KY, Travis KE (2021) Listening to Mom in the NICU: Effects of increased maternal speech exposure on language outcomes and white matter development in infants born very preterm. *BMC Trials* 22:444. PMC8276502
3. Kumar K, Marchman VA, Morales MC, Scala M, Travis KE. Investigating relations between NICU speech environment and weight gain in infant born very preterm. *American Journal of Perinatology* (2023). doi: 10.1055/a-2023-8813. Online ahead of print.