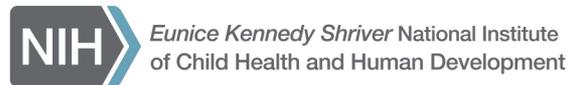


NICHD Epilepsy Portfolio

Tracy King, MD, MPH

Intellectual and Developmental Disabilities Branch (IDDB)
Eunice Kennedy Shriver National Institute of Child Health
and Human Development



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About the *Eunice Kennedy Shriver* National Institute of Child Health and Human Development (NICHD)

- Extremely broad mission and scope
 - Child health
 - Typical development
 - Intellectual and developmental disabilities
 - Prenatal/perinatal/neonatal health
 - Pregnancy
 - Reproductive health
 - Medical rehabilitation across the lifespan
(NCMRR: National Center for Medical Rehabilitation Research)



Overview – Epilepsy portfolio

- NICHD has a small Epilepsy portfolio
 - ~\$14M in FY2016
 - Almost entirely extramural
 - 1 intramural award, ~\$800k
- Heavily weighted toward pre-clinical research / animal models
- Most extramural support for clinical epilepsy-related research is housed within other research topic areas
 - Example: Award to Massachusetts General Hospital on the pathophysiology of new onset seizures in the context of abusive head trauma in children



Examples: Epilepsy research embedded in NICHD-supported Research Centers

- **Fragile X Research Center (UT Southwestern)**
 - Multi-site, multidisciplinary research center investigating mechanisms of neocortical and sensory hyperexcitability in Fragile X Syndrome
 - Includes model systems and mechanisms of epilepsy
- **Intellectual and Development Disabilities Research Center (University of Washington)**
 - Comprehensive interdisciplinary research center in the field of intellectual and developmental disabilities
 - Includes a focus on seizures / epilepsy



Examples: R01's

- *Preclinical:* Hypothermia to Prevent Neurotoxic Side Effects of Pediatric Drugs
 - Testing the efficacy of hypothermia in non-human primate infants in protecting the brain from toxicity of common drugs used for anesthesia, prolonged sedation or antiepileptic therapy
- *Preclinical:* Mechanisms of Valproic Acid-Induced Neurodevelopmental and Behavioral Deficits
 - Identifying pathways through which an anti-epileptic medication (VPA) causes neurodevelopmental deficits in the children of women exposed to VPA during pregnancy through mouse models
- *Clinical:* Perinatal Brain Injury: Potential of Innovative NIRS to Optimize Hypothermia
 - Determining whether Frequency Domain Near-Infrared Spectroscopy (FDNIRS) can accurately screen for acute neonatal encephalopathy, assess response to treatment and predict outcomes in at-risk neonates



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Thank you!

Tracy King

tracy.king@nih.gov