

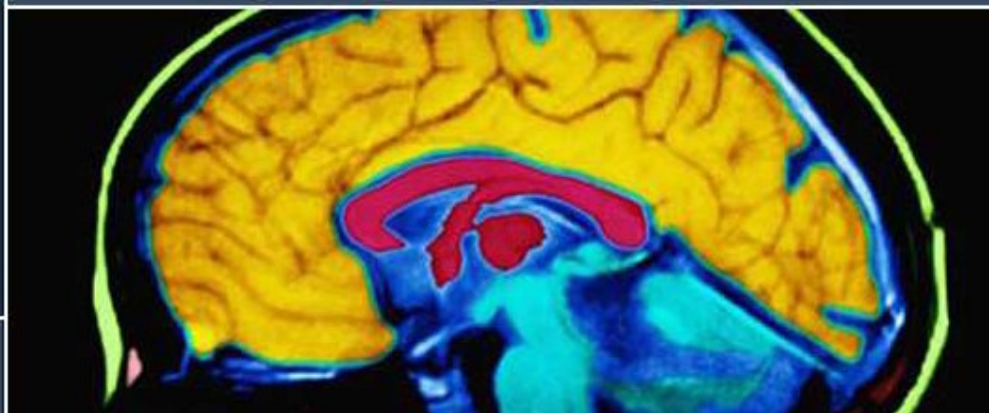


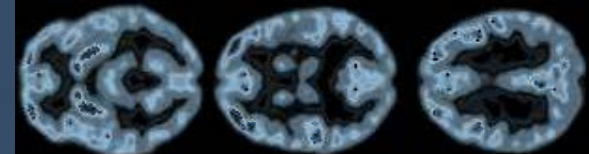
U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
National Institutes of Health  
National Institute of Neurological Disorders and Stroke

# NIH Support of Research on the Co-Morbidities of Epilepsy



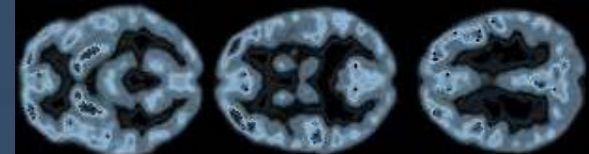
Vicky Holets Whittemore, PhD  
NINDS, NIH





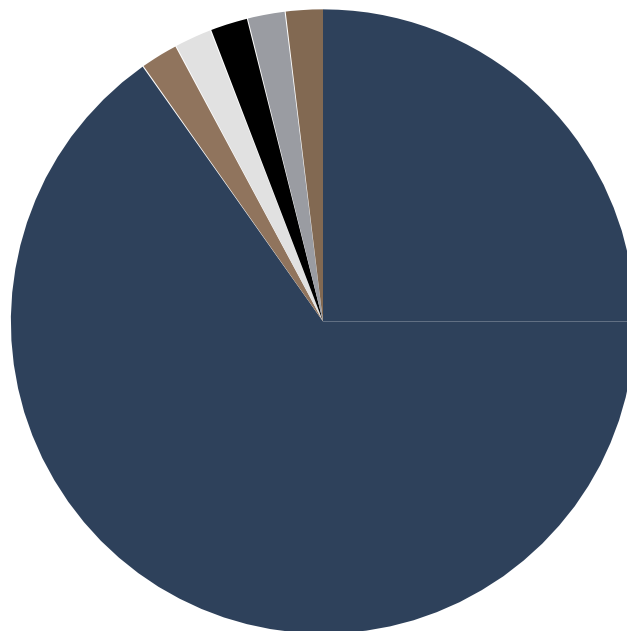
# **Benchmarks Area III: Prevent, limit, and reverse the co-morbidities associated with epilepsy and its treatment.**

- Identify and characterize the full range and age specificity of co-morbidities in people with epilepsy.
- Identify predictors and underlying mechanisms that contribute to co-morbidities.
- Determine the optimal treatments for the neuropsychiatric and cognitive co-morbidities in people with epilepsy.
- Prevent or limit other adverse consequences occurring in people with epilepsy.
- Develop effective methods for diagnosis, treatment and prevention of non-epileptic seizures (NES).

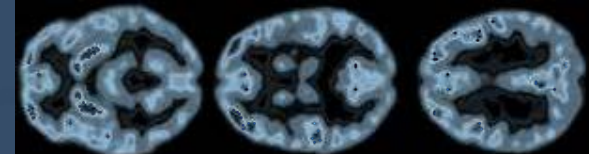


# Benchmarks Area II: Prevent, limit, and reverse the co-morbidities associated with epilepsy and its treatment.

FY11

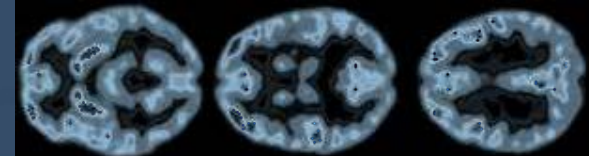


■ NINDS ■ NCRR ■ NHLBI ■ NIA ■ NIMH ■ OD



# Identify and characterize the full range and age specificity of co-morbidities in people with epilepsy.

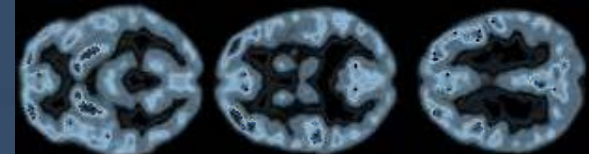
- NINDS
  - Long-Term Outcomes of Childhood-Onset Epilepsy, Anne Berg, Children's Memorial Hospital
  - Neuropsychological Progression in New Onset Epilepsy, Bruce Hermann, University of Wisconsin Madison
  - Mechanisms of Cognitive Impairment Following Early-Life Seizures, Greg Holmes, Dartmouth
  - Understanding the Cognitive Impact of Early Life Epilepsy, Frances Jensen, Children's Hospital Boston (NINDS & OD)
  - Longitudinal Neuroimaging in Sturge-Weber Syndrome, Casaba Juhasz, Wayne State University
- NIA
  - Mechanisms and Treatment of Network Dysfunction in Alzheimer's Disease, Keith Vossel, J. David Gladstone Institutes



## **Identify predictors and underlying mechanisms that contribute to co-morbidities.**

- **NINDS**

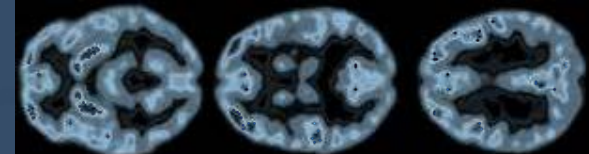
- Functional Brain Mapping in Pediatric Neurosurgery, Eishi Asano, Wayne State University
- Imaging the Effect of Centrottemporal Spikes and Seizures on Language in Children, Jennifer Vannest, Children's Hospital Medical Center Cincinnati
- Consequences of Prolonged Febrile Seizures in Childhood, Shlomo Shinnar, Montefiore Medical Center
- Mechanisms of Comorbidity Between Epilepsy and Depression, Andrey Mazarati, UCLA



# **Determine the optimal treatments for the neuropsychiatric and cognitive co-morbidities in people with epilepsy.**

- **NINDS**

- Radiosurgery vs Lobectomy for Temporal Lobe Epilepsy: Phase 3 Clinical Trial, Nicholas Barbaro, UCSF
- Impact of Initial Therapy and Response on Long Term Outcome in Children with CAE, Tracy Glauser, Children's Hospital Medical Center Cincinnati



## **Prevent or limit other adverse consequences occurring in people with epilepsy.**

- **NINDS**

- Prevention and Risk Identification of SUDEP Mortality - the PRISM Project, Samden Lhatoo, Case Western Reserve University
- Predictive Genes, Mechanisms, and Clinical Biomarkers of SUDEP, Jeff Noebels, Baylor
- Copy Number Variants of Neuro-Cardiac Ion Channel Genes and the Risk of SUDEP, Alica Goldman, Baylor
- Serotonin Neurons in Arousal, Epilepsy and SUDEP, Gordon Buchanon, Yale University
- Cardiac Dysfunction in Epilepsy: A Candidate Mechanism in Sudden Unexpected Death, Anne Anderson, Baylor

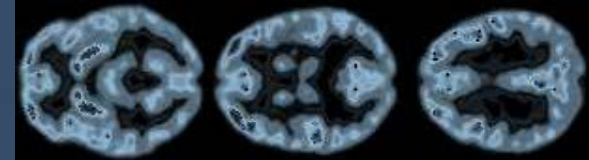
- **NHLBI**

- Excitability Mechanisms of Neurocardiac Regulation, Albert Glasscock, Baylor





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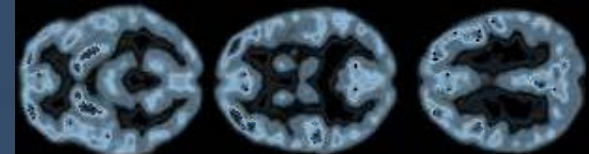
# **Develop effective methods for diagnosis, treatment and prevention of non-epileptic seizures (NES).**

None



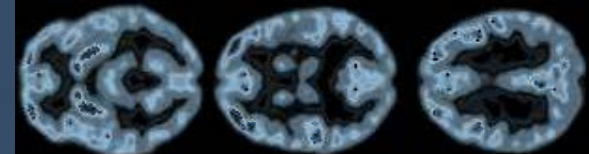


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# **National Institute of Nursing Research (NINR)**

- **Chronic Illness Self-Management in Children and Adolescents: PA-11-070, -071, -072**
- **Focal Cognitive Deficits in CNS Disorders: PA-11-067, -068, -069**



# National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)

- NIAMS has supported Alison Pack's research, leading to the following articles:

- [Normal vitamin D and low free estradiol levels in women on enzyme-inducing antiepileptic drugs.](#)

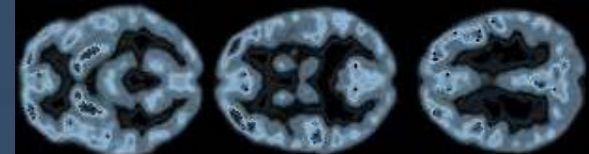
Pack AM, Morrell MJ, McMahon DJ, Shane E. Epilepsy Behav. 2011 Aug;21(4):453-8. Epub 2011 Jun 25.

- [Treatment of epilepsy to optimize bone health.](#)

Pack AM. Curr Treat Options Neurol. 2011 Aug; 13(4):346-54.

- [Neuroendocrinological aspects of epilepsy: important issues and trends in future research.](#)

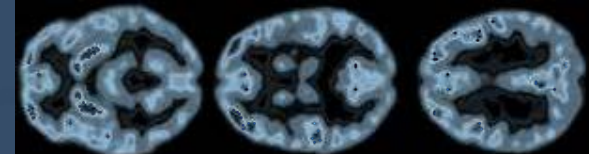
Pack AM, Reddy DS, Duncan S, Herzog A. Epilepsy Behav. 2011 Sep;22(1):94-102. Epub 2011 Mar 30. Review.



# Eunice Kennedy Shriver National Institute for Child Health and Human Development (NICHD)

- NICHD co-sponsored the recent Autism-Epilepsy Workshop
- NICHD Intellectual and Developmental Disabilities Research Centers 2010 (P30) program

<http://grants.nih.gov/grants/guide/rfa-files/RFA-HD-09-012.html>

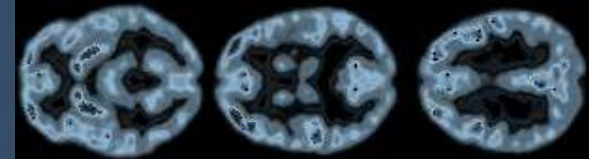


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- Brandy Fureman, PhD
- Miriam Leenders, PhD
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- Cara Long, PhD
- Elizabeth Webber, PhD



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# Questions?