NIH, NFL, and Concussion Research Funding

The National Institutes of Health (NIH) announced on December 16 that it had selected 8 projects to receive support to answer fundamental questions about traumatic brain injury (TBI), including those targeted at improving diagnosis of concussion and understanding the long-term effects of repeated head injuries. Funding has been provided by the Sports and Health Research Program, a partnership among the NIH, the National Football League (NFL), and the Foundation for the National Institutes of Health (FNIH). In 2012, the NFL donated $30 million to FNIH for research studies on injuries affecting athletes, with brain trauma being the primary area of focus.

Current tests cannot reliably identify concussions, and no technique reliably differentiates individuals who will recover quickly, suffer long-term symptoms, or develop chronic traumatic encephalopathy (CTE). "We need to be able to predict which patterns of injury are rapidly reversible and which are not. This program will help researchers get closer to answering some of the important questions about concussion for our youth who play sports and their parents," said Story Landis, PhD, director of the National Institute of Neurological Disorders and Stroke (NINDS).

The projects to be funded include 2 $6 million cooperative agreements focused on defining the scope of long-term changes that occur in the brain years after a head injury or after multiple concussions. These cooperative awards form a partnership between NINDS, the Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), and multiple academic medical centers. "The investigators will collaborate to develop diagnostic criteria for identifying the chronic features of the entire scope of brain trauma ranging from mild TBI to full-blown CTE, and then work to extend these criteria to living humans, using some of the most advanced neuroimaging tools available," said Walter Koroshetz, MD, deputy director of NINDS. In addition to undertaking a large-scale initiative to correlate advanced brain images with pathologic changes, these cooperative awards will be used to help NIH develop a registry dedicated to enrolling individuals with a history of TBI who are interested in donating brain and spinal cord tissue for study after their deaths.

NIH will also fund 6 pilot projects totaling more than $2 million that will last up to 2 years and are designed to provide support for early-stage investigations of sports-related concussions. The pilot studies will focus on improving the diagnosis of concussion and identifying potential biomarkers that can be used to track recovery. If early results are encouraging, these investigations may become the basis of more comprehensive projects. The NIH institutes responsible for managing these grants are NINDS, NICHD, and the National Institute on Deafness and Other Communication Disorders. Funded pilot studies and awardees include: "Cortical GABA in Pediatric Sports Concussion" to Jeffrey G. Ojemann, MD, Seattle Children's Hospital (WA); "Evaluation of Spot Light: A Concussion Injury Management App for Youth Sports" to Lara McKenzie, PhD, The Research Institute at Nationwide Children's Hospital (Columbus, OH), and Dawn Comstock, PhD, University of Colorado (Denver); "Eye Movement Dynamics: A Rapid Objective Involuntary Measure of Concussion/Mild Traumatic Brain Injury" to Nicholas Port, PhD, and Steven Hitzeman, OD, Indiana University School of Optometry (Bloomington); "Imaging and Biomarkers in Adolescents Cleared for Return to Play After Concussion" to Harvey Levin, PhD, Baylor College of Medicine (Houston, TX); "Somatosensory Processing—Assessing Youth Sport-Related Concussion and Recovery" to Stacy Jennifer Marcus Suskauer, MD, Kennedy Krieger Institute (Baltimore, MD); and "Characterization of the Brain and Serum Metabolome in Mouse Models of Concussion," to Michael J. Whalen, MD, PhD, Massachusetts General Hospital (Boston).

National Institutes of Health