

THE NEED HAS NEVER BEEN GREATER

Every nine seconds, someone sustains a brain injury. As a result, millions of Americans need timely access to expert care, specialized rehabilitation, lifelong disease management, and individualized services and supports. Even more concerning is that brain injury leads to other disorders that can ravage the body and mind. The number of brain injuries is expected to increase due to COVID-19, the opioid epidemic, and other causes – with a cost that is catastrophic to the individual, family, and community.

The need to better understand brain injury, the impact it has as a chronic disease, and its role in causing other conditions has never been greater.

For 40 years, individuals with brain injury and family caregivers have instilled in the Brain Injury Association of America (BIAA) a deep expertise in the challenges that brain injury creates. At the forefront of education and training through its Academy of Certified Brain Injury Specialists, BIAA has certified more than 20,000 healthcare professionals including many of today's leading clinicians. The Association understands that medical and scientific research is key to improving treatment and care and is uniquely positioned to lead the field.



Imagine a world where we learn how to heal the brain, where people do not live with the lifelong effects of brain injury, and where, rather than accelerating a disease, we can slow its progression or even stop it in its tracks.

WE HAVE A 40-YEAR COMMITMENT TO BRAIN INJURY RESEARCH

Since its inception in 1980, the Brain Injury Association of America has supported the people, programs, and institutions that have advanced brain injury science and medicine. In doing so, the Association has played a pivotal role in improving treatment and care of individuals with brain injury.

BIAA has advanced basic and translational research in the field of brain injury by:



ADVOCATING

Lobbying Congress to fund the National Institutes of Health (NIH) and the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR), driving the passage of the 1996 Traumatic Brain Injury (TBI) Act authorizing NIH to study TBI.



HONORING

Presenting the William Fields Caveness Award in recognition of an individual who, through research on both a national and international level, has made outstanding contributions to bettering the lives of people who have sustained brain injury.



COLLABORATING

Engaging researchers at leading brain injury institutions across the country to understand the scope and duration of rehabilitation required for adults with moderate to severe TBI in order to establish guidelines for treatment and disease management.



LEVERAGING

Providing talent and expertise for advisory boards like the NIH Strategies to Innovate Emergency Care Clinical Trials Network, TBI Model Systems, and several research projects involving brain injury and opioids, epilepsy, psychiatric problems, and other issues.



DISSEMINATING

Supporting industry-leading periodicals like the *Journal of Head Trauma Rehabilitation*, publishing *THE Challenge!* and producing programs like the Mitch Rosenthal Research Webinar Series to share the latest advancements in scientific discovery with key groups.



RECRUITING

Partnering with investigators to identify and engage participants for cutting-edge scientific studies, including recent efforts on behalf of an investigational drug to control aggression, agitation, and irritability due to TBI.

The pinnacle of BIAA's commitment to research is the creation of the Brain Injury Research Fund, established in 2019.

FOUR DECADES OF SUPPORT

After years of advocating for brain injury research, developing and sharing expertise, and recognizing excellence in the field, directly funding grants is a natural next step for BIAA.

1980

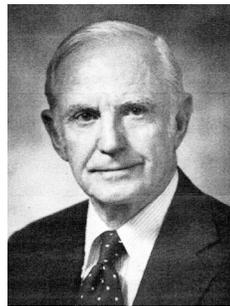
The National Head Injury Foundation – known today as the Brain Injury Association of America – is established.



**National
Head
Injury
Foundation, Inc.**

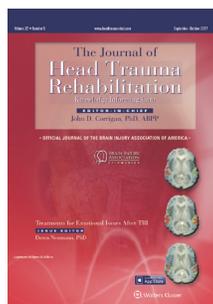
1981

BIAA presents the first William Fields Caveness Award in honor of Dr. Caveness, an internationally known figure in the areas of brain injury, neurology-epilepsy, and the effects of radiation on the brain.



1986

The Journal of Head Trauma Rehabilitation, the official journal of BIAA, is created.



1996

President Clinton signs the TBI Act.

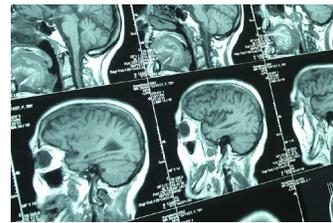


2009

BIAA launches the Mitchell Rosenthal Research Webinar Series to educate thousands of researchers and clinicians.



BIAA publishes “Conceptualizing Brain Injury as a Chronic Disease,” a position statement



discussing the disease-causative and disease-accelerative consequences of brain injury.

2010

BIAA dedicates the summer issue of *THE Challenge!* to Research. This tradition continues for the next decade.



2019

BIAA establishes the Brain Injury Research Fund.



UNDERSTANDING BRAIN INJURY AS A CHRONIC DISEASE



Brent Masel, M.D., BIAA's
National Medical Director

The Brain Injury Association of America was the first organization to identify and embrace the concept of brain injury as a chronic disease. While treating patients at every level of care, clinicians had grown to believe that more than just the brain was injured. "We saw an acceleration of many conditions in brain injury patients, everything from acne to aging faster," says Dr. Brent Masel, the Association's medical director. "Research to this point had been focused on the 'golden hour,' or the first 60 minutes after injury, but we were going about it all wrong."

Noticing that their patients were failing to thrive inspired a joint research project at facilities in California and Texas. "At the time we were studying the microbiome and what about brain injury changed a patient's digestive system," says Masel. "We concluded that brain injury patients were not absorbing amino acids – the 20 different organic compounds the body needs for sustenance – in the same way as those who did not have a brain injury. This condition was a result of the body's inability to process nutrients at the same rate as it had prior to the brain injury. Answering one question led us to a host of others."

One certainty, however, is that brain injuries – whether traumatic or acquired – damaged more than just the brain.

That brain injury may accelerate or even be the cause other diseases inspired Masel to author and BIAA to publish "Conceptualizing Brain Injury as a Chronic Disease" in March 2009. That same year, the prestigious Institute of Medicine (now National Academy of Medicine) identified multiple health consequences that can develop much later post-injury. A decade later, there is broad consensus that serious brain injury is not just an event at one time in a person's life, but a chronic condition that continues to affect health and function for the remainder of a person's life. Discovery and improved understanding of brain injury as a chronic disease is the focus of the Brain Injury Research Fund and a significant step in meeting many unmet needs following brain injury.

Brain injury is neither an event nor an outcome, but the beginning of a misdiagnosed, misunderstood, under-funded neurological disease. For many, brain injury evolves into a chronic health condition that accelerates multiple diseases.



EMBRACING THE OPPORTUNITY FOR DISCOVERY AND CURES

BIAA's Brain Injury Research Fund focuses on science that will accelerate understanding and discovery, driven by an organization that is uniquely qualified to lead this effort.



BIAA seeks new approaches to understanding and improving the long-term effects of brain injury, such as the increased rate of death associated with more severe injuries, neurodegenerative diseases that may be triggered by an injury earlier in life, and consequences of childhood brain injury.

To address these issues, the Association invests in projects that aim to answer questions like:

1

Chronic brain injury (CBI) can be a large factor in the development and progression of neurodegenerative diseases, such as Parkinson's Disease, Lewy Body Dementia, Chronic Traumatic Encephalitis and possibly Multiple Sclerosis and Alzheimer's Disease. Typically, there is a marked delay from injury to disease onset. **What neurological processes are triggered by CBI that cause these diseases and how can the progression from injury to neurological disease be halted?**

2

Childhood TBI, even when mild, is associated with adult problems of behavioral regulation, such as addiction, criminal behavior, and socially inappropriate behavior. Is this relationship causal or does TBI mediate other bio/psycho/social processes? **What factors create the risk of adult consequences from childhood TBI and how can that risk be diminished?**

3

Moderate and severe brain injury reduces life expectancy by nine years. Even after living to one-year post injury, persons with this severity of injury are 50% more likely to die than age-, sex- and race/ethnicity matched members of the general population. Causes of death involve all organ systems, not just those associated with behavioral or neurological pathology. **What biological processes are responsible for this excess mortality and how can these relationships be improved?**

SELECTION PROCESS

In the inaugural year, 22 projects were deemed worthy of submission of a full application packet, but there were only funds available to support four investigators.

The Brain Injury Association of America Research Committee oversees the grant-making process using NIH review criteria. Subject matter expertise is drawn from leading researchers in the field, including members of the *Journal of Head Trauma Rehabilitation* Editorial Board. The Research Committee recommendations are submitted to the Association's Board of Directors for final approval.



BIAA RESEARCH COMMITTEE

John Corrigan, Ph.D.
The Ohio State University (Chair)

Lisa Brenner, Ph.D.
VA/Rocky Mountain MIRECC,
University of Colorado

Susan Connors
Brain Injury Association of America

Wayne Gordon, Ph.D.
Icahn School of Medicine at Mt. Sinai

Jasmeet Hayes, Ph.D.
The Ohio State University

Brent Masel, M.D.
University of Texas Medical Branch

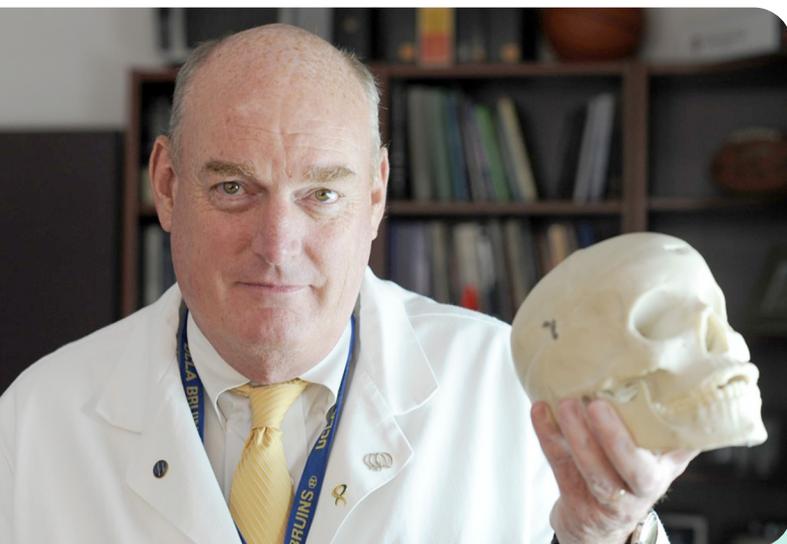
Stacy Suskauer, M.D.
Kennedy Krieger Institute,
Johns Hopkins University

Michael Whalen, M.D.
Harvard University/Mass General

Zachary Weil, Ph.D.
West Virginia University

SUPPORT AND RECOGNITION PAY DIVIDENDS FOR YOUNG INVESTIGATORS

The Association recognizes and supports the young and innovative researchers who are the future to unlocking the mysteries of the brain and discovering new and better treatments and care.



David A. Hovda, Ph.D.
Director, UCLA Brain Injury Research Center, Professor Emeritus of Neurosurgery and of Molecular and Medical Pharmacology, David Geffen School of Medicine at UCLA

“ I was honored to receive the 1991 Young Investigator Award as it **launched my academic career, giving me the credentials to establish the UCLA Brain Injury Research Center,** and made it possible for me to help different professional and amateur sporting organizations as well as the military to learn the importance and consequences of mild TBI. ”

BRAIN INJURY RESEARCH GRANTS

The Brain Injury Research Fund offers two types of funding:

DISSERTATION GRANTS

The Association recognizes outstanding doctoral dissertation projects that contribute to our understanding of the chronicity and excess mortality of chronic brain injury, neurodegenerative processes associated with the injury, or long-term consequences of childhood injury. Nominated dissertations may use quantitative or qualitative analytic methods and may be based on original data collection or secondary data analysis.

Dissertation grants are funded up to \$5,000.



2020 DISSERTATION GRANT RECIPIENT

Katherine Giordano

University of Arizona
College of Medicine
Precision Identification and
Targeting of Rod Microglia in
Diffuse Brain-Injured Cortex



2020 DISSERTATION GRANT RECIPIENT

Marie Hanscom

University of Maryland-Baltimore
(STAR-ORC)
Impact of Intestinal Inflammation
on Long-Term Neurological
Outcomes Following TBI in Mice



2020 SEED GRANT RECIPIENT

Raj Kumar, Ph.D.

Icahn School of Medicine
at Mount Sinai
The Epidemiology of Comorbidities
and Associations with Functional
Outcome among Adults with TBI

SEED GRANTS

Young Investigator Seed Grants support the background work needed for new lines of research, such as methodology testing or collection of pilot data. Applicants are expected to use the seed grant to prepare for larger funding from the NIH, NIDILRR, or other public or private source. Young Investigators must be nestled in a research institution or corporate or nonprofit environment where sufficient guidance from experienced brain injury researchers is available.

Brain Injury Scholar Seed Grants support principal investigators who wish to supplement an existing project by testing a new hypothesis, adding an additional cohort, or conducting additional statistical analyses of existing data. Brain Injury Scholars have a record of published articles in peer-reviewed journals or other demonstration of scientific inquiry.

Seed Grants in both categories are funded up to \$25,000 for one year.

Donations to the Brain Injury Research Fund enable the Association to extend impact for generations, ensuring the best and brightest focus on advancing the study of brain injury and providing optimal care.

BECOME A RESEARCH CHAMPION

To meet the growing needs of this program, funding from donors and gifts of all sizes are essential.

The only thing preventing discovery of cures for chronic brain injury is lack of funding.

The first grants from the BIAA Brain Injury Research Fund were made possible thanks to a generous bequest from the estate of Linda Redmann and an allocation from the Association's reserves.



There are many ways to support brain injury research:



Make a gift to the Brain Injury Research Fund to support the Association's current annual commitment to the best and most promising research projects.



Extend the Association's ability to fund research by establishing a new Dissertation or Seed Grant in honor or memory of a loved one by making a single year or multi-year commitment or in perpetuity through an endowment.



Extend the Association's ability to fund research by creating a named fund that supports one or more grants over time, invest in a particular line of work, or support the area of greatest need.



Transform the Association's ability to fund the most promising research by considering a planned gift or remembering the Brain Injury Research Fund in your will or estate plan.



For more information about the BIAA Brain Injury Research Fund, becoming a Research Champion, pricing, or giving options, please contact Robbie Baker, Vice President & Chief Development Officer, at (703) 761-0750 ext. 648 or rbaker@biausa.org.

