



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 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.



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.



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.

RECRUITING

Partnering with investigators to identify and engage participants for cuttingedge 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.

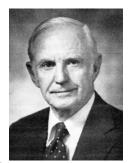
1980

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



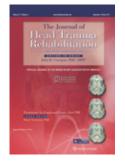
1981

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.





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





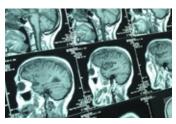
President Clinton signs the TBI Act.



BIAA launches the Mitchell Rosenthal Research Webinar Series to educate thousands of



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



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

2019

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



BIAA establishes the Brain Injury Research Fund.



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UNDERSTANDING BRAIN INJURY AS A CHRONIC DISEASE

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 lead us to a host of others."

One certainty, however, is that brain injuries – whether traumatic or acquired – damage 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.



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



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.

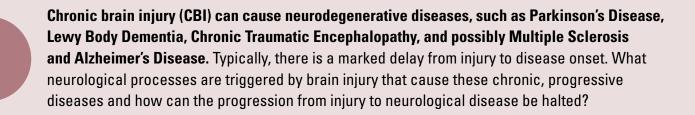


The theme of BIAA's grant program and its overall goal is "Finding Cures for Chronic Brain Injury." Injury to the brain can evolve into a lifelong health condition that impairs the brain and other organ systems and may persist or progress over an individual's life span. Little is known about the nature, extent, and mechanisms that allow an earlier brain injury to affect later health and functioning. Chronic brain injury must be identified and *proactively managed* as a lifelong condition to improve health, independent function, and participation in society.



John D. Corrigan, Ph.D. BIAA Research Committee Chair Professor, Department of Physical Medicine and Rehabilitation at Ohio State University; Director, Ohio Valley Center for Brain Injury Prevention and Rehabilitation We are pleased to make these awards with the hope that talented young researchers, as well as more experienced scholars, will test new ideas for curing the chronic effects of brain injury. We could not be more pleased with the interest shown in our research program and the quality of proposals we have the privilege to support.

BIAA'S RESEARCH PRIORITIES ARE AS FOLLOWS:





Childhood traumatic brain injury, even when mild, is associated with adult problems of behavioral regulation (i.e., addiction, criminal behavior, 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?



Moderate and severe TBI 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 ameliorated?

Brain injury is recognized as a chronic health condition that, for some, requires proactive medical management. More research is required to inform evidence-based disease management protocols, including studies addressing these questions:

- Which brain injuries increase risk for negative outcomes?
- What pre-existing conditions require management?
- What conditions develop post-injury that could be prevented or detected early?
- How can the individual participate in their self-management?
- How can access to medical and rehabilitation care be used to reduce negative outcomes?
- How can community-based resources be accessed to improve function and reduce institutionalization?



Disability is a product of both impairments in brain function and environmental factors that create barriers to health and independence. What community characteristics exacerbate or minimize the manifestation of impairments due to brain injury? How do social determinants of health affect brain injury outcomes? What community interventions are effective in ameliorating the influence of environmental factors on brain injury outcomes?

A SELECTION PROCESS WITH A DISTINGUISHED EXPERT PANEL

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 Kreiger 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 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 Iaunched 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.

TYPES OF BRAIN INJURY RESEARCH GRANTS

With a 40% increase in applications from researchers in its second year, the Brain Injury Research Fund's dramatic growth confirms the need for BIAA to support research directly and reiterates that the only thing preventing future discovery is lack of funding. 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 chronic brain injury and its causes, consequences, and methods of mitigation.

Dissertation grants are funded up to \$5,000 total for up to two years.



This dissertation grant of \$5,000 was generously funded by Dr. Lance and Laura Trexler. When asked why they chose to support the Brain Injury Research Fund, the Trexlers explained:

The future will be defined by our youth. Attracting the brightest young professionals into brain injury is critical. Our motivation is twofold: recognizing the need to sustain the field of brain injury and advance it at the same time. The cognitive disability associated with brain injury is substantially greater than any other neurological disease, and people need to give relative to the need. Brain injury is underfunded, which has resulted in a staggering social and economic cost. This compelled us to consider a gift in support of the Brain Injury Research Fund and BIAA.



Dr. Lance and Laura Trexler

PREVIOUS DISSERTATION GRANT RECIPIENTS:

Katherine Giordano

University of Arizona College of Medicine

"Precision Identification and Targeting of Rod Microglia in Diffuse Brain-Injured Cortex"

Marie Hanscom

University of Maryland-Baltimore

"Impact of Intestinal Inflammation on Long-Term Neurological Outcomes Following TBI in Mice"

SEED GRANTS

Young Investigator Seed Grants support the background work needed to establish a line of research for a new investigator. 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.

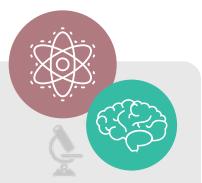
Seed Grants in both categories are funded up to \$25,000 total for up to two years.



J. Bryce Ortiz, Ph.D.

University of Arizona College of Medicine – Phoenix

"Analyses of the Relationship between Growth Hormone and Sleep after Pediatric Traumatic Brain Injury"



This seed grant of \$25,000 was generously funded by the Washington, D.C.-based law firm of Chaikin, Sherman, Cammarata, & Siegel, P.C. According to Ira Sherman:

Every grant made by the fund has the potential to turn on an engine that will ultimately take us down a road to provide relief from symptoms associated with having a TBI. The Brain Injury Research Fund creates fertile ground for people who want to seek cures for chronic brain injury, and monetary contributions can make a measurable difference.



Ira Sherman, Esq.

OTHER SEED GRANT RECIPIENTS:

Coleen Atkins, Ph.D.

University of Miami Miller School of Medicine "The Effects of Early Life Stress on Outcome after Mild Traumatic Brain Injury"

Kathryn Lenz, Ph.D.

The Ohio State University

"Pediatric TBI Effects on Long-term Myelination: Sex Specificity and Neuroimmune Modulation"

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.

Advance 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 though 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.

ABOUT THE BRAIN INJURY ASSOCIATION OF AMERICA



Founded in 1980, the mission of the Brain Injury Association of America is to advance brain injury awareness, research, treatment, and education and to improve the quality of life for all people affected by brain injury. The Association is dedicated to increasing access to high quality care and accelerating research. With a network of state affiliates, local chapters, and support groups, BIAA serves as the voice of brain injury for individuals who are injured, their families, and the professionals who serve them.

BIAA accepts responsibility for being a primary authority on medical diagnosis and treatment, disease management, research, and life challenges associated with brain injury, embracing its role as a leading influencer of public awareness and public policy change and as an incubator of brain injury research.

