



**THE BRAIN INJURY ASSOCIATION
OF VIRGINIA**

Presents

**Brain Injury, Dementia and Cognition:
Expanding the CSB Perspective**

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Executive Director

What BIAV Does

- Information and Referral Helpline
- Outreach to newly injured Virginians
- Education and training
- Advocacy at the General Assembly
- Camp Bruce McCoy recreation and respite program

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We operate an **Information and Referral Helpline** that offers assistance customized to the needs of those who are looking for help, hope and healing after brain injury, and offer in-person and virtual support groups.

We do **outreach to newly injured Virginians** and work with hospitals, human service programs, and state agencies to better meet the needs of those with brain injury.

We conduct **education and training** events through conferences, webinars and workshops, and participate in public awareness and brain injury prevention activities.

We **lead advocacy efforts** to expand the system of care, and help persons with brain injury and family caregivers protect their rights and secure services.

And we hold **Camp Bruce McCoy**; named in honor of a former camper, it is our signature **recreation and respite program** for adults with brain injury and their caregivers.

Definitions

- **Acquired brain injury** is the umbrella term for brain injuries caused by events after birth.
 - **Two types:**
 - **Traumatic Brain Injury (TBI):** Damage to brain caused by an external force.
 - **Non-Traumatic Brain Injury:** Damage to the brain by internal factors.

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Acquired brain injury is the umbrella term for brain injuries caused by events after birth.

- Whatever the cause, it affects the physical integrity and/or functional ability of the brain.
- It results in a change in how the brain's neurons and neurochemicals operate and how it needs and uses energy at the time of the injury.
- It is chronic condition that is disease causative and disease accelerative.

There are **two types:**

- **Traumatic Brain Injury (TBI)** is defined as an "alteration in brain function, or other evidence of brain pathology, caused by an external force.
- **Non-Traumatic Brain Injury:** Often mistakenly referred to as an acquired brain injury, it causes damage to the brain by internal factors.

Lobes and Functions of the Brain

Frontal Lobe

- Problem Solving
- Organizing and Planning
- Impulse Control
- Reasoning and Judgement

Temporal Lobe

- Speech
- Memory
- Recognition



Parietal Lobe

- Sensory Perception
- Visuo-Spatial Perception
- Academic Skills

Occipital Lobe

- Visual Perception
- Visual Interpretation

Cerebellum

- Coordination
- Balance

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Neuroanatomy of Cognition and Behavior



- **Frontal Lobe:**
 - Injury to this part of the brain causes changes in emotional control, initiation, and inhibition.
 - Intolerance for frustration and easily provoked aggression are typical.
- **Temporal Lobe:**
 - Controls expressive and receptive language and memory.
 - Damage here can cause aggression and *persistent* talking.
- **Parietal Lobe:**
 - Responsible for processing sensory **information**
 - Insult here can result in an inability to accurately assess emotions and behavior
- **Limbic System:**
 - Modulates behavioral and emotional responses.
 - Impairment in this area impacts the "fight, flight or freeze" response and leads to hormonal disruptions.

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- Modulates behavioral and emotional responses.
- Impairment in this area impacts the "fight, flight or freeze" response and leads to hormonal disruptions.

The Myth of Mild Brain Injury

“No cardiologist ignores a mild heart attack. He or she doesn’t say to the patient, ‘Don’t worry about exercise or your diet unless the heart attack is severe.’ Yet... [with] concussion... for some reason we tell people, ‘You’re fine,’ when we know they aren’t.”

Dr. Heechin Chae

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Paraphrased: No cardiologist ignores a mild heart attack by saying ‘Don’t worry about exercise or your diet because your heart attack was just mild. Yet with concussion, for some reason we tell people, ‘You’re fine’, even when we know they aren’t.”

TBI and the Intersection With



- **Domestic Violence**
 - 74% of the women who experienced IPV sustained at least 1 IPV-related TBI; 51% suffered repetitive IPV-related TBIs; 10% had been choked (*Oakley, 2021*)
- **Homelessness**
 - The lifetime prevalence of any severity of traumatic brain injury (TBI) in homeless and marginally housed individuals was 53.1 percent, compared to 2% in the general population (*Panenka, 2019*).
- **Justice System**
 - Incarcerated individuals are 7 times more likely to have experienced a brain injury than the general population (*Gorgens, 2019*)
- **Behavioral Health System**
 - Children with TBI before the age 5 are nearly 4 times more likely to develop a substance use disorder (*Corrigan, 2018*).
 - Compared with the general population, patients with TBI have increased incidence of depressive disorder, anxiety disorder, and PTSD (*Ponsford, 2018*).

Brain Injury Screening

- You don't get better if you're not being treated for the right thing.
- No TBI is the same. Every brain is unique. Even the same injury can cause changes that affect each person differently.
- All neurologists are not equal.
- Screening for TBI at some CSB's



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You don't get better if you're not being treated for the right thing.

Not every TBI the same; you bring the brain you have to the injury. Every injury is unique and can cause changes that affect each person differently.

There are more than 600 neurological diseases and disorders, so sending someone to a neurologist might not be as helpful as you might think, if they're not knowledgeable about brain injury.

DARS has been doing some very exciting things with screening for TBI at some CSB's using the Ohio State TBI Screening Tool.

Brain Injury Association of Virginia

- The only statewide organization in Virginia dedicated exclusively to serving individuals with brain injury, their families and those that care for and about them.
- **Mission:** To advance education, research, treatment, support, and awareness to improve the quality of life for all people affected by brain injury
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Thank you. Let us know how we can collaborate and be of service.

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