Homelessness & Brain Injury

A Professional's Guide

Brain Injury Association of Virginia

Introduction

The brain is an amazing organ; it makes our heart beat, our eyes blink and our skin shiver; it enables us to think, laugh, and love. The brain is what observes and understands the world around us, and allows us to function in it. It is the driving force of our bodies. If this amazing organ is injured, it can change a person's life forever.

What is the problem?

Many people are unaware of the link between homelessness and brain injuries. Evidence shows the rate of traumatic brain injuries (TBI) in the homeless population is 53% - five times higher than the general population[4]. To put this in perspective, almost 6,000 Virginians experience homelessness each day[10], so over half may have sustained a TBI! Clearly, the relationship between brain injuries and homelessness is profound, yet why is it unrecognized?

Why does this matter?

As a professional who serves persons living without homes, it's likely many of your clients have a history of a TBI, but may have never known it. Brain injury (BI) can cause changes to a person's cognition, vision, sensation, behavior, and motor function - these symptoms are often called "invisible" because they are hard to recognize. Many professionals often overlook the invisible symptoms, leaving their clients with decreased access to care and resources to meet their needs.[9] To prevent this from occurring, providers need to be aware of this issue, and ways they can help.

What is the purpose of this packet?

This packet is intended to give homeless services providers and advocates information and supports related to the intersection between brain injury and homelessness. Specifically, Section I contains background information about BI and a list of online resources to access, if you wish to learn more. Section II provides information about the effects of and the association between brain injuries and homelessness. Section III shares an overview of BI screening tools, and how to screen for a brain injury using the Ohio State University TBI Identification Method (OSU TBI-ID). Lastly, Section IV includes referral information and resources available to share with clients.

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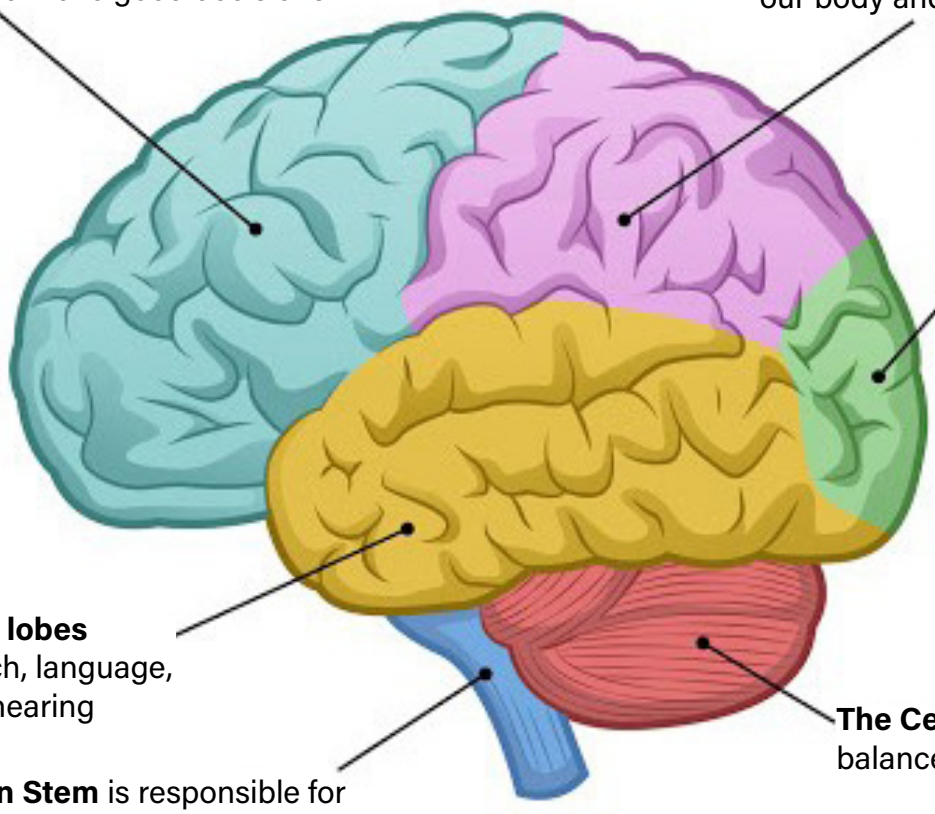
Contents

How Does the Brain Work?

The brain is divided into different parts called lobes and hemispheres. While the whole brain works together to get things done, it's the different parts that are responsible for unique actions.

The Frontal lobe helps us control our emotions and impulses, motivates us, and helps us plan and make good decisions

The Parietal lobes interpret sensations and the position of our body and other objects



The Occipital Lobe controls vision

The Temporal lobes manage speech, language, memory, and hearing

The Brain Stem is responsible for basic life functions like heartbeat, breathing, and blood pressure

The Cerebellum controls balance & coordination

The left and right sides of the brain are called hemispheres; they have different strengths.

The left side of the brain is associated with verbal, logical, and analytical thinking. It is very good at naming and categorizing things, reading, writing, and arithmetic. It likes to think about things logically and in order. It controls the right side of the body.	**The right side** of the brain is the creative and curious side of the brain and allows us to be flexible and think about the future. It is good at visual and intuitive information; it thinks quickly and looks at the whole picture. It controls the left side of the body.

What Happens When the Brain is Injured?

Brain injury can be called by different names; concussion, hit on the head, and head injury to name a few. The brain can be hurt in many different ways- injuries to the brain are classified as **non-traumatic** or **traumatic**.

Non-Traumatic Injuries occur as a result of strokes, lack of oxygen, infection, brain tumors, and exposure to toxic substances (as in drug overdose); they usually come from an internal cause. The challenges someone with a non-traumatic injury faces can be different but are often very similar to those faced by someone with a traumatic injury.

Traumatic Injuries fall into two categories:

- *Open head injuries* are those in which the skull is crushed or seriously fractured. They also happen when the skull is penetrated, as in a gunshot wound
- *Closed head injuries*, in which the skull is not damaged; these occur much more often, usually because of a car accident or fall

Several things can happen to the brain during traumatic injuries. The effects of some of these can go on for quite some time after the actual accident.

- *Coup/contra-coup injury:* Occurs when the brain bounces around and rubs against the bony ridges on the inside of the skull. It can cause bleeding and swelling within the brain.

- *Diffuse axonal injury:* This is when the microscopic pathways that send messages through the brain and out to the body are damaged.

- *Neurochemical cascade:* Disrupted chemicals and neurotransmitters in the brain cause dysfunction of the neurons, which increase the vulnerability of the brain to further injury.[3]

The changes seen after a brain injury depends on a number of factors: severity of the injury, where and how the damage was sustained, how quickly the person was diagnosed and treated, their general health, and age of the time of injury.

- **Common physical changes:** Difficulty walking, trouble with balance, falling or bumping into things, dizziness, spasticity (very tight muscles), poor coordination, difficulty grasping objects, headaches, nausea, fatigue, and seizures.
- **Common sensory differences:** Vision, hearing, smell and taste disturbances.
- **Common cognitive problems:** Trouble with memory, concentration, attention, following directions, finding the right word, problem solving, abstract thinking, organization, planning, social judgment, decision making, self-monitoring, and initiating tasks.
- **Common behavioral/emotional changes:** Irritability, mood swings, acting without thinking, difficulty accepting someone else's point of view, sadness, low energy, low self-esteem, hostility, depression, and anxiety.

Overcoming the Challenges of a Brain Injury

Although the physical, sensory, cognitive and behavioral changes may improve with treatment and time, they may not go away completely. Due to the fact that many symptoms are "invisible" and difficult to detect, the key for most individuals and their providers is learning how to recognize the challenges associated with a brain injury and ways to manage them. The best way to do that is through the use of compensatory strategies.

Compensatory strategies focus on a person's intact skills and strengths to help them be successful with overcoming challenges in the areas of self-care, cognition, behavior, and more. They involve using different methods to accomplish a task that is more difficult. We all use some of these methods.

These strategies can be simple:

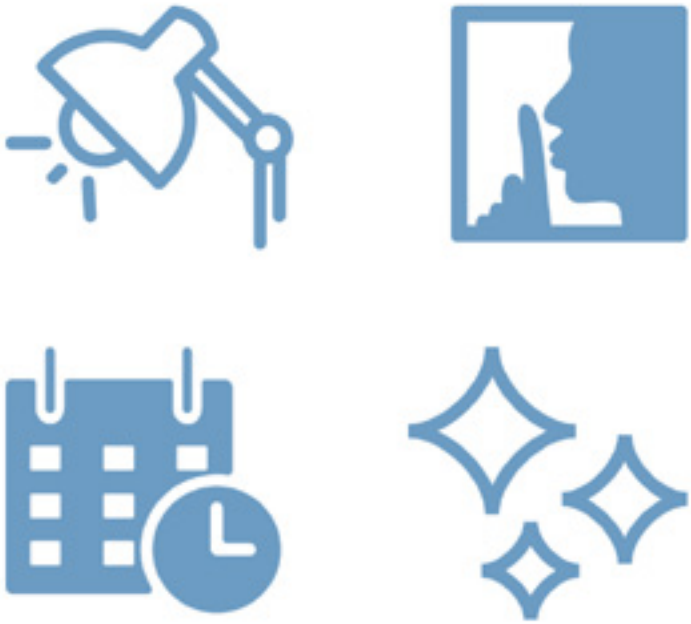
- Using a magnifier/glasses to enlarge the print when reading
- Posting reminder notes on the refrigerator
- Organizing medications using a pillbox

Some can be more complex:

- Operating a GPS for navigation
- Using technology to assist with communication
- Establishing emergency response plans

Many compensatory strategies involve environmental modifications , which are ways to adapt a space to accommodate a person's needs. These adaptations can be implemented anywhere, including your facility.
Modifications may include:

- Adding an extra lamp to brighten the room for those who have visual impairments
- Using a quiet space when conducting conversations for people with sensory deficits
- Installing grab bars in the public bathrooms for clients who may have balance issues
- Decluttering your desk/office to avoid distractions or inattention
- Reducing the amount of text on a document for those who have difficulty concentrating
- Scheduling meetings when the client is at their "best" (i.e., setting meetings in the morning for a client who gets fatigued in the afternoon)



Compensatory strategies do not fix the underlying problem.
It takes more time, energy, and attention to make them work, but when used consistently they can dramatically improve function. On the next page, you will find information about when you may need compensatory strategies and how to implement them.

Brain Injury Deficit Management Strategies

Deficit	Problems Arising The person may...	Management Strategies You can...
Attention	▪ Appear not to listen ▪ Miss details ▪ Forget what people have said ▪ Have difficulties concentrating ▪ Be unable to cope with more than one thing at a time ▪ Be easily distracted ▪ Change the subject often ▪ Get bored easily	▪ Shorten instructions/ activities so they can be completed ▪ Write down instructions accurately & in a way they can easily understand later ▪ Encourage the person to engage in only one activity at a time ▪ Reduce external distractions ▪ Bring the person's focus back to the current task
Problem Solving	▪ Have difficulty working out solutions to problems ▪ Be unable to generate new ideas ▪ Have a disordered approach to problem solving	▪ Help identify an achievable outcome for the task; ensure there is a purpose ▪ Avoid giving open-ended tasks ▪ Assist the person to break a task down into smaller components ▪ Reduce demands made upon the person (one thing at a time)
Communication	▪ Have trouble initiating conversation ▪ Have trouble understanding non-verbal communication/ body language; take statements literally	▪ Encourage participation by asking "What do you think about that?" & use open-ended statements like "Tell me about..." ▪ Give verbal cues to communicate intent of conversation ▪ Use simple & direct language; avoid talking in abstract terms; avoid the use of sarcasm
Planning & Organizing	▪ Have difficulty preparing for a task ▪ Be unable to work out the steps involving a task ▪ Have problems with organizing their own thoughts & explaining things to others	▪ Provide a written structure or guideline outlining the steps in order ▪ Help develop a timetable (weekly, daily) to establish a routine of activities ▪ Encourage the person to take time to think before they speak
Speed of Information	▪ Take longer to complete tasks ▪ Be unable to keep track of lengthy conversations ▪ Take longer to answer questions	▪ Make allowances & give the person extra time ▪ Do not interrupt or answer for the person ▪ Verify the person is keeping up with the conversation ▪ Present only one thing at a time
Fatigue	▪ Tire quickly (physically & mentally) ▪ Have reduced tolerance & ability to cope ▪ Become irritable ▪ Have other problems exacerbated	▪ Encourage the person to take breaks ▪ Schedule more demanding or essential tasks when the person is at their best
Mental Tracking	▪ Have difficulty following instructions ▪ Lose track of what they are thinking or doing ▪ Get information confused	▪ Keep activities short & uncomplicated ▪ Ask specific or direct questions ▪ Provide reminders of the next step or task
Memory	▪ Have difficulty learning new things ▪ Be forgetful ▪ Lose things ▪ Have difficulty recalling what they've learned	▪ Repeat information as necessary ▪ Encourage use of external memory aids (journals, calendars, phones) ▪ Maintain 'special places' for belongings ▪ Give reminders & prompts to assist recall
Reasoning	▪ Have a rigid & concrete thinking style ▪ Be resistant to change ▪ Have a simplistic understanding of emotions ▪ Show poor judgement & poor decision making skills	▪ Explain changes in routine in advance, while giving reasons ▪ Avoid using emotional undertones ▪ Provide real life examples when offering explanations
Independent Living Skills	▪ Issues remembering steps of a task ▪ Trouble keeping up with appointments ▪ Challenges with maintaining hygiene (personal & clothes) ▪ Decreased safety awareness (leaving them vulnerable to exploitation) ▪ Trouble affording, fixing, & eating a diet that aides in recovery ▪ Issues with money management ▪ Lack of initiation with completing important tasks	▪ Help write out steps of a task in a notebook/phone ▪ Help set appointment reminders on their phone or pocket calendar; send reminders ▪ Connect the client with shower & laundry ministries; identify days & reminders for shower/ laundry schedule ▪ As often as possible, provide conversation around safety awareness ▪ Provide nutrition education & share resources on where to get free meals; share ways to make unhealthy meals healthier ▪ Setup automatic deposits with the client; set reminders/ auto-drafts for certain bills (if applicable); setup overdraft protections with client to prevent debt ▪ Help create lists with deadlines in journal/phone for starting a task (i.e., set a reminder "Call doctor at 8am on 1/31" for client to reference when needing to initiate a task)
Self-Monitoring	▪ Show poor adherence to rules ▪ Not realize they have made errors ▪ 'Hog' conversations; being verbose & continue talking when others are no longer interested ▪ Have lower tolerance for frustrating situations	▪ Provide feedback promptly & in a respectful manner when errors occur ▪ Create & use signals to let them know they are talking too much ▪ Encourage turn-taking in conversations ▪ Gently redirect behavior to a different topic or activity

Brain Injury Education Resource List

Adapting Your Practice

West Virginia University: Center for Excellence in Disabilities researched the close link between TBI and homelessness. They developed a literature review highlighting this evidence, and a recommendation packet for professionals caring for clients within this population. The packet has information including types of brain injuries, outcomes, screening tools, and case management strategies.

Brain Injury in the Homeless Community: Where Do We Go from Here?

The Minnesota Brain Injury Alliance partnered with Wilder Research to facilitate a discussion for homeless services providers around the topic of brain injuries. The conversation includes information about the experiences of recognizing a TBI, stigmas associated with the injury, and supports available. This partnership also completed a Cross-training Initiative for providers. The details of this initiative are found here.

Brain Injury & Homelessness

The Disabilities Trust Foundation completed extensive research on the topic of brain injuries within the homeless population. On their website, they provide information about the research study, brain injury awareness training for professionals, and BI screening tools.

Recommendations for the Care of Patients Who Are Homeless or Unstably Housed Living with the Effects of TBI

The National Healthcare for the Homeless Council has developed educational resources about TBI and homelessness, and trauma-informed care for homeless service providers. You can use the link above to receive educational resources and clinical guidelines.

A Path to Recovery for People Who Experienced a Brain Injury & Homelessness

The Health Care for the Homeless Association created a PowerPoint outlining the link between brain injuries and living without homes. The slides discuss the clinical guidelines for working with this population as well as the types of screenings and training available.

The Link Between Brain Injuries & Homelessness

Homelessness is defined as "when a person lacks a fixed, adequate residence, or has a primary residence that is a public or private place not meant for human habitation. Includes migratory children, persons fleeing domestic violence, living in a car, on the street or in temporary living arrangements (e.g. congregate shelters, transitional housing, hotels and motels paid for by charitable organizations or by federal, state and local government programs)."[1]

- Challenges associated with **maintaining employment and managing finances** contribute to an increased risk for homelessness and ability to maintain secure housing.
- In a study observing the link between BI & housing issues, more than half of participants reported **job loss as a contributor to homelessness.**
- Of these participants, the most common reason for losing their job was due to health conditions related to the **impact of their brain injury.**[2] Other contributors to homelessness include **lack of financial and family/friend support**, and **substance abuse.** [2,5]
- The most common causes of a TBI within the homeless community are similar to those within the general population[4]. They include:
  - **Falls**
  - **Motor vehicle accidents**
  - **Physical assaults**
- On average, people who are living without homes had their first brain injury at **15 years old.**[6]
- Adolescents who sustained a TBI became homeless at a younger age and had a greater number of episodes of homelessness compared to adolescents who did not have a history of TBI. [6]

Clearly, the research shows that brain injuries are very common in the homeless community – but,

how are brain injuries really impacting those living without homes?

How Brain Injuries Impact the Homeless Community

As you have read in Section I, brain injuries have many physical, functional, mental and social effects on an individual. For individuals living without homes, the effects of a TBI can be even greater due to the everyday stresses of not having the security of stable housing.

For example, a higher prevalence of a traumatic brain injury is associated with:

Behavioral Health Issues	Cognitive Impairment	Physical & Functional Deficits
Bipolar disorder	Difficulties with planning & initiation of tasks	Headaches
Major depression	Memory impairment	Excessive worry or sleeping
Post-Traumatic Stress Disorder (PTSD) ▪ More common in individuals who sustained a brain injury as a result of physical assault	Issues with confusion & memory	Difficulty performing activities of daily living (ADL's) skills: ▪ Bathing ▪ Working ▪ Eating ▪ Dressing
Schizophrenia	Problems problem-solving during daily tasks	Problems with getting around in the community (including using public transportation, managing navigation systems, directions)

(Mackelprang et al., 2014; Stubbs et al., 2020; Odumuyiwa et al., 2019)

Additional symptoms associated with a history of TBI and homelessness include mood swings, personality changes, difficulty getting along with others, and an increased rate of lifetime suicidal ideation and/or attempts.[7,8] This community is also at an increased risk for alcohol and substance abuse.[6] Survivors of a TBI who are also living without a home are more likely to have a history of foster care involvement, juvenile justice detainment, and childhood trauma.[6,8]

By recognizing the comorbidities associated with TBI and homelessness, we are able to identify what these individuals may be facing so we can better support their needs.

Brain Injury Screening Overview

What is it?

Screenings are a way to identify individuals who may have a brain injury. It is important to understand that **screening for brain injury is not the same as diagnosing someone with a brain injury.**

Results from a screening can help you decide who would benefit from a referral for further testing done by a medical professional.

Why should it be done?

Brain injury is among the most unrecognized, unreported problems affected by people experiencing homelessness. Individuals living without homes might not consider the possibility that they have a brain injury, or they might attribute their symptoms to other causes. The invisible symptoms such as memory loss, inattention, and behavioral health issues, interfere with the ability to manage their own daily lives. **Screening for brain injury could help prevent invisible injuries from going undiagnosed, delaying recovery, and causing further damage.**

Understanding if their symptoms are associated with a brain injury can help them connect with the right resources and develop the strategies needed to be put in place to support their everyday living. By making these "invisible" symptoms " visible", we are taking one step further to helping this community live more independent, fulfilling lives.

What screening tools are available?

While there is no universally accepted brain injury screening tool specifically for persons living without homes, the one that is most recommended is the Ohio State University Traumatic Brain Injury Identification Method (OSU TBI-ID). This tool is quick to administer and is used to identify events and experiences indicative of a possible brain injury. **The questions can be incorporated into a conversation during the typical intake process.**
The following page provides more information about the OSU TBI-ID.

Brain Injury Screening Tool

Ohio State University TBI Identification Method (OSU TBI-ID)

- The OSU TBI-ID is a standardized screening tool used to identify a person's lifetime history of TBI.
- The screening is provided via a 3-5 minute structured interview.
- Training is not required, however, it is strongly recommended prior to administering the tool. The training module is available here: TBI Identification Method Training Module
- You can access the OSU TBI-ID Interview Form here.
- If you have any questions about how to administer or interpret the screening, you can contact Ohio State University's Wexner Medical Center at (614) 293-3802, ext. 711.

Name: _____ Current Age: _____ Interviewer Initials: _____ Date: _____

Ohio State University TBI Identification Method — Interview Form

Step 1

Ask questions 1-5 below. Record the cause of each reported injury and any details provided spontaneously in the chart at the bottom of this page. You do not need to ask further about loss of consciousness or other injury details during this step.

I am going to ask you about injuries to your head or neck that you may have had anytime in your life.

1. In your lifetime, have you ever been hospitalized or treated in an emergency room following an injury to your head or neck? Think about any childhood injuries you remember or were told about.

   ☐ No ☐ Yes—Record cause in chart

2. In your lifetime, have you ever injured your head or neck in a car accident or from crashing some other moving vehicle like a bicycle, motorcycle or ATV?

   ☐ No ☐ Yes—Record cause in chart

3. In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?

   ☐ No ☐ Yes—Record cause in chart

4. In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently? Have you ever been shot in the head?

   ☐ No ☐ Yes—Record cause in chart

5. In your lifetime, have you ever been nearby when an explosion or a blast occurred? If you served in the military, think about any combat- or training-related incidents.

   ☐ No ☐ Yes—Record cause in chart

Interviewer instruction:
If the answers to any of the above questions are "yes," go to Step 2. If the answers to all of the above questions are "no," then proceed to Step 3.

Step 2

Interviewer instruction: If the answer is "yes" to any of the questions in Step 1 ask the following additional questions about each reported injury and add details to the chart below.

Were you knocked out or did you lose consciousness (LOC)?

If yes, how long?

If no, were you dazed or did you have a gap in your memory from the injury?

How old were you?

Step 3

Interviewer instruction: Ask the following questions to help identify a history that may include multiple mild TBIs and complete the chart below.

Have you ever had a period of time in which you experienced multiple, repeated impacts to your head (e.g. history of abuse, contact sports, military duty)?

If yes, what was the typical or usual effect––were you knocked out (Loss of Consciousness - LOC)?

If no, were you dazed or did you have a gap in your memory from the injury?

What was the most severe effect from one of the times you had an impact to the head?

How old were you when these repeated injuries began? Ended?

Step 1	Step 2						
	Loss of consciousness (LOC)/knocked out				Dazed/Mem Gap		Age
Cause	No LOC	< 30 min	30 min-24 hrs	> 24 hrs	Yes	No	

If more injuries with LOC: How many?_____ Longest knocked out?_____ How many ≥ 30 mins.?_____ Youngest age? _____

Step 3	Typical Effect		Most Severe Effect				Age	
Cause of repeated injury	Dazed/ memory gap, no LOC	LOC	Dazed/ memory gap, no LOC	LOC < 30 min	LOC 30 min - 24 hrs.	LOC > 24 hrs.	Began	Ended

Adapted with permission from the Ohio State University TBI Identification Method (Corrigan, J.D., Bogner, J.A. (2007). Initial reliability and validity of the OSU TBI Identification Method. J Head Trauma Rehabil, 22(6):318-329.

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2. In your lifetime, have you ever injured your head or neck in a car accident or from crashing some other moving vehicle like a bicycle, motorcycle or ATV?
   ☐ No ☐ Yes—Record cause in chart
3. In your lifetime, have you ever injured your head or neck in a fall or from being hit by something (for example, falling from a bike or horse, rollerblading, falling on ice, being hit by a rock)? Have you ever injured your head or neck playing sports or on the playground?
   ☐ No ☐ Yes—Record cause in chart
4. In your lifetime, have you ever injured your head or neck in a fight, from being hit by someone, or from being shaken violently? Have you ever been shot in the head?
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Step 3

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Step 1	Step 2						
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Adapted with permission from the Ohio State University TBI Identification Method (Corrigan, J.D., Bogner, J.A. (2007). Initial reliability and validity of the OSU TBI Identification Method. J Head Trauma Rehabil, 22(6):318-329.

The Client is Screened... Now What?

After screening a client for brain injury, what are the next steps? This section of the packet provides information about how to support your client and how BIAV is here to help.

Score Breakdown

Scoring provides individuals with information about if, when, and how often a TBI has occurred. The scoring ranges from "other sources" to "worst":

- **WORST** - there has been one moderate or severe TBI (i.e., any TBI with 30 minutes or more loss of consciousness)
- **FIRST** - TBI with any loss of consciousness before age 15
- **MULTIPLE** - had 2 or more TBIs close together, including a period of time when they experienced multiple blows to the head even if apparently without effect
- **RECENT** - a mild TBI in recent weeks or a more severe TBI in recent months
- **OTHER SOURCES** - any TBI combined with another way their brain has been impaired

The training found on the Ohio State University's TBI Identification Method Training Module will break down these scores further and help you better understand their meaning.

Discuss Screening Results

Help your client understand what the results mean and what they don't mean. **A positive brain injury screen is not a medical diagnosis.** However, it indicates the person is displaying symptoms consistent with those of brain injury and they could benefit from further assessment by a medical professional; as well as other services such as occupational or speech therapy.

Providing your client with this information has the potential to empower them. Understanding that a brain injury may have influenced their decisions, actions or outcomes, can help them better understand who they are.

This knowledge can encourage them to seek help, and connect with supports and other assistance based on their unique needs.

Share Options

- Refer them to a doctor for further assessment to explore symptoms and needs. You can find doctors who specialize in brain injuries on the BIAV website under Resource Directory. See the next section of this packet for more info on how to access the directory.
- Open up a discussion about their symptoms and ways you can support them (see "Brain Injury Deficit Management Strategies" on pages 10-12).
- Show empathy, and be mindful of the persons' history and culture when sharing results
- You or they can speak with a BIAV resource specialist to learn more or ask questions

Brain Injury Association of Virginia

The Brain Injury Association of Virginia provides free and confidential services across VA to individuals with brain injury, their caregivers/family, and professionals. Our mission is to "advance education, awareness, support, treatment, and research to improve the quality of life for all people affected by brain injury.

Resource specialists are available Monday – Friday between 9am and 5pm to provide brain injury education, discuss referral information, or address any questions. We are specialized in Neuro Resource Facilitation and have staff that are passionate about serving the community. When you call, you will be connected with our Community Resource Facilitator who can answer any questions related to brain injury resources in your area. Additional information can also be found on the BIAV website at www.biav.net.

BRAIN INJURY ASSOCIATION OF VIRGINIA

Phone: (804) 355 – 5748
Email: info@biav.net
Website: BIAV.net

Next Steps

After learning about this topic, what are your next steps?
The Brain Injury Association of Virginia is here to help. The BIAV has online resources for anyone to access, including providers like yourself, regarding information related to brain injuries. You can access this information through the Online Resource Library.

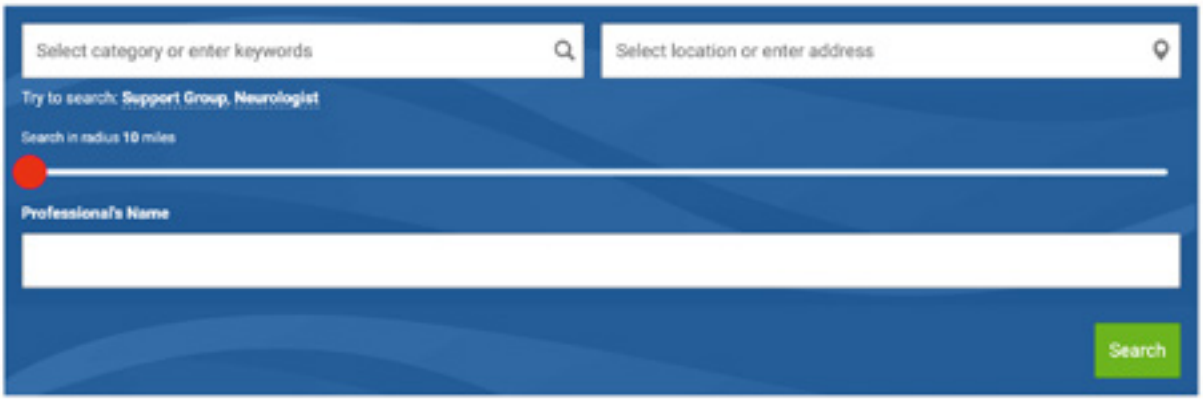
How to Access the Online Resource Library

1. Go to biav.net
2. Scroll down and you will see a link titled "Resource Library"
3. In the Resource Library, you will find information about brain injuries including quick guides, articles, webinars, videos, podcasts and other helpful links.

In the Resource Library, you will also find a Resource Directory – it allows you to search for other providers, support groups, and more within the Virginia area. This is a great tool for you to use when trying to refer and connect your clients who have a history of a BI with brain injury specialists and other supports.

How to Access the Resource Directory

1. Go to biav.net
2. Scroll down and click the "Resource Library" purple tab
3. While in the Resource Library, you will see a box titled "Resource Directory"
4. Here you can search for providers in the area by type and location
5. If you need more information about how to access the Resource Directory, visit the "How to Use the Resource Directory" tabs at the top of the page. We have videos and documents for you to view to help guide you through the process. You may also contact our office anytime at (804) 355–5748.



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