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Support States • Grow Leaders • Connect Partners

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Traumatic Brain Injury (TBI): Overview and Tools for Support: Part I

January 20, 2023



Welcome!

Please put your name, where you work and
your position in the chat





Pre-test Poll





**NATIONAL
ASSOCIATION OF
STATE HEAD
INJURY
ADMINISTRATORS**

NASHIA'S MISSION

NASHIA is a nonprofit organization created to assist State government in promoting partnerships and building systems to meet the needs of individuals with brain injury and their families.

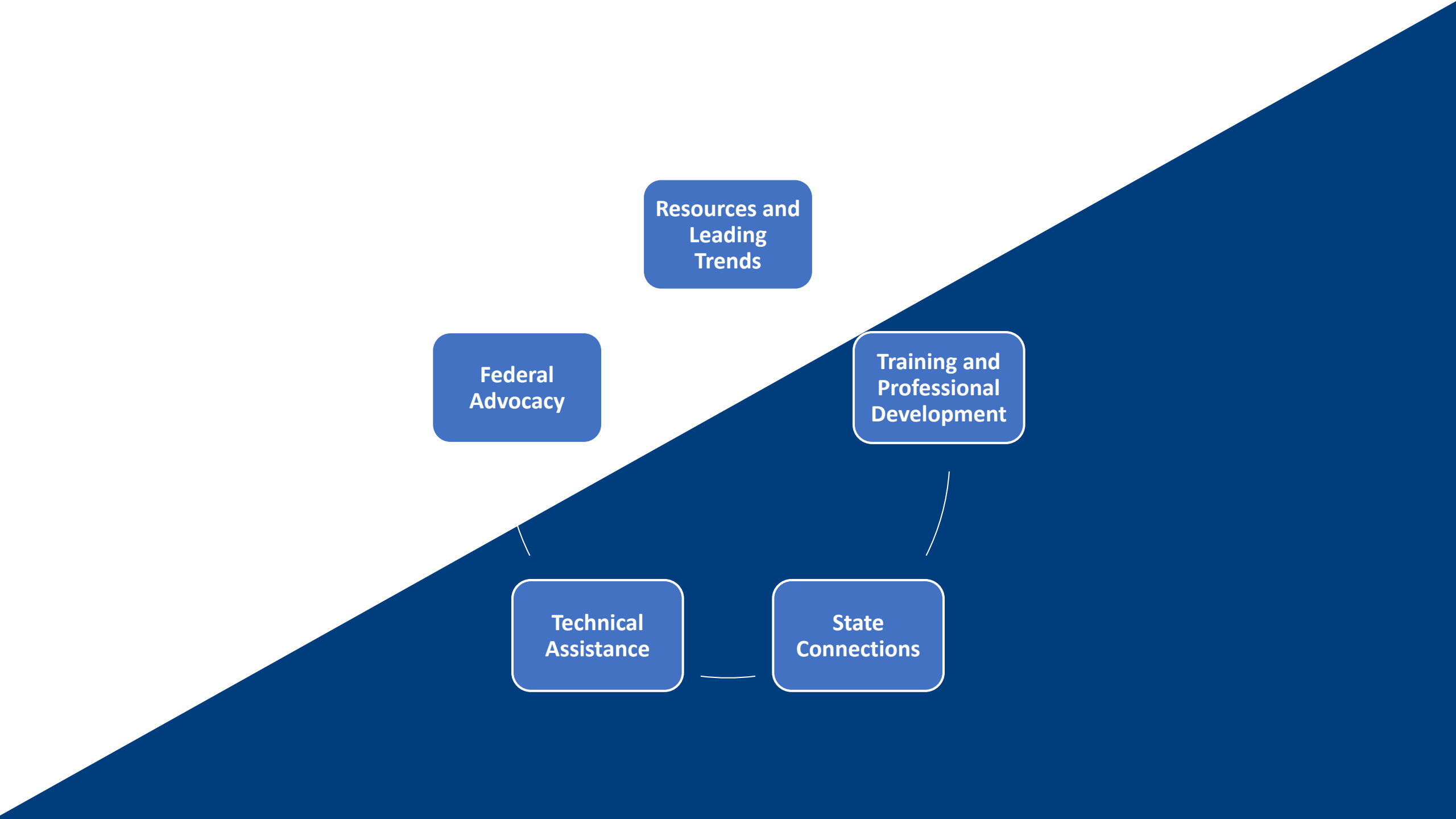
**Resources and
Leading
Trends**

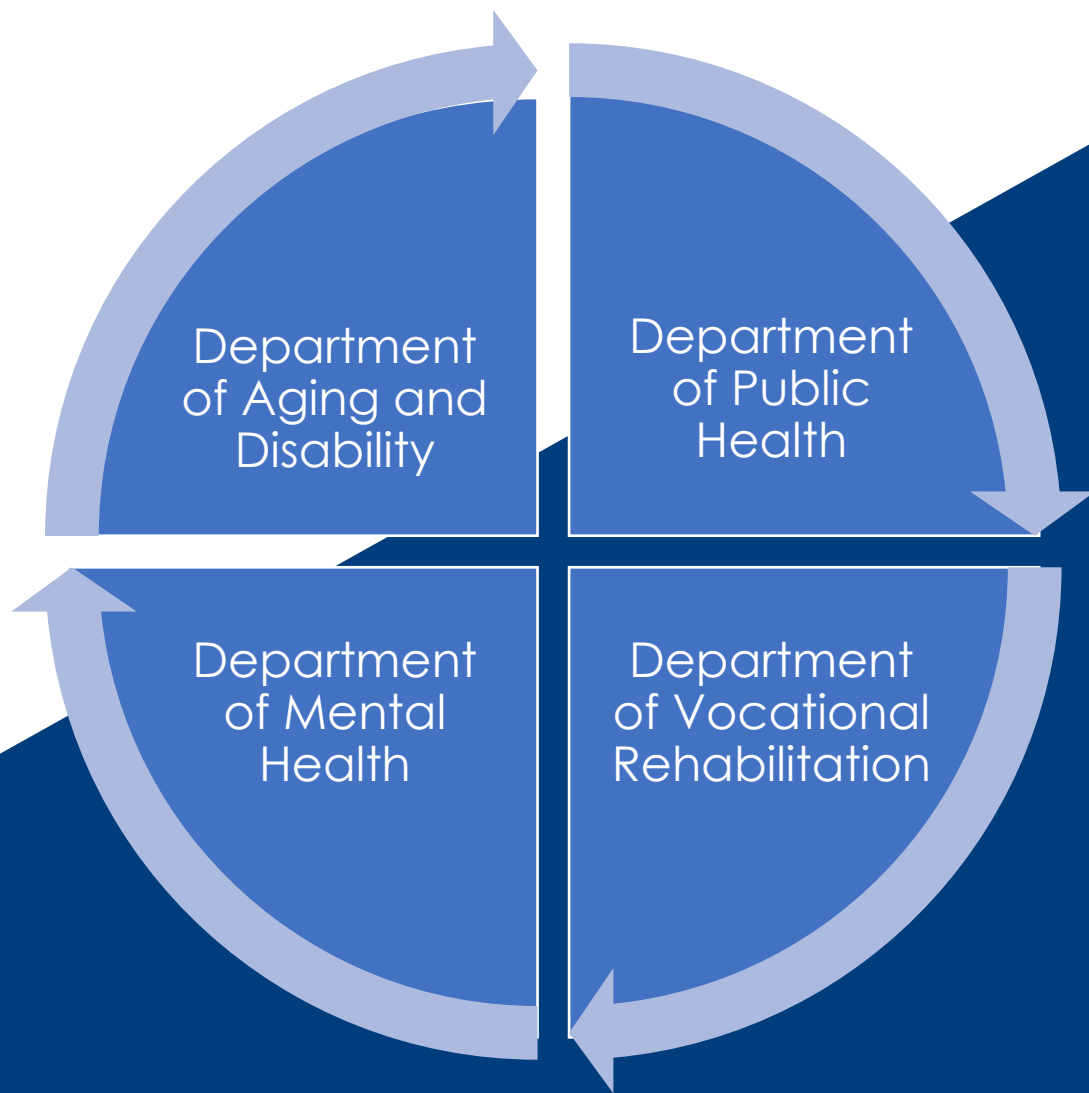
**Federal
Advocacy**

**Training and
Professional
Development**

**Technical
Assistance**

**State
Connections**







Brain Injury's Impact

- A brain injury occurs every 9 seconds in the United States
- Based on the most recent DuPage County population, it is estimated that there are at least 18,500 children and adults living in the county with a brain injury
- There are more than a quarter million children and adults living in Illinois with disabilities from a brain injury

Making the Agency Connections

Illinois Healthcare & Family Services (HFS)

www.illinois.gov/hfs/MedicalClients/HCBS/

Illinois Dept of Human Services (DHS)

www.dhs.state.il.us

- Home Services Program and TBI Waiver
- Rehabilitation Services
- DHS Office Locations

Making the Agency Connections

Illinois Dept of Aging

www.Illinois.gov/Aging

Illinois Assistive Technology Program

www.iltech.org

Making the BIA Connection....

- Refer the client and family to the BIA of Illinois for education, support group information & community resources
- Refer the individual to the BIA websites to view the educational films at their convenience
- BIA works with individuals who have a wide range of injury severity and at different stage of recovery

Creating the Network...

- Assist in transitioning the individual back into the community
- Provide ongoing support and resources when the individual is no longer receiving rehabilitation services
- Refer the individual back to the rehabilitation provider as appropriate
- Involve the individual in BIA programs
- Partnerships in creating the community link

Community Participation...

- Involvement in the Peer Outreach program
- Support Groups offer socialization, support and education
- Advocacy – training & participation in individual & legislative opportunities
- Social Skills training
- Attend Camp and Conference
- Volunteer with BIA community events

Response to Need

Brain Injury Association programs and services include:

- Information and Resources Call Center
- Education
- Injury Prevention
- Public Awareness
- Advocacy
- Therapeutic Camp / Recreation Program
- Support Services

BIA Programs

- **Information and Resources**

- 800.699.6443 (nationwide) www.biaail.org
- info@biaail.org
- Text 708.369.8360

- **Education**

- Annual Educational Conference
- Public and Community Awareness
- Educational Resources and Video education
- Injury Prevention Program
- Community Education
- Certified Brain Injury Specialist Training & Exam

BIA Programs

- **Advocacy**
 - Public and Individual
- **Camp / Recreation Program**
 - Wilderness Endeavor and Camp FunZone
 - Turkey Bowl
 - White Sox Baseball and Wolves Hockey
- **Support Services**
 - Support Groups
 - Military Family Network
 - Peer Outreach programs
 - The Essentials program

Social Media

- www.facebook.com/BIAofIL
- www.twitter.com/BrainInjuryAssn
- www.youtube.com/BrainInjuryHelp

Military Family Education

www.biaail.org



Brain Injury Association of Illinois

Contact : Philicia L. Deckard
800.699.6443 312.726.5699
Text 708.369.8360
info@biail.org

www.biail.org

www.braininjurytoolbox.com

www.thebrainandspinalcord.com

Why Knowing about TBI Matters (1 of 2)

A history of TBI is often hidden among justice involved individuals with cognitive/intellectual disabilities, physical disabilities e.g., spinal cord injury, and behavioral health challenges (mental health and substance use disorders)

If supporters and professionals know/suspects there maybe a history of TBI and other co-occurring conditions, they can engage individuals in a brain injury informed way from the start of the relationship and make the right referrals

Why Knowing about TBI Matters (2 of 2)

Supporters and professionals can make simple accommodations to enable individuals living with physical and cognitive disabilities to engage with and benefit from services

Provide psychoeducation the individual to increase awareness of the functional implications of their disability so that they may be better equipped to advocate for themselves (knowledge is power!)

By the end of today's session, we will...

- Identify common neurobehavioral challenges common to those living with a history of TBI
- Describe the connection between TBI and how it intersects with physical, cognitive, mental health and substance use disorders
- Understand the benefits of employing screening tools to capture both a possible history of TBI *and* related barriers
- Name at least 3 strategies, accommodations and resources that can help support justice involved individuals living with a brain injury



What *is* a Brain Injury?



Acquired Brain Injury/Umbrella Term

Traumatic Brain Injury (TBI)

TBI is an insult to the brain caused by an external physical force, such as a: fall, motor vehicle accident, assault, sports related incident, or improvised explosive device (IED) exposure

Non-TBI (nTBI)

nTBI is an insult to the brain that has occurred after birth, such as: stroke, infections in the brain, strangulation and other events that result in a loss of oxygen to the brain; e.g., cardiac event, near drowning, overdose(s)

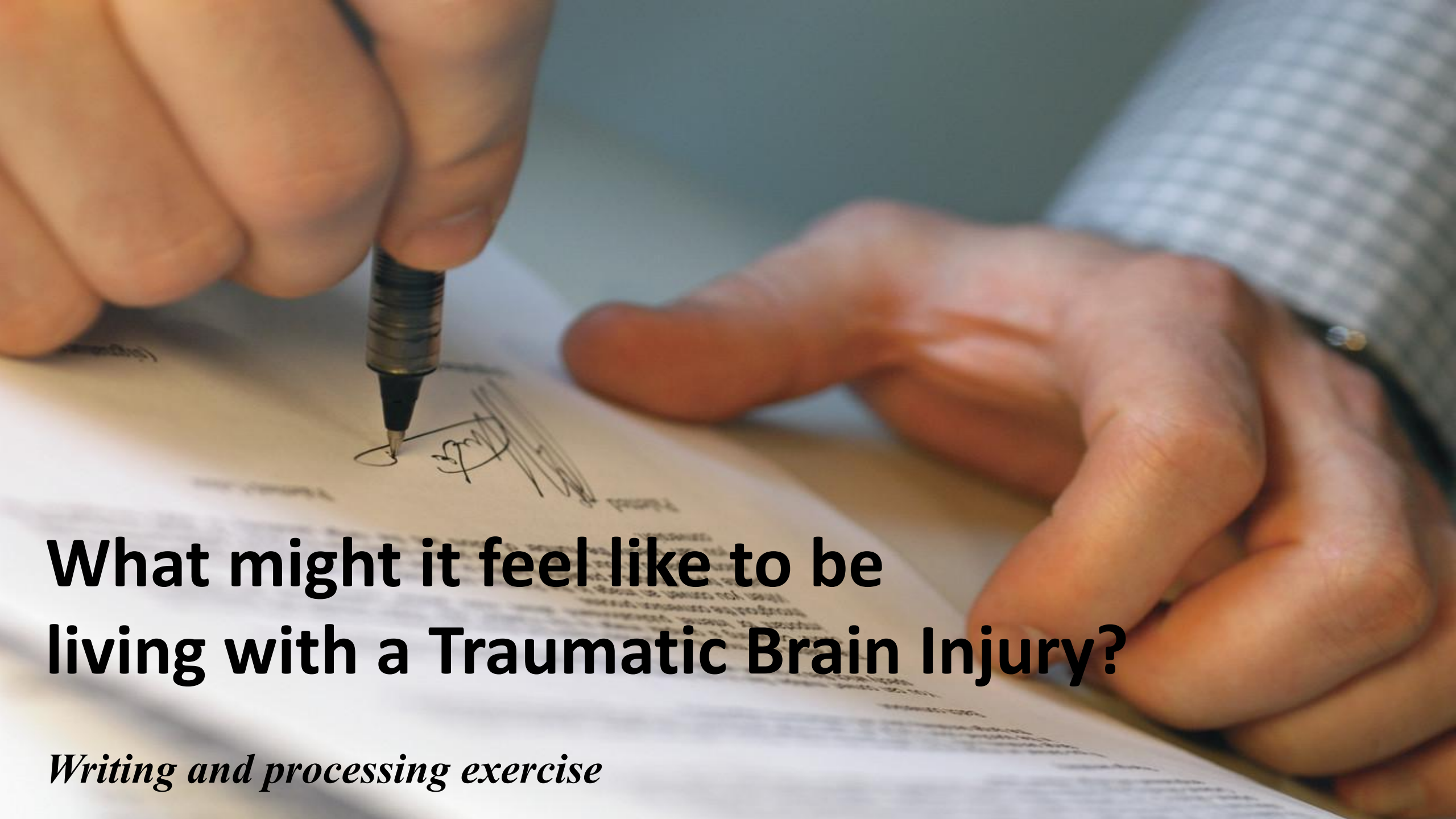
Brain Injury Severity

Distribution of severity:

- **Mild injuries = 80 percent**
(Loss of consciousness (LOC) < 30 minutes, post traumatic amnesia (PTA) < 1 hour)
- Moderate = 10–13 percent
(LOC 30 minutes to 24 hours, PTA 1 to 24 hours)
- Severe = 7–10 percent
(LOC >24 hours, PTA >24 hours)

Bonus Question!

Can you name anyone in the public eye, (at anytime in history) who is or was living with a brain injury?



What might it feel like to be living with a Traumatic Brain Injury?

Writing and processing exercise

What Can Living with a Traumatic Brain Injury Look Like?

Beyond the Invisible narrated by
Lee Woodruff

- <https://youtu.be/ePJgU2LFU-og>



Let's Discuss:

- Name one brain injury related challenge that Tracy (gentleman in the white tee shirt) is dealing with after his injury
- Name one brain injury related challenge that Brian (married to Michele) is dealing with after his brain injury
- Name one brain injury related challenge that Eddie (Marine) is dealing with after his brain injury

BONUS Question!

What accommodation did I make in each of the above questions to reduce your “cognitive load”

BONUS Question #2

What does “cognitive load” mean?

Facts and Figures about TBI and Veterans (1 of 2)

- 14% of combat veterans who served in Vietnam sustained a TBI
- During peacetime, over 7,000 annually admitted to military and veterans' hospitals with a diagnosis of TBI (Institutes of Medicine, 2009)
- More than 2.5 million veterans serving after September 11, 2001, have sustained a TBI, 80% of these injuries have been non-combat related

Facts and Figures about TBI and Veterans (2 of 2)

- More common among non-combat military personnel than in the general population:
 - High concentration of service members in the highest incidence age groups (18 – 44)
 - Greater risk for injury associated with non-combat military duties
 - Greater consumption of **alcoholic beverages** by military personnel
- One study of veterans who served in Operation Enduring Freedom (OEF) and Operation Iraqi Freedom (OIF) found that **46%** screened positive for deployment-related TBI



Facts and Figures about TBI and Civilians

Nearly 2.9 million people sustain a new traumatic brain injury (TBI) each year

- There were about 61,000 TBI related deaths in the US in 2019-that works out to roughly **166** related deaths a day, contributing to approximately **30%** of all injury-related deaths, with rates highest among older adults (75+) and young children, 0-4 years of age
- An estimated **13.5 million individuals** live with challenges due to TBI in the United States
- **Firearm-related suicide is the most common cause of TBI-related deaths in the US**

Recognizing the link between Brain Injury and Behavioral Health

Individuals with a history of brain injury are more likely to experience:

- Depression-commonly presenting as irritability
- Anxiety
- Alcohol use Disorder
- Opioid use Disorder

As a result, people with TBI are overrepresented among those who are:

Homeless, incarcerated, and cycling in and out of behavioral health services, with their history of TBI and consequences of that history either unknown and/or misunderstood perhaps because:

The individual made a good (physical) recovery from a moderate to severe TBI

The individual has experienced multiple, mild, TBI's (concussions) over the course of their life

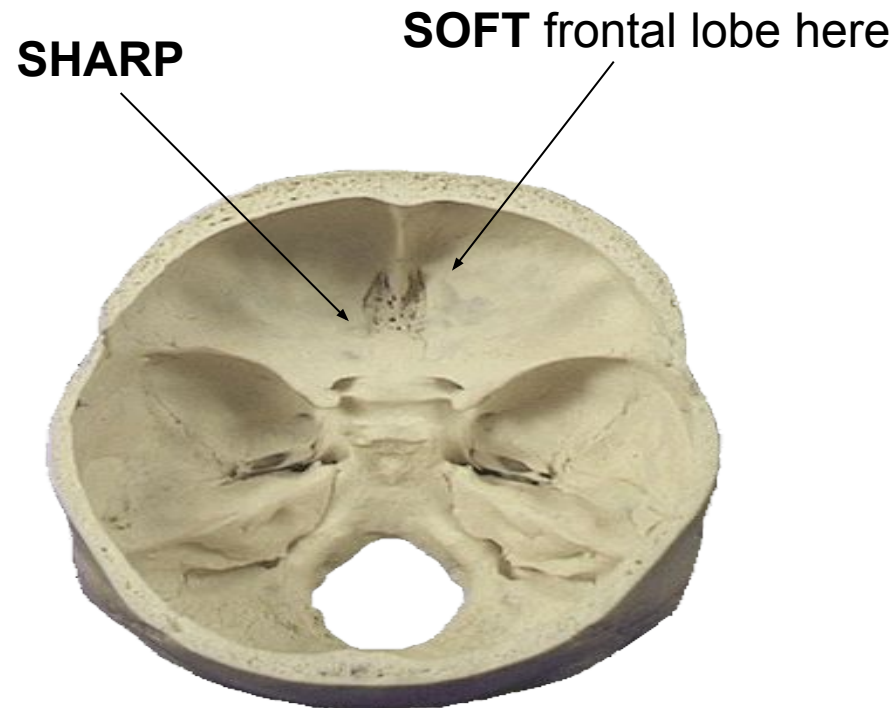
The symptoms of brain injury have been misdiagnosed/misunderstood by providers



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Brain Injury - The Skull

Many of our adult thinking skills reside in the frontal lobe; the frontal lobe is very vulnerable to injury.



The Frontal Lobe

The frontal lobe is the area of the brain responsible for our “executive skills,” or higher cognitive functions.

These include:

- Problem solving
- Spontaneity
- Memory
- Language
- Motivation
- Judgment
- Impulse control
- Social and sexual behavior



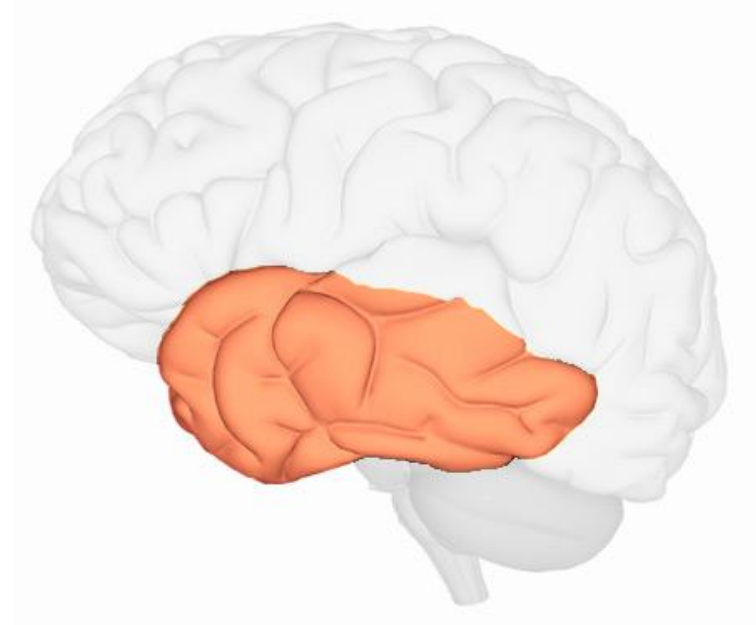
Source: Adapted from Dr. Mary Pepping of the University of Idaho's presentation "The Human Brain: Anatomy, Functions, and Injury"

The Temporal Lobe

The **temporal lobe** plays a role in emotions and is also responsible for smelling, tasting, perception, memory, understanding music, **aggressiveness, and sexual behavior.**

The temporal lobe also contains the **language area** of the brain.

Source: Adapted from Dr. Mary Pepping of the University of Idaho's presentation "The Human Brain: Anatomy, Functions, and Injury"

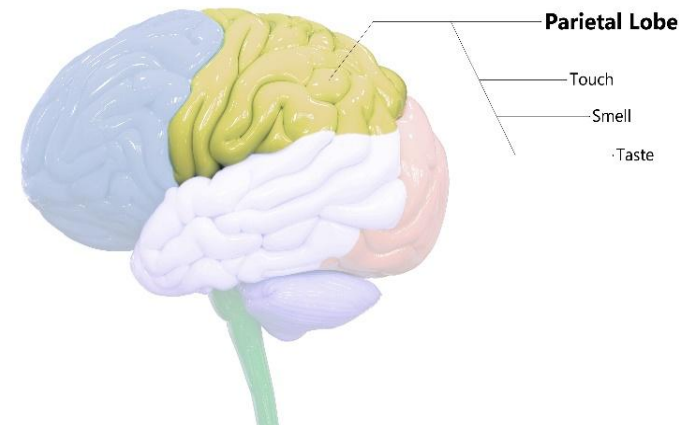
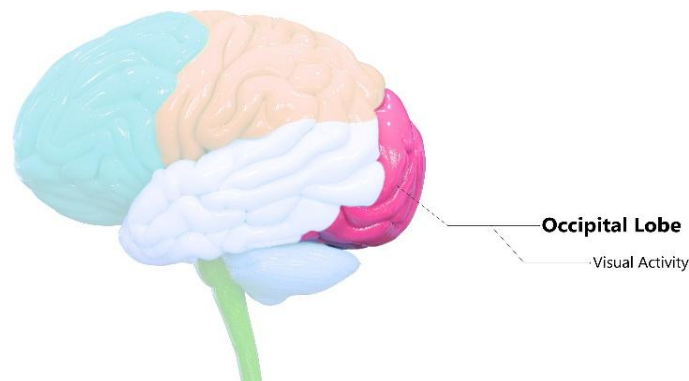


TBI “Fingerprints” (Adapted from Corrigan)

There are two other lobes in the brain, the occipital and the parietal lobes, in general responsible for vision, some language and memory functions.

Our frontal lobe and the temporal lobes are key to **managing behavior and emotions**. Survived overdose or overdose(s) also put the frontal and temporal lobes at risk if they are deprived of oxygen

Thus, damage to these regions can contribute to mental health and/or addiction problems. Damage to these lobes is considered the **“Fingerprint of Traumatic Brain Injury.”**



Possible Physical Changes

Injury-related challenges	How it may affect a person functionally
Coordination	Unsteady gait, poor eye-hand coordination, slow or slurred speech, tremors
Paralysis- due to injury to the brain and/or spinal cord	Uses a cane, walker or wheelchair, in the case of the later, skin breakdown can occur from prolonged sitting, chronic pain & muscle spasms, challenges in bowel & bladder management
Visual Deficits	Staring or poor eye contact, blurred or double vision, visual field cut, resulting in an inability to see and respond to the environment
Additional Physical Challenges	Seizures, deaf or hard of hearing, fatigue



Possible Thinking (Cognitive) Changes

Injury-related challenges	How it may affect a person functionally
Memory	Trouble following directions, providing requested information, making appointments
Processing (receptive)	Understanding what is being said and what is read
Processing (expressive)	Trouble putting thoughts into words—tip of the tongue syndrome
Problem solving (related to frontal lobe and temporal tip injury)	Impulsive, easily frustrated, sexually disinhibited, verbally/physically combative, interpersonally inflexible, poorly organized

Possible Behavioral Changes

Injury related challenges	How it may affect a person functionally
Depression	Flat affect, lack of initiation, sadness, irritability
Anxiety	Can exacerbate other cognitive/behavioral problems
Confabulation	“Making up stories”
Perservation	Gets “stuck” on a topic of conversation or physical action
Post Traumatic Stress Disorder	Intrusive thoughts, sleep disturbance, hypervigilant
Unawareness	Unable to take social cues from others, learn from experiences, events since the injury



Awareness - a lack of awareness can easily be misinterpreted as noncompliance or lack of motivation

Reduced or NO Awareness of the functional implications of injury-imposed barriers

For example, the injury has left the person with difficulty moving the right side of their body, they drag their right foot, and their fingers can't grasp objects. Despite what seems to be an obvious disability, they insist they can drive without any accommodations or modifications to their car.



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Levels of Awareness

- **Intellectual Awareness:** “My memory is so bad” but can’t link that awareness to using such strategies as keeping a calendar so appointment aren’t missed
- **Emergent Awareness:** Individual is unable to recognize a problem when it is happening “Darn it, I knew I should have taken a picture of the parking space number” (as they are wandering around the parking garage)
- **Anticipatory Awareness:** individual is unable to anticipate a problem will occur and plan for the use of a particular strategy or compensation that will reduce the chances that a problem will occur, e.g., keep and refer to a calendar, take a picture of the parking space number and/or park in the same general area each time they go to the mall

Can't vs Won't



Looking Through a Different Lens

Building Blocks of Brain Development ©



The Hierarchy of Neurocognitive Functioning © - created by Peter Thompson, Ph.D. 2013, adapted from the works of Miller 2007; Reitan and Wolfson 2004; Hale and Fiorello 2004.

The Building Blocks of Brain Development © – further adapted by the CO Brain Injury Steering Committee, 2016.

~~Attention~~

~~Memory~~

Executive DYSFUNCTION:

- Inability to delay gratification (wait)
- Inability to manage time – no future thinking which results in poor planning, organization or initiation

Social INCOMPETENCE:

- Inability to make better behavioral or social decisions.

• Lack of attention to feedback in environment = poor MEMORY & poor LEARNING = repetitive mistakes

Achievement/ Cognitive Ability/ Reasoning

Social Emotional Competency

Executive Function

Language Processes

~~Learning Processes~~

Visual-Spatial Processes

Processing Speed

Inhibition

Sensory-Motor

Skill vs Will



If we think they have the skill(s) but **choose** to not use it, we are more likely to think punishment that can range from being ostracized from the group, to premature service termination to entry into the criminal justice system



If we think they don't have the skill(s), we are less likely to think punishment, more likely to think of engagement and retention strategies and **teaching** the skill or skills-consider the implications of childhood injury



The Long Arm of Brain Injury

Source: Corrigan 2014

According to a Christchurch, New Zealand study: Early childhood TBI, even if mild, may predispose people to later having **behavioral problems and/or involvement with law enforcement-**

- Those hospitalized with 1st TBI before age 6
 - 3 times more likely to have a diagnosis of either alcohol or drug dependence by age 25
- Those hospitalized with 1st TBI between ages 16 and 21
 - 3 times more likely to be diagnosed with drug dependence
- TBI highly associated with likelihood of arrest



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Recognizing Brain Injury

adapted from John Corrigan 2014

Greatest behavioral risk factors:

- **Violence-prone** or exposed to those who are
- **Misuse substances** or exposed to those who do
- More risk among **lower socio-economic** groups

Unpacking the why's-social and health inequities-what might be the difference in supports and **outcomes** for the scholar athlete who experiences multiple concussions and the young person who grew up in a household where there was physical abuse



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Adverse Childhood Experiences & Brain Injury

Guinn AS, Ports KA, Ford DC, Breiding M, Merrick MT. Associations between adverse childhood experiences and acquired brain injury, including traumatic brain injuries, among adults: 2014 BRFSS North Carolina. *Inj Prev*. 2019 Dec;25(6):514-520. doi: 10.1136/injuryprev-2018-042927. Epub 2018 Oct 13. PMID: 30317219; PMCID: PMC6462254.

Adapted from Guinn et. al (1 of 2)

Adverse Childhood Experiences may represent a **step along a pathway that increases risk for Brain Injury via:**

Neglect by a parent that could lead to drowning, bicycle crash, physical abuse including strangulation and eventual health risk behaviors, such as substance use, which may cause a stroke, drug overdose or heart attack/failure

Four of the 8 ACE types as well as cumulative ACE score, were significantly associated with TBI after adjusting for age, race/ethnicity, gender and self-reported income” These are:

Sexual abuse, physical abuse, household mental illness and an incarcerated household member

Adapted from Guinn et. al (2 of 2)

ACEs that were significantly associated with Acquired Brain Injury but not Traumatic Brain Injury include:

Emotional abuse

Household substance use

Compared with individuals with **0 ACEs**, the odds of reporting TBI by individuals with **3 or more ACEs increased by 416%**. and those reporting **4 or more ACEs, increased by 339%**

The authors state that, **“The findings from this study highlight the potential impact of preventing ACEs to reduce ABI, including traumatic brain injury.”**



TBI & Criminal Justice: Prevalence (1 of 2)

- A meta-analysis found the prevalence in the justice population to be **60.25%** (Shiroma, Ferguson, & Pickelsimer, 2010) vs. **8.5%** of the general population with reported history of TBI, a figure the Center for Disease Control and Prevention considers to be a **public health crisis** (Wald, Helgeson, & Langlois, 2008)
- A meta-analysis found that approximately 30% of juvenile offenders have sustained a previous brain injury (Vaughn, Salas-Wright, Delisi, & Perron, 2014)
- Rate of TBI is **3 to 8 times higher among juvenile offenders** (Hughes et al., 2015)
- **Half** of youth offenders have a history of loss of consciousness, with repeat injuries being very common (Davies et al., 2012; Koba et al., 2013)

TBI & Criminal Justice: Prevalence (2 of 2)

- Criminal behavior appears to **increase** after TBI, especially after severe TBI
(Farrer & Hedges, 2011; Brooks et al., 1986; Fazel et al., 2011; Mclsaac et al., 2016; Timonen et al., 2002; Elbogen et al., 2015)
- In a Colorado study, female offenders endorsed a history of TBI at a rate of **97%**

TBI & Criminal Justice: Negative Outcomes (1 of 2)

- Increased utilization of services while incarcerated (health and psychological)
- Lower treatment completion rates and higher rates of disciplinary incidents
- Lower ability to maintain rule-abiding behavior during incarceration
- More prior incarcerations
- Higher rates of recidivism, 69% compared to 37% of peers without TBI (Piccolino & Solberg, 2014)

TBI & Criminal Justice: Negative Outcomes (2 of 2)

- Severe depression and anxiety
- Problematic anger
- Suicidal ideation and/or attempts
- Risk to personnel



Mental Health and Brain Injury

- [Almost half of adults](#) with TBI who have no pre-injury history of mental health problems [develop mental health problems after the TBI](#)

(Gould, Ponsford, Johnston, & Schonberger, 2011. Psychological Medicine, 41, 2099-2109.)

- [1/3 of TBI survivors experience emotional problems](#) between 6 months and a year post injury

- Individuals reported:

- Hopelessness 35%
- Suicidal ideation 23%
- Suicide attempts 18%

- [85% of survivor families](#) report that emotional or behavioral problems have an impact on their function

Suicidal ideation can be [7x higher](#) in people with TBI than in those without

- *Attempts* of suicide post-TBI can be at rates close to 17%
- Increased suicide risk persists up to 15 years post-injury

(Fazel, et al. 2014. JAMA Psychiatry, 71(3), 326-33.; Mackelprang et al., 2014. Am J Public Health, 104(7), e100; Simpson & Tate, 2007. Brain Inj., 21(13-14), 1335-51.)

Substance Abuse and Brain Injury

Why would TBI be associated with substance abuse disorders?

1. Intoxication causes TBI
2. Early life TBI predispose to substance abuse
3. Structural damage from TBI changes behavioral control




Substance Use Disorders-Alcohol

- “Alcohol intoxication is one of the strongest predictors of Traumatic Brain Injury”
- “A substantial proportion of Traumatic Brain Injury occurs in intoxicated individuals”
- Having a history of TBI is a potential risk factor for developing an alcohol use disorder
- Using alcohol after brain injury can negatively impact post brain injury recovery

Source: Weil, Z. M., Corrigan, J. D., & Karelina, K. (2018). Alcohol Use Disorder and Traumatic Brain Injury. *Alcohol research : current reviews*, 39(2), 171–180.

Substance Use Disorders-Opioids


- A study of 53,124 veterans of Iraq and Afghanistan with chronic pain looked at the rate of prescribed opioids for those veterans living with and without a history of TBI. Those with a history of TBI were more likely to be prescribed opioids
- Those veterans with chronic pain, a moderate to severe TBI as well as other mental health comorbid conditions such as post-traumatic stress disorder and depression had an even greater risk of initiation of long-term opioid therapy
- TBI often results in headaches & orthopedic injuries leading to prescriptions for opioids: **70-80% of all patients with TBI are discharged with a prescription for opioids**
- A TBI Model Systems study indicated that individuals living with a history of TBI were 10X more likely to die from accidental poisoning, with 90% related to drug overdose (67% narcotics, 14% psychostimulants, 8% alcohol)



“Consequences are particularly related to impulsivity and self-regulation”

John Corrigan Ph.D.

Remarks at the September 2018 National Association of State Head Injury Administrators conference, Des Moines Iowa, regarding the consequences of childhood brain injury.



Behavioral Health Consequences - the differences between individuals with a history of brain injury and the general population

Suicide Attempts

- 28% with suicidal thoughts, 17% attempts
- 4% in general population

Substance Abuse

- 43% alcohol abuse, 29% illicit drugs, 48% either
- 7% general population (NSDC, Corrigan, 2003)

Mental Health

- 1/3 of individuals experience mental health after a TBI
- 19% general population



Imagine Living with a Hidden History of Brain Injury

- Your partner is physically abusive, but you are having a hard time following through with the recommendations of the police and domestic violence center staff
- You have been diagnosed with major depression; you live with intermittent suicidal ideation/you have attempted suicide
- You keep violating the terms of your probation, frustrating yourself, your family and your probation officer
- You really want to stay sober, but you can't follow what is said in group therapy/12 step meetings

Common Challenges After Brain Injury - Imagine How you might feel if...

Examples

1. You have no trouble remembering your childhood, but you can't *remember*; the last paragraph of that book you are trying to *read*, the *conversation* in the grocery store with your neighbor
2. The littlest thing makes so you *angry* you feel like screaming or throwing something (and when you are tired and frustrated, you just might)
3. You know what you want to say, but *you can't pull the words together*, and by the time you do, the moment has passed (conversation has moved on)
4. You blurt out things you never would have said before your injury
5. You are living with double vision, chronic headaches, coordination, paralysis on one side of your body

Raise your hand and unmute or enter your thoughts in the chat.



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Supporting through understanding and action

Viewing these physical, cognitive/thinking, and behavioral consequences through a brain injury informed lens communicates empathy, understanding and sets the foundation for collaborating on accommodations and strategies that can support justice involved individuals.

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 Cause	Step 2 Loss of consciousness (LOC)/knocked out				Dazed/Mem Gap		Age
	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 Cause of repeated injury	Typical Effect		Most Severe Effect			Age		
	Dazed/ memory gap, no LOC	LOC	Dazed/ memory gap, no LOC	LOC < 30 min	LOC 30 min - 24 hrs.	LOC > 24 hrs.	Began	Ended

(Continuation from reverse side, if needed)

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

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

Interpreting Findings

A person may be more likely to have ongoing problems if they have any of the following:

- **WORST**
One moderate or severe TBI
- **FIRST**
TBI with loss of consciousness before age 15
- **MULTIPLE**
2 or more TBIs close together, including a period of time when they experienced multiple blows to the head
- **RECENT**
A mild TBI in the last weeks or a more severe TBI in the last months
- **OTHER SOURCES**
Any TBI combined with another way that their brain function has been impaired

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

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

For more information about TBI or the OSU TBI Identification Method visit:

- Ohio Valley Center at OSU
www.ohiovalley.org/informationeducation
- BrainLine.org
www.brainline.org

Interpreting Findings

The validity of this tool is not based on elicitation of a perfect accounting for a person's lifetime history of brain injury. Instead, it provides a means to estimate the likelihood that consequences have resulted from one's lifetime exposure.

A person may be more likely to have ongoing problems if they have any of the following:

WORST: one moderate or severe TBI

FIRST: TBI with loss of consciousness before age 15

MULTIPLE: 2 or more TBIs close together, including a period of time when they experienced multiple blows to the head

OTHER SOURCES: any TBI combined with another way their brain function has been impaired



Excellent Free Resource, “Accommodating the Symptoms of TBI”^s

<https://heller.brandeis.edu/ibh/pdfs/accommodating-tbi-booklet-1-14.pdf>

Accommodating the Symptoms of TBI

Ohio Valley Center for Brain
Injury Prevention and
Rehabilitation

With contributions from Minnesota Department of
Human Services State Operated Services



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Accommodating Symptoms (1 of 2)

Page 10 —

Reflective Recommendations

***“What helps you
with... ?”***

- Learning new material
- Remembering assignments
- Staying on track
- Figuring out how to do new things
- Making choices that keep you healthy and safe

Attention (1 of 2)

Look For-

- After a short period is “checked out” -Often appears bored or disinterested
- Seems to not pay attention to what is being said to them or by others around them
- “Thrill seeking” or excessive risk-taking
- Seeks sensory stimulation (e.g., video games, extreme sports)

Adapted from Accommodating the Symptoms of TBI

Attention (2 of 2)

What to do about it-

- Grab attention through eye contact, and initial attention when beginning a task or conversation, in groups, use an ice breaker
- Break it down by keeping instructions simple, brief and to the point, sharing key points one at a time, in verbal and/or written format
- Integrate hands on activity as much as possible, practice, move and engage

Adapted from Accommodating the Symptoms of TBI

Memory (1 of 2)

Look for-

- Inconsistent performance of tasks or daily activities
- Difficulty recalling previously learned information
- Has difficulty learning new information
- May appear inattentive
- Does not follow-through with activities or instructions
- May be described by self or others as forgetful

Adapted from Accommodating the Symptoms of TBI

Memory (2 of 2)

What to do about it-

- Write it down, when possible, provide a written summary of important information, if they have a system, a calendar for example, encourage them to record information in it
- Repeat, review, repeat, paraphrase, summarize and synthesize multiple points to reinforce learning
- Remember, teach people to “remember to remember”, teach associations that will help with recall (example, Dr. Osborn’s dog and her treats)
- Practice, practice, practice, you learned to tie your shoes, ride a bike because of procedural learning, now those skills are automatic, capitalize on this neuro gift!!

Adapted from Accommodating the Symptoms of TBI

Accommodating Brain Injury related barriers

- Encourage the use of a journal and/or calendar in whatever format or formats work for them
- Encourage the creation of a daily schedule with built in reminders
- Use a digital recorder
- Encourage use of rest and low activity periods-strategic naps
- Use of a highlighter when reading text when appropriate
- Use of templates for routine tasks at home and work
- Encourage liberal use of labels (kitchen drawers, files etc.)

Things to keep in mind....

- Most likely, folks you are working with, even if they are unaware that they have been living with a brain injury or brain injuries, have instinctively put some strategies and supports for themselves. Our job is to listen for clues as to what works for them, and together build on that
- There may be some strategies and supports that may not be so helpful, such as relying on others to remind them to keep appointments and that person is not the most reliable. While it is great to have supportive people, perhaps together you can generate other ways of successfully keeping appointments

Incorporating Structure-for a good working relationship over time (1 of 2)

- Strategies are individualized for each individual
- If fatigue is an issue, build in 1–2-minute stretch breaks during meetings/sessions
- Summarize main points at intervals throughout meetings/sessions
- Determine together, the preferred way to track topics and issues discussed, e.g., via journal, phone app etc.
- Review the information shared during meetings and conversations and at the end of your time together, underscore the major takeaways
- Record next steps, these can be tasks to do between meetings/sessions as well as reminders of what will be discussed at later appointments
- Incorporate Peer support when feasible

Incorporating Structure-for a good working relationship over time (2 of 2)

- Make and maintain eye contact during interactions
- Speak in short, simple sentences
- Speak in a neutral tone
- Ask the individual to paraphrase what you have said frequently, so what I hear you saying is...
- Give the individual time to process what is being said
- When possible, give them a “heads up” regarding what to expect during your interaction

Environmental Strategies: supportive to individuals with histories of TBI and/or Trauma

Adapted from SAMHSA.gov

- Staff person welcomes verbally/ there are welcome signs
- Clear directions with graphics posted
- Scratch paper and pencils at hand for notes
- Necessary forms to be filled out at first appointments are available online or by mail
- Provide a template of a completed forms as a reference
- Area for children, toys, books, puzzles, child sized tables & chairs
- Waterfalls/fountains
- Plants
- Soothing music and smells
- Artwork by inspirational messages/created by program participants
- Calming paint colors (blue/green, pink, white, violet, grey, yellow)
- Non institutional lighting
- Seating allows for personal space
- Reading & resource materials available in the waiting room
- Non caffeinated beverages/water available

Wrap-Up

1. Any questions? Raise your hand or enter into the chat
2. Please identify **one** take away from today's training that you feel is relevant to your work and how you will incorporate it into your work practices . Raise your hand or enter into the chat
3. Are there any questions for Philicia, Judy or Stasia?
4. If we have time-get ready for "The Challenge"!



**CHALLENGE
ACCEPTED**



Bonus exercise if time permits: Challenge our Brain Injury knowledge!

Take a few minutes to generate a one “closed answer question,” for example:

“The sky is_____ when the sun is shining.” (correct answer is “blue”)

And one multiple choice question, for example:

“The Illinois State bird is the:

- a) Northern Cardinal
- b) Raven
- c) Oriole

(correct answer is “Northern Cardinal”)

Your goal is to challenge your colleague’s short term memory, put your question (s) and the chat, Judy will read them and anyone can answer the questions by unmuting, raising your hand or putting the answer in the chat.



Resources (1 of 2)

- **Brain Injury Association of America** biausa.org 1-800-444-6443, The Brain Injury Association of America links callers from around the country to local resources
- **United States Brain Injury Alliance** <https://usbia.org/> The United States Brain Injury Alliance aims to build state and national capacity to create a better future alongside individuals affected by brain injury through advocacy, education and information.
- **National Association of State Head Injury Administrators**, nashia.org, NASHIA's efforts are aimed at "assisting state government in promoting partnerships and building systems to meet the needs of individuals with brain injury and their families." NASHIA offers information on a variety of brain injury related topics including domestic violence, employment and veterans for free. NASHIA also has many publications and webcasts on a variety of brain injury related topics.
- **BrainLine** brainline.org Website funded through the Defense and Veterans Brain Injury Center offers civilians, returning service members with brain injury, families, and professionals a variety of information and resources regarding life after brain injury. On Brainline, check out "Life-Changing Apps for People with Brain Injury", this article shares recommended free or low cost apps that have been reviewed and approved for people living with brain injury and related cognitive challenges
<https://www.brainline.org/article/life-changing-apps-people-brain-injury>
- **The Christopher and Dana Reeve Foundation** <https://www.christopherreeve.org/> The Foundation provides information on living with paralysis, how to get support, research advances and connecting with others within the paralysis community, you can search resources specific to where you live here:
<https://www.christopherreeve.org/get-support/resources-in-your-area>



Resources (2 of 2)

Brain Injury and Behavioral Health

- Ohio Valley Center for Brain Injury Prevention and Rehabilitation
<https://tinyurl.com/3c6jy93k> The Ohio Valley Center is one of the TBI Model Systems research centers in the country. John Corrigan and his colleagues conduct research and publish on a variety of topics including TBI and substance abuse, (follow this link <https://tinyurl.com/29ezpvrj> to learn more about the link between alcohol use and brain injury), domestic violence and employment. Follow this link to learn about how to screen for a history of brain injury as well as how to support individuals living with a history of brain injury: <https://tinyurl.com/5bnk5v2u>.
- Traumatic Brain Injury and Substance Use Disorders: Making the Connections, toolkit for providers (2021) <https://tinyurl.com/mve97n7d>
- Client Workbook-Substance Use and Brain Injury (2021) <https://tinyurl.com/3yx49t6k>
- Substance Abuse and Mental Health Services Administration Advisory: Treating Patients with Traumatic Brain Injury (2021) <https://tinyurl.com/55wfdw4y>
- What Providers Need to Know: Behavioral Health and Brain Injury
ATTC Tip Card, SAMHSA Publication NO. PEP21-05-03-001, 2021 <https://tinyurl.com/yu5mnkys>

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Brain Injury Assn of Illinois:
Making the Connections and
Creating the Network

DuPage County Veterans Court Training
January 2023

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Thank You!

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National Association of Head Injury Administrators
<https://www.nashia.org/> National Association of Head Injury Administrators



Post-test Poll



<https://form.jotform.com/230194150470043>

