



Clinical Considerations for Substance Misuse & Brain Injury

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Objectives

1. Brief Denver Reentry program Overview
2. Clinical Lessons Learned
 - BI and Mental Health
 - BI and Substance Misuse
3. Individualized Treatment
4. Trauma Informed Approaches



Denver Reentry Program

Dedicated to identifying and supporting survivors of brain injury, who are in the legal system (incarceration, courts, community supervision).

Denver County Treatment Courts & District Problem Solving Courts

Funded by the Caring for Denver Foundation

- Brain injury identification model
- Symptoms Support Implementation
 - Survivors & Professionals
 - Family / Caregivers / Support Network Members
- Full Reentry Planning
- Connections to resources and skills for self –independence
- A.H.E.A.D psychoeducation groups
- Clinical Services: Substance Misuse therapy & Relapse Prevention



**caring
for Denver**
FOUNDATION



Current Data

91.1% positive screens

74% = of all screens, said yes to first time screen

81.2% of positive screens, said this was their first time learning about their BI history

55.5% out of positive BI screens, had Anoxic injuries

77.5% engaged since intake



Reentry Clinical

Referrals to Reentry Therapist:

2022 – 2023 = 31 Individual Referrals Only

2023 – 2024 = 65 Individual Referrals, 4 Relapse Prevention Referrals

2024 – 2025 = 67 Individual Referrals, 33 Relapse Prevention Referrals



PREVENTION

- Substance misuse can lead to Brain Injury
 - BI can lead to an increase in SM
- After screening positive for BI history, discuss SM areas of potential risk
 - Provide education about risks of reinjury due to use
- When educating about SM, discuss BI
- Chicken and the Egg



Reentry Clinical Lessons Learned 2023 - Present

- High need for symptom supports
 - to access services and maintain services
- High rates of dual diagnosis
- Hesitation to attend relapse prevention program
 - Small BI community
 - BI stigma
 - SM stigma
- Specific areas of difficulty
 - Paranoia
 - Delusions
 - Denial and anosognosia



Acquired Brain Injury

Traumatic Brain Injury

External Forces
ex: assault, fall, blast
injury, motor vehicle
accident

Non-Traumatic Brain Injury

Internal Event
ex: stroke, tumor, lack
of oxygen, infection



Prevalence of SM & BI

- Between 23 to 51% of adults sustained TBI's from drug and alcohol intoxication
- ¼ of people hospitalized for a TBI have a substance use disorder
- Those hospitalized with 1st TBI before age 6 are 3 times more likely to have a diagnosis of either alcohol or drug dependence
- Those hospitalized with 1st TBI between the ages of 16-21 are 3 times more likely to be diagnosed with drug dependence
- TBI highly associated with likelihood of arrest
- Drugs and alcohol can induce seizures and increases chances of seizures from TBI by 5%



Prevalence of SM & BI Cont'd

- Lack of oxygen to the brain (hypoxia or anoxia) are types of BI caused by overdose. Cell death happens within 5-6 minutes without oxygen.
- Over 1/3 of patients hospitalized with BI are likely to be under the influence of alcohol at admission and 44% to 66% have a history of alcohol misuse
- Nearly 20% of BI survivors experienced PTSD and 10% experienced depression within 3-6 months of injury.



BI & SM make each other worse

- **Worsened Brain Function:** Both brain injury and substance misuse can impair cognitive functions like memory, attention, and decision-making. When combined, these effects can be amplified, leading to more severe and long-lasting cognitive deficits.
- **Hindered Recovery:** Substance misuse interferes with the brain's natural healing processes after an injury. It can also disrupt rehabilitation efforts and make it harder for individuals to regain lost skills and abilities.
- **Increased Risk of Mental Health Issues:** Both brain injury and substance misuse can contribute to mental health problems like depression, anxiety, and impulsivity. These issues can further complicate recovery and increase the risk of relapse into substance misuse.



BI & SM make each other worse

- **Social and Emotional Challenges:** Both conditions can lead to social isolation, relationship difficulties, and emotional instability. These challenges can make it harder for individuals to cope and increase the risk of both substance misuse and further brain injuries.
- **Increased Risk of additional Brain Injury:** Substance misuse, particularly alcohol, impairs judgment, coordination, and reaction time, significantly increasing the likelihood of accidents that can cause brain injuries.

Mental Health Fallout

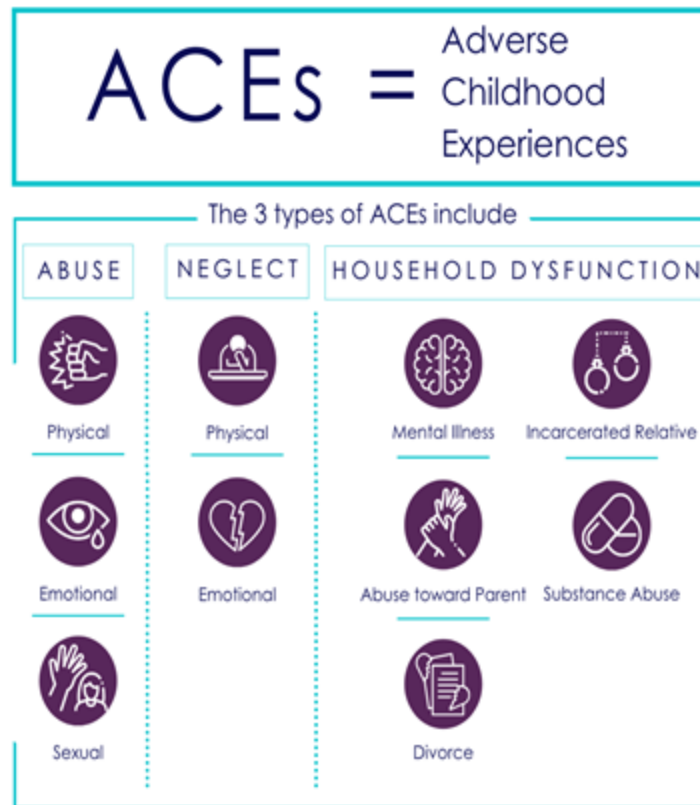
- Almost half of adults with no pre-injury history develop MH problems after the TBI
- 1/3 of TBI survivors (6 months to 1 year)
 - Hopelessness 35%
 - Suicidal ideation 23%
- Suicidal ideation can be 7x higher
 - *Attempts* of suicide: 17%
 - Increased risk: 15 years post-injury
- 85% of survivor families report that emotional or behavioral problems have an impact on their function
- Sleep disturbances, Fatigue, & Chronic Pain
 - 32%-73%
 - Fatigue persists for 1 year (moderate to severe injury)
 - impacts everyday life ➡ isolation and depression



Similarities: Brain Injury and ACES

BRAIN INJURY

- Having one brain injury increases your risk for subsequent brain injuries.
- Brain injury is not an acute condition; impacts last across the lifespan.
- Need for trauma informed care (post traumatic stress).

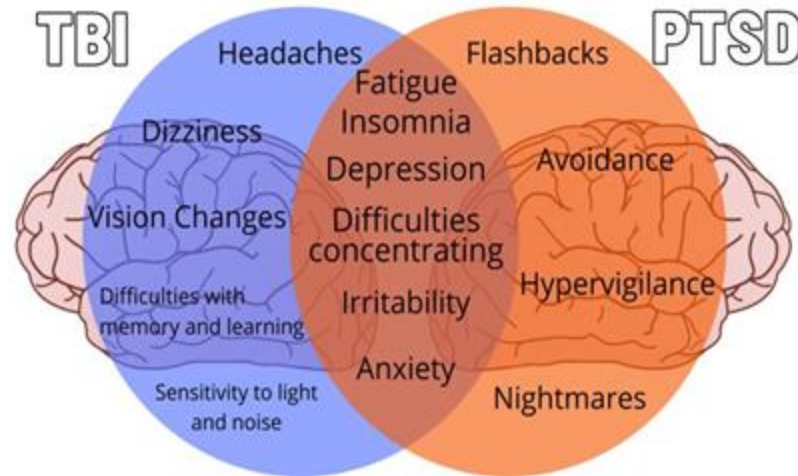


ACES

- More than one ACES increases risk for negative long-term outcomes. Given an exposure to one category, there is 80% likelihood of exposure to another.
- ACES are not isolated events. Resiliency may not negate impact of ACES.
- Need for trauma

BI Intersections

- Mental Health
- PTSD
- Substance Use
 - Intoxication
 - Early Life BI
 - Structural Damage
 - Social Connection
 - Chronic Pain
 - Opiates/Opioids

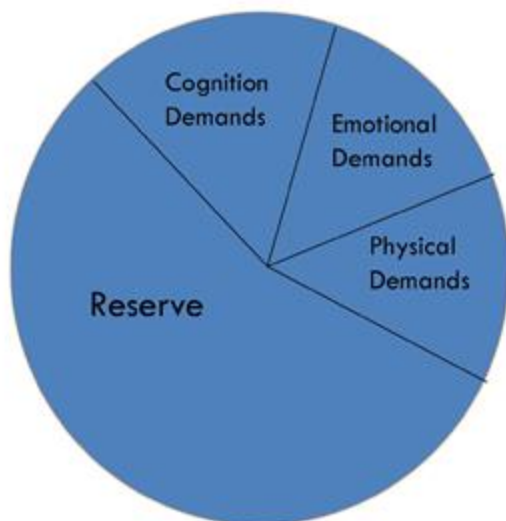


A Multitude of Loss

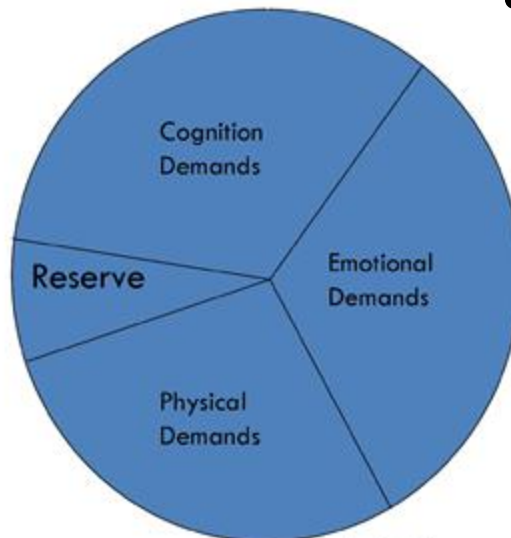
- Functional abilities
- Neurological changes: self-awareness, communication, emotional regulation
- Life roles
- Responsibilities as breadwinner, role model, support to others
- Social network of friends/family
- Self-esteem
- Intimacy
 - risk for homelessness
 - risk for substance abuse
 - risk for legal system involvement
 - risk for mental health conditions



Coping Hypothesis & Energy Pie



Healthy Brain



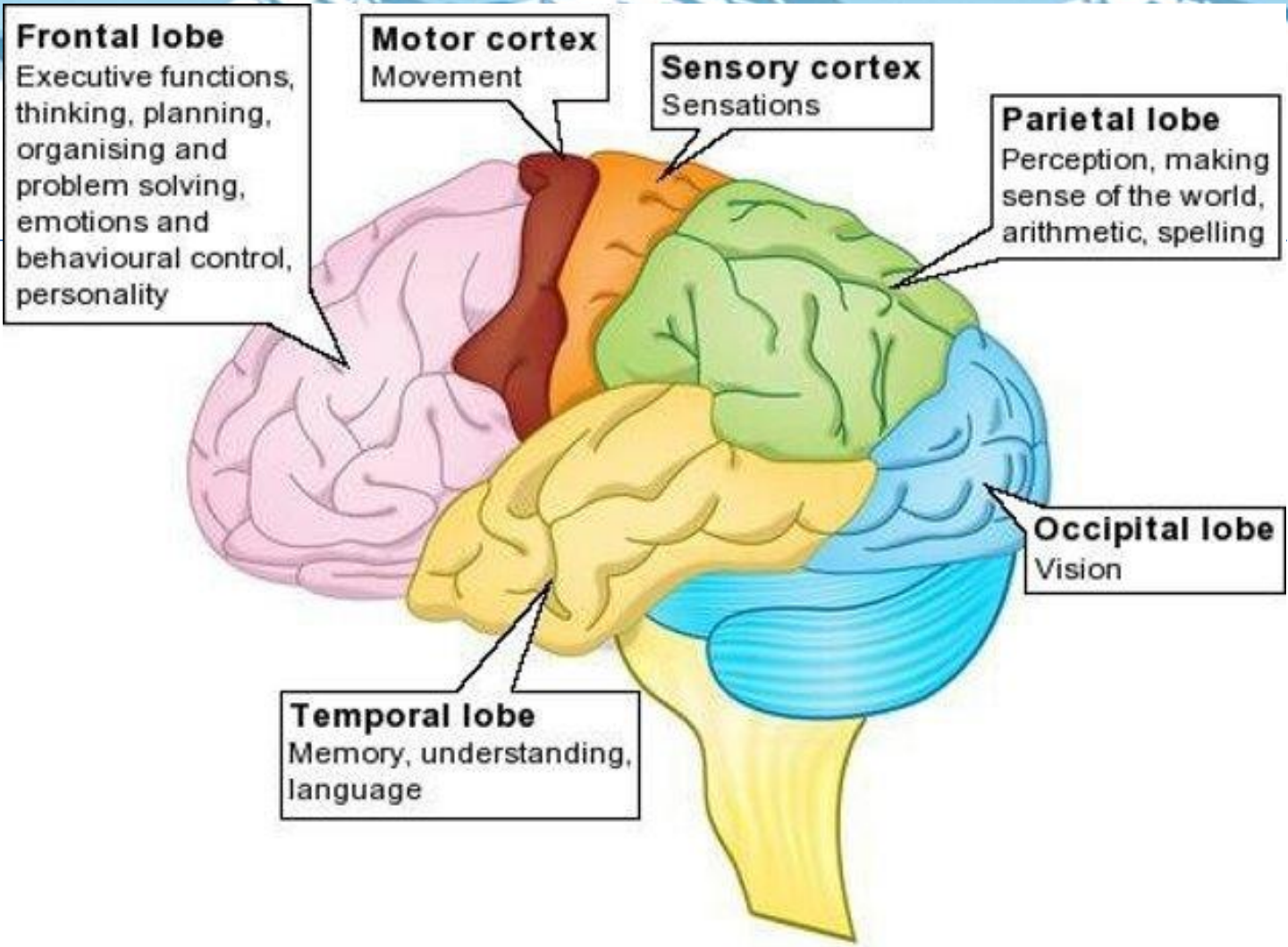
Post TBI

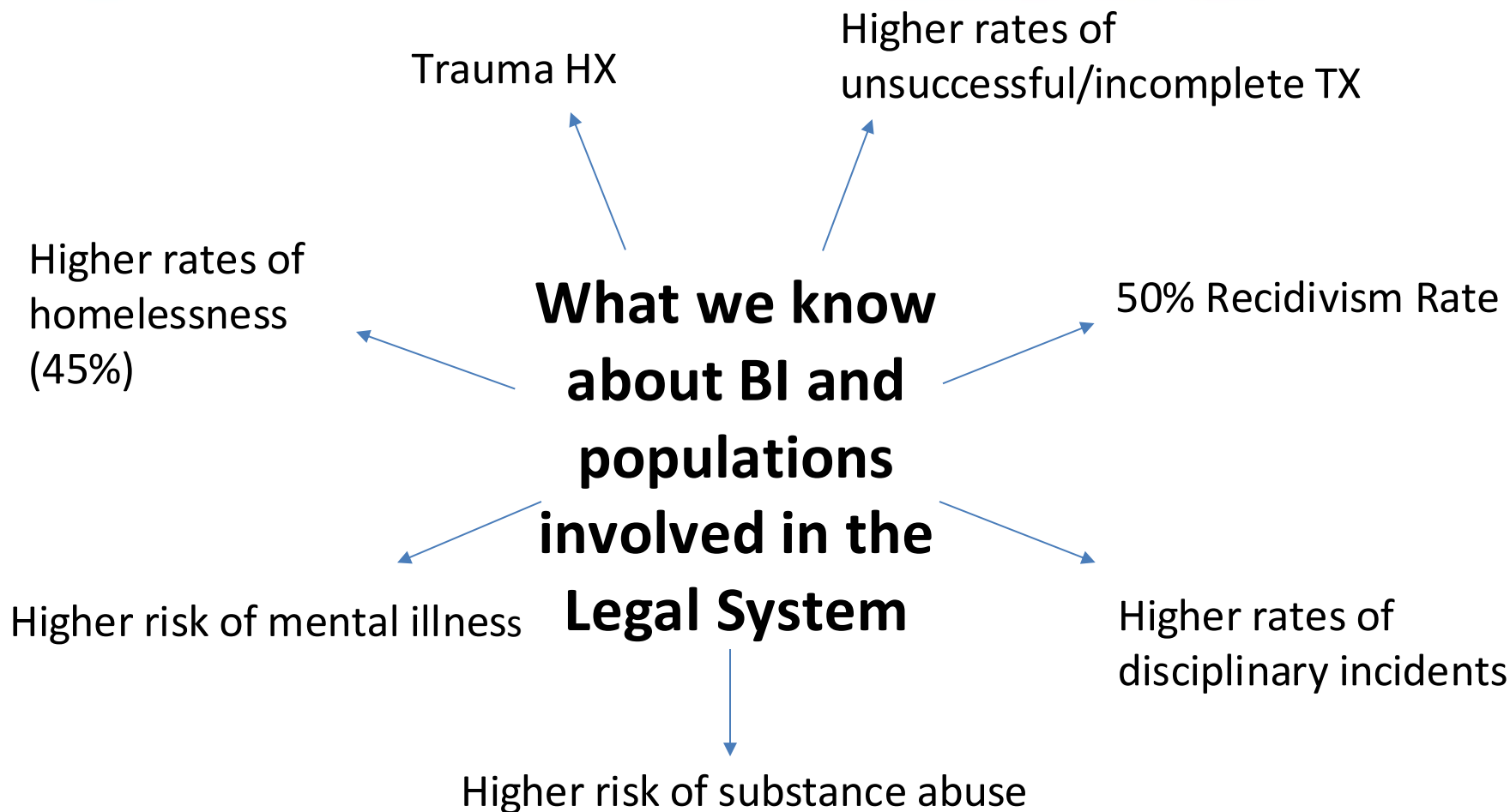
Less Reserve = More Demand

"Mary Lou Acimovic, Limited Capacity Model"

- Fatigue that may result from compensatory effort necessary to meet demands of everyday life in presence of cognitive deficits

(impaired attention, speed of information processing)







Legal System & BI may look like

Brain injury symptoms can manifest in various ways, often leading to misunderstandings and misinterpretations in the legal system:

- Disinterest
- Resistance
- Confabulation
- Language & Physical symptoms may be mistaken for intoxication = non-compliance

Skill vs. Will



T-Rex trying to hang curtains...



Common Symptom Support Strategies

- Trauma Informed Screening, step by step
- Consistent schedule- Same time and day
- Reminders, reminders, reminders
- Opportunities to take notes
- Presenting information in multiple formats
- Repetitive
- Review from previous weeks
- Sending synopsis after the meeting
- Creating the right environment-sound, light, minimal distractions
- Sending accommodation tip sheets as many times as needed



Common Symptom Support Strategies

- Technology support for virtual sessions
- Acknowledge distractions and make direct statements to get back on track
- Break information down and present information one step at a time
- Give time to respond to support delayed processing
- Make information memorable, acronyms, Numonics
- Link bx to a routine
- Do not repeat confabulated information, state the facts
- Practice using STOP in session
- Prompt to leave money at home



Effective Clinical Interventions

Cognitive Behavioral Therapy

- Cognitive restructuring-mental inflexibility
- Activity scheduling-Memory, attendance of appointments
- Journaling –Emotional dysregulation, memory, processing of feelings

Dialectical Behavior therapy

- Mindfulness and grounding skills to help with attention, impulsivity, sensory issues, and managing urges to use
- Interpersonal Effectiveness-delayed processing and language, reducing conflict and frustration which can lead to use
- Emotional Regulation-Mental Inflexibility, impulsivity to use
- Distress Tolerance-managing triggers to use or MH symptoms



Evidence Based Interventions for high need & long term planning

EMDR

- May need to avoid light stimulus due to seizures
- Not effective with Severe BI or individuals who have had ECT
- Slower sets
- Do not attempt within first month of injury
- Popky's De TUR Protocol to desensitizes urges and triggers
- Addressing trauma which often leads to use to cope



MI & BI

- Motivational Interviewing
 - Structured choice instead of open-ended
 - Affirm strengths to create emotional memories
 - Reflections: ask permission to be more direct
 - Visual cues to remind of commitment to change
 - End session on positive note



Comorbidity

BI survivors experience 1.5 times the rate of MH challenges and 1.7 times rate of SM challenges as the general public.

¼ people hospitalized with a TBI have a substance use disorder

Adding complexity to assessment

Are these symptoms from BI, substance misuse, or mental health?

- The brain can continue to heal from substance use for at least a year after abstinence
- BI recovery is unique
 - New interventions/treatment all the time
 - Trial and error in accommodations
 - Trying interventions after sobriety that failed during use
- Take time when considering diagnosis



8 Reasons Why Not to Use with BI

The symptoms of BI can often mirror or be made worse by substance misuse. Providing education to refrain from use is essential. The Ohio Valley Center suggests these reasons not to use.

1. Reduced recovery outcomes
2. Balance and speech
3. Saying and doing things without thinking
4. Impact on concentration and memory
5. Increased sensitivity to the effect of substances on the brain
6. Increases symptoms of depression
7. Increase likelihood of seizure
8. Increased risk of another injury



BI Relapse Prevention Groups

- Unique curriculum to survivors
 - Sourcing what fits rather than a particular curriculum
 - AHEAD
- Use consistent format
- Offer overview of agenda and summarize
- Group Size
- Limit time
- Brain Breaks
- Sensory needs, stimulus in group space
- Communication & Learning styles
- Regular reminders
- Offering hybrid model to reduce barriers



Survivors' concerns about SM and BI

Survivors Worry! Did I damage my brain???

What is my BI and what is SM? What can be healed? What does recovery look like?

- Provide hope for recovery-abstinence is good for brain health
- Provide education about neuroplasticity
 - We can't create new brain cells, but we can build new connections between neurons
 - What fires together wires together

Family Centered Practices

- BIAC reconnection
- Family/Caregiver support groups/education
- Substance use A-non resources
- Resource Packet





How can you help and next steps?

- Integrate simple universal compensatory strategies into daily work (slowing down, providing written materials/reminder, brain breaks)
- Implement person-centered accommodations and universal trauma informed care for survivors
- Consider further brain injury & screening training for staff
- Schedule training refreshers
- Reach out for a consultation & more support when needed



References

- [HANDOUTS FOR ATTENDEES](#)
- Brain Injury Association of Colorado. (2023). A Trauma Informed Approach to the OBISSS. Denver.
- Brain Injury Association of Colorado. (2023). A Trauma Informed Approach to the OSU. Denver.
- Brain Injury Association of Colorado. (2022). Coping Strategies for Racial Trauma. Denver.
- Brain Injury Association of Colorado. (2024). *Substance Misuse and Brain Injury*. Denver.
- Brain Injury Association of Colorado. (2023). Quick TIP CARD- Trauma-Informed Approach to OBISSS. Denver.
- Brain Injury Association of Colorado. (2023). Suggested Instructions for Helping Professionals Using: Coping Strategies for Racial Trauma . Denver.
- Brain Injury Association of Colorado. (2023). The Quick DEI Tip Sheet. Denver.
- Lemsky, C., Stilen, P., & Heitkamp, T. (2007). *Traumatic brain injury and substance use disorders: Making the connections - addiction technology transfer center (ATTC) network*.
- ATTC Network. https://attcnetwork.org/products_and_resources/traumatic-brain-injury-and-substance-use-disorders-making-the-connections-2/



References

- MINDSOURCE Brain Injury Network. (2023). Online Facilitation of the AHEAD Program for Participants with Brain Injury. Denver.
- National Association of State Head Injury Administrators , MINDSOURCE Brain Injury Network, and University of Denver. (2022). *Professional Guidebook: Strategies for Managing Brain Injury Challenges in Adults*. Denver.
- Ohio State University Wexner Medical Center. (2025). The Effects of Substance Use and TBI. Grandview Heights.
- SAMSHA. (2021, September). *Advisory: Treating patients with traumatic brain injury*. SAMHSA.gov. <https://store.samhsa.gov/product/advisory-treating-patients-traumatic-brain-injury/pep21-05-03-001>
- Snell, D. L., Surgenor, L. J., Hay-Smith, E. J., & Siegert, R. J. (2008). A systematic review of psychological treatments for mild traumatic brain injury: An update on the evidence. *Journal of Clinical and Experimental Neuropsychology*, 31(1), 20–38. <https://doi.org/10.1080/13803390801978849>
- Treatment, C. for S. A. (1998, January 1). *Substance use disorder treatment for people with physical and cognitive disabilities*. National Center for Biotechnology Information. <https://www.ncbi.nlm.nih.gov/books/NBK64881/>