

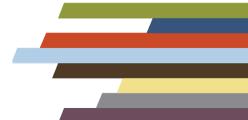
Traumatic Brain Injury and Addiction Tips and Strategies for the Substance Use/Abuse Community

August 18, 2020

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The Mountain Plains Addiction Technology Transfer Center

Provides training and technical assistance on evidence-based practices to providers offering substance use disorder in Region 8 (North Dakota, South Dakota, Montana, Wyoming, Colorado, and Utah). We are funded by the Substance Abuse and Mental Health Service Administration (SAMHSA)



The Mountain Plains Mental Health Technology Transfer Center

Provides training, resources, and technical assistance to individuals serving persons with mental health disorders. Particular attention is given to serving providers with limited access to service delivery systems with attention paid to rural and agricultural communities. By providing free, innovative, and accessible learning opportunities on research-based practices in mental health services, we seek to help you better serve your communities, staff, and patients.



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Today's workshop will cover:

- Brain Injury Overview Refresh
- Being Brain Injury aware is being person centered: integrating best practices, assessment and interventions
- How can providers and programs support and accommodate individuals who have a documented or probable history of brain injury
- What are recommendations for aftercare when there is a history of brain injury
- Resources for professionals

Poll Question

Have you worked with an individual you know or suspect is living with a brain injury

Yes No



Purpose

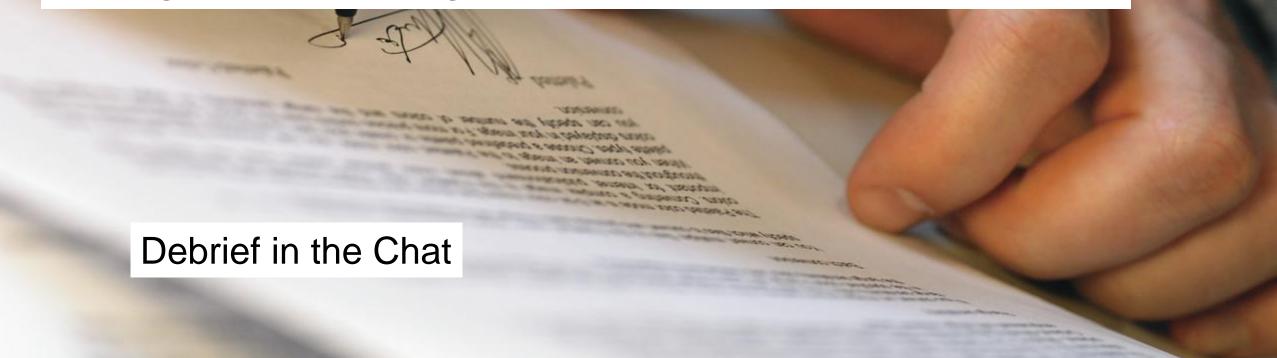
Why is it important for Professionals working with persons who use substances to have a working understanding of Brain Injury?

- A history of Brain Injury is often hidden among individuals behavioral health challenges (mental health and addiction)
- Being Brain Injury informed IS being Person Centered

...By the way, brain injury professionals should have a working understanding of substance use disorders

What might it feel like to be living with a condition that makes it hard to follow directions?

Writing and processing exercise



Fast Facts

- In 2013, 2.8 million Americans were treated in Emergency Departments (ED), hospitalized, or died as a result of a TBI.
- The brain reaches its adult weight of 3 pounds by the age of 12.
- The adult brain reaches cognitive maturity by the mid-20's.
- The last part of the brain to develop is the frontal lobe.

Source: *CDC 2017*



Fast Facts

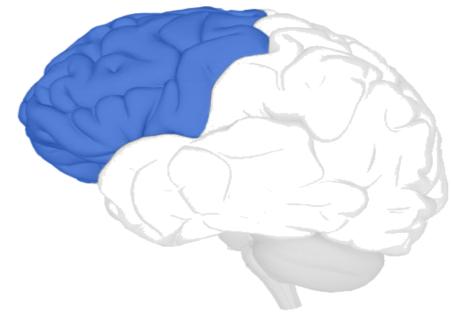
- The adult brain matures fully between 23-25
- If a person can state their name and the date after a blow to their head, that does NOT mean they will be TBI symptom free
- The impact of childhood brain injury may NOT become apparent until years later
- Falls account for 47% of all TBI related Emergency Room visits, hospitalizations, and deaths in the United States

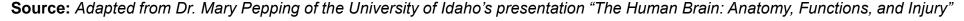
The Frontal Lobe

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

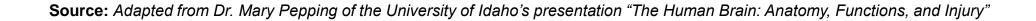




The Temporal Lobe

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.



TBI "Fingerprints"

Our frontal lobe and the temporal lobes are key to managing behavior and emotions.

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."

There are two other lobes in the brain, the occipital and the parietal lobes.

Substance Use and TBI

"Studies of both brain structure and function indicate that substance misuse and TBI interact in an additive way, specifically, their co-occurrence results in more impairment than either one alone."

"Substance misuse also limits outcomes from TBI by undermining environmental supports such as familial care or access to services."

Source: Corrigan and Mysiw's chapter "Substance Abuse Among Person's with Traumatic Brain Injury" from Brain Injury Medicine, 2nd Edition 2012-Key Points



To be clear, not every overdose causes an acquired brain injury.

When there is sufficient loss of oxygen to cause an acquired brain injury, the damage is to the same parts of the brain vulnerable to harm in the case of a traumatic brain injury

"Memory Loss Hitting Some Fentanyl Abusers"

Dennis Thompson *Healthday* Jan. 29, 2018

"Anatomy of Addiction: How Heroin and Opioids Hijack the Brain"

Jack Rodolico NPR Jan. 11, 2016

"Are Opioids Behind a Cluster of Unusual Amnesia Cases?"

Sarah Zhang *The Atlantic* Jan. 30, 2017

"Opioid Use among Individuals with TBI: a Perfect Storm?" summary of the research

- Those who misused substances before their injuries are **considerably** more likely misuse substances after injury compared with prior non-users of drugs
- It is estimated that 10-20% of individuals develop new-onset substance use post injury
- 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
- TBI Model Systems study indicated that individuals living with a history of TBI were 10x's more likely to die from accidental poisoning, with 90% related to drug overdose (67% narcotics, 14% psychostimulants, 8% alcohol)

Sources: (2020) . Adams, Rachael Sayko., Corrigan, John D., and Dams-O'Connor. J. Neurotrauma.37:211-216. https://acl.gov/sites/default/files/news%202018-05/20180502NIDILRROpioidRFIFindings.pdf

Looking for Clues

What is the connection between brain injury and opioid use disorder, teaching Overdose Fatality Review Teams how to read between the lines

Case Review: Break out rooms-identify a secretary who will report out

- Clues that the individual may have incurred a traumatic or acquired brain injury/injuries?
- The missed opportunities for intervention as you look at this case through a brain injury informed lens?
- Lessons learned that the Overdose Fatality Review Team can integrate into recommendations for systems and policy change?

Looking for Clues via the Overdose Fatality Review Team Sample Case Review

Decedent: David Hunter, 35, White, Male

Resident Jurisdiction: Baltimore City

Incident Jurisdiction: Baltimore County

Date of Death: Jan. 15, 2018

Cause of Death: Heroin and Fentanyl Intoxication

Notes from the Scene: RN at MedStar Harbor Hospital called to report this death. The subject and girlfriend were snorting heroin last night, and this morning she found the subject unresponsive. Family is at the Hospital Emergency Department. No drugs or paraphernalia found on subject, no noted trauma. Per Baltimore City Police, the subject has a long history of heroin and cocaine use. Police have no concerns of foul play.

Source: Laura Bartolomei-Hill

Sample Case Review

<u>Prescription Drug Monitoring Program:</u> Prescription for 30 oxycodone written by the Emergency Department physician 8/6/2016, 8/20/2016, 9/5/2016, 1/13/2017, 12/15/17

<u>Hospital/Chesapeake Regional Information System for our Patients (CRISP):</u> Motor vehicle accident in 2016, subsequent visits for pain

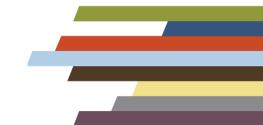
<u>Law Enforcement:</u> Assault charges (domestic), theft, and possession. Responded to two previous nonfatal overdoses (2017)

Social Services: As a child, subject of a neglect investigation, parental substance use, and domestic violence reported

Health Department: Two intakes completed, no follow-up by decedent

Detention Center: Short stays only, no long-term detentions

Local treatment provider: Discharged for noncompliance and conflict with other patients



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

- 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
- The littlest thing makes so you angry you feel like screaming or throwing something (and when you are tired and frustrated, you just might)
- 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)

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

- Feel sad, depressed, irritable and/or more anxious than before the accident
- You blurt out things you never would have said before your injury
- You find yourself very, very tired, both mentally and physically
- You have been told to drink alcohol or use illicit drugs now might cause seizures, increase your risk of fall, and you have 2x the risk of have a second brain injury than someone who hasn't had a brain injury
- You are living with double vision, chronic headaches, coordination, paralysis on one side of your body

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 parole, frustrating yourself, your family and your parole officer
- You really want to stay sober but you can't follow what is said in group therapy/12 step meetings

Recognizing Brain Injury

Groups who have multiple mild TBIs include:

- Athletes especially boxers, football players, and hockey players
- Victims of intimate partner violence and childhood physical abuse
- People who use drugs
- People who are homeless
- People living with mental illness
- People who are incarcerated
- People who are/have been members of the armed forces

Source: Adapted from John Corrigan Ph.D., Ohio Valley Center 2014

Recognizing Brain Injury

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

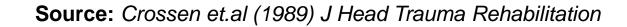
Source: John Corrigan Ph.D., Ohio Valley Center 2014

Lack of Awareness

A common and difficult to remediate hallmark of a brain injury

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 able to recognize a problem when it is actually 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 able 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



Intersection of Trauma and Brain Injury

A review of studies of individuals who were homeless, incarcerated, and at risk of or living with mental illness found a positive association between adverse childhood experiences (ACES) and TBI:

- Physical abuse
- Psychological abuse
- Household member incarceration

The authors of the review recommend, "Clinicians and researchers should inquire about adverse childhood experiences in all people with traumatic brain injury as pre-injury health conditions can affect recovery."

Source: Journal of Disability Rehabilitation 2018

Brain Injury: "Growing into Brain Injury" ...



The Long Arm of Brain Injury

According to a Christchurch, New Zealand study:

- Early childhood TBI, even if mild, may pre-dispose people to later having behavioral problems and/or involvement with law enforcement
- People with an early childhood TBI, that resulted in at least one night in hospital, were found to be three times more likely as young adults to have alcohol or drug dependency

Source: Corrigan 2014



Substance Use

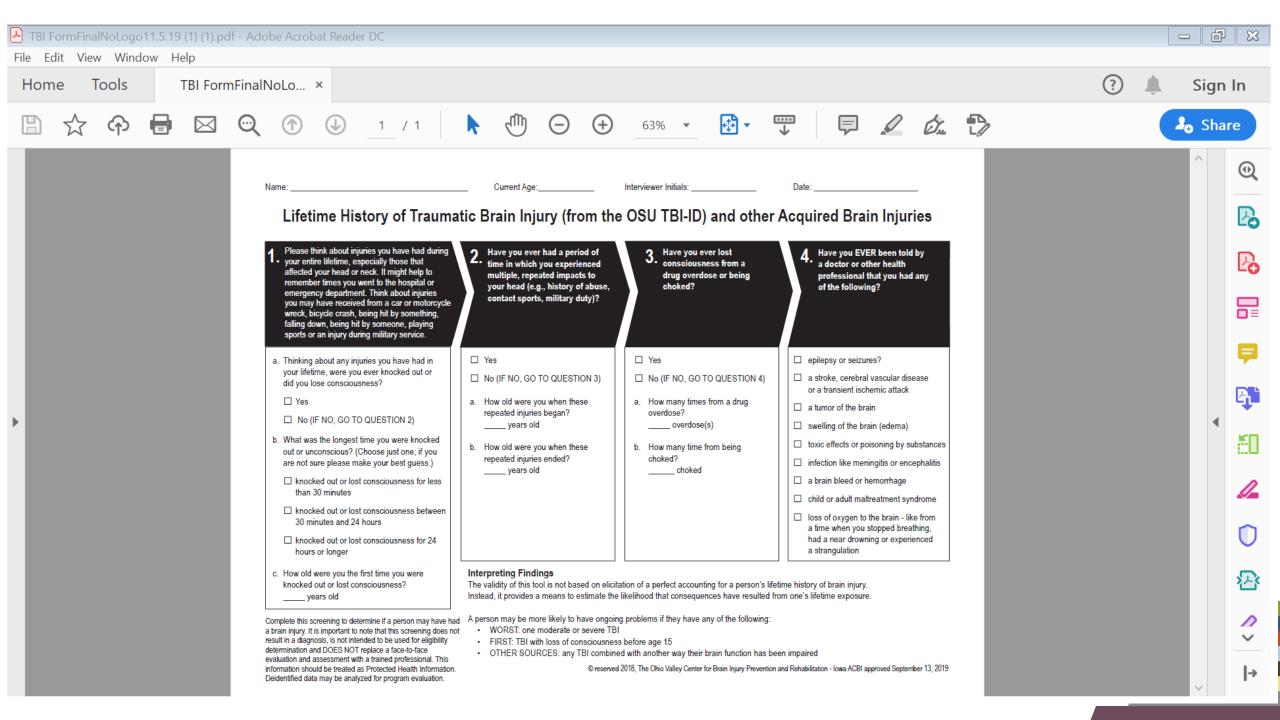
Persons engaged in treatment for problematic substance use, who are also living with a history of TBI tend to have:

- First used alcohol at a younger age
- A more severe substance misuse history (heavier use and more prior treatments)
- Have more co-occurring mental health problems
- Have poorer prognosis for successful treatment outcome (more so earlier the age at first TBI)

Source: (Corrigan & Mysiw, 2012), courtesy of John Corrigan Ph.D.

The Take Home Message...

Source: Corrigan 2005



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:

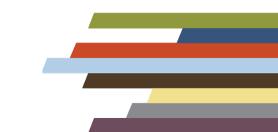
- WORST: one moderate or severe TBI
- FIRST: TBI with loss of consciousness before age 15
- OTHER SOURCES: any TBI combined with another way their brain function has been impaired

Alcohol Use Screening Tools

- CAGE Questionnaire
- Brief Michigan Alcoholism Screening Test (BMAST)
- AUDIT

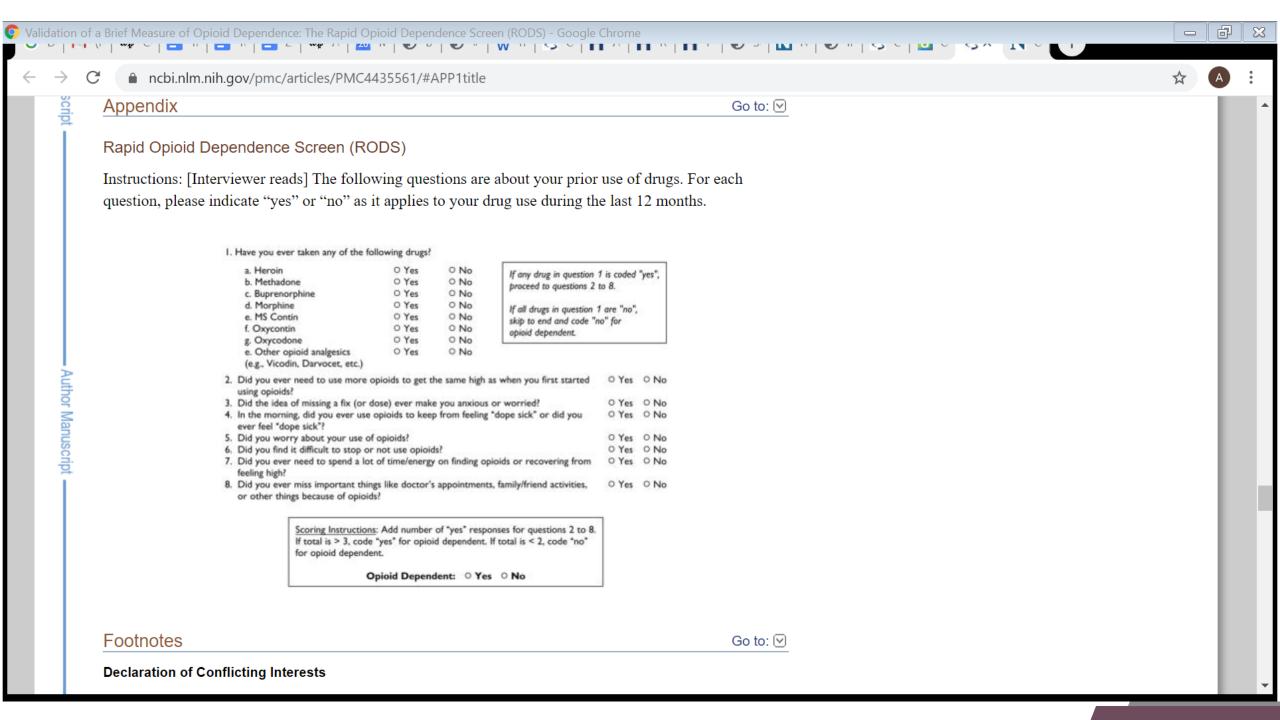
These instruments are recommended for use by brain injury professionals who specialize in treating individuals who also misuse substances as they are brief and concrete, these qualities are suggested when selecting a screening tool for opioid use disorder

Source: Bombardier and Davis 2001



Screening Tools-Other Substances

- 12-item form of the Screener & Opioid Assessment for Patients with Pain Revised-recommended by TBI Model System Researchers for use during inpatient rehabilitation stays to help determine risk factors
- Rapid Opioid Dependence Screen (RODS) 8 brief concrete questions
- Ask about cannabis use



Messages to Share, Substance Use Post Brain Injury

- People who use alcohol or drugs after
 TBI don't recover as fast as those who don't
- Any injury related problems in balance, walking or talking can be made worse by using drugs or alcohol
- People who have had a brain injury often say or do things without thinking first, a problem made worse by using alcohol or drugs
- Brain injuries cause problems with thinking, like concentration or memory, and alcohol makes these worse

- After a brain injury, alcohol and other drugs have a more powerful effect
- People who have had a brain injury are more likely to have times when they feel sad or depressed and drinking or using drugs can make these problems worse
- After a brain injury, drinking alcohol or taking drugs can increase the risk of seizure
- People who drink alcohol or use other drugs after a brain injury are more likely to have another brain injury

Source: adapted from Bogner and Lamb-Hart Ohio Valley Center

Messages to Share

12 Steps Adapted for people with brain injury

- Admit that if you drink and/or use drugs your life will be out of control. Admit that the use of substances after having a TBI will make your life unmanageable
- You start to believe that someone can help you put your life in order. This someone could be God and AA/AN group, counselor, sponsors, etc.
- You decide to get help from others or God. You open yourself up
- You will make a complete list of the negative behaviors in your past and current behavior problems. You will also make a list of your positive behaviors
- Meet with someone you trust and discuss what you wrote above
- Become ready to sincerely try to change your negative behaviors

Source: Peterson NHIF 1988

12 Steps of Alcoholics Anonymous (AA)

- Ask God for the strength to be a responsible person with responsible behaviors
- Make a list of people your negative behaviors have affected. Be ready to apologize or make things right with them
- Contact these people. Apologize or make things right
- Continue to check yourself and your behaviors daily. Correct negative behaviors and improve them. If you hurt another person, apologize and make corrections
- Stop and think how you are behaving several times a day. Are
 my behaviors positive? Am I being responsible? If not, ask for
 help. Reward yourself when you are able to behave in a positive
 and responsible fashion
- If you try to work these Steps, you will start to feel much better about yourself. Now it's your turn to help others do the same.
 Helping others will make you feel even better. Continue to work these Steps on a daily basis

Strategies

Environmental and internal aides: Creative cognitive strategies will employ both kinds of aid depending on individual need.

Environmental strategy: Changing or modifying the environment to support and/or compensate for a injury imposed deficit.

Example: labeling kitchen cabinets and drawers

Internal strategy: The strategy is "in your head."

 Example: "I have to work the memory muscle by counting everything, like how many times I pedal when I am on a bike"

Accommodating the Symptoms of TBI

To view online go to:

https://heller.brandeis.ed u/ibh/pdfs/accommodati ng-tbi-booklet-1-14.pdf Ohio Valley Center for Brain Injury Prevention and Rehabilitation

With contributions from Minnesota Department of Human Services State Operated Services

Hidden Brain Injury-Comment in Chat after viewing each scenario

Take 1

 Brain Injury Symptoms can be very subtle.
 Watch this video of a gentleman in session with his therapist. What do you see and hear? How might his demeanor be interpreted? https://youtu.be/pETaarPzTCg

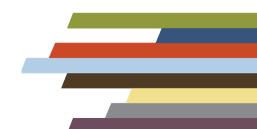
Take 2

 How did the therapist accommodate the individual's brain injury related communication& awareness issues? https://youtu.be/D81TkQUAhr

Source: Accommodating the Symptoms of Traumatic Brain Injury http://about-tbi.org/accommodating-tbi.html created by the Ohio Valley Center for Brain Injury Prevention and Rehabilitation at Ohio State University (all rights reserved). https://www.youtube.com/channel/UCJO4IOm6iMsSq08GdWO37Og

Accommodations and Strategies in Treatment Settings

- Link individuals to certified peer specialists
- Offer graphic organizers to structure group discussions
- Offer review sessions of larger group meetings
- Use "Change Plan" and Readiness Ruler worksheets
- Prepare for slip ups-"Emergency Plan" "Personal Emergency Plan: Lapse"
- Develop a person centered plan with the individual, the treatment team and their natural supporters (see handout)



Enhancing the Accessibility of 12-Step Meetings and other Community Recovery Groups

- Share recovery literature, brochures and if literacy level appropriate, the Big Book
- Attend an open meeting with a staff person or friend/supporter
- If the person wants to share, orgatnize houghts ahead of time, write up some notes on their phone/index cards
- Collaborate with the individual to create an "introduction to my future sponsor" that reviews common cognitive and emotional sequela of TBI and makes compensatory strategies suggestions that work for the person
- Recommend movies/TV shows that depict people attending 12 step meetings

"I Got One More High Left In Me....."

Recommended viewing

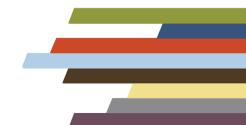
Https://youtu.be/qAakzl6s7QI Bubbles attends a 12 Step Meeting

For individuals living with a history of brain injury, it might be difficult to imagine what to expect at a 12 Step Meeting. This scene gives a good visual and also demonstrates different stages of change, Precontemplation, Contemplation, Action and Maintenance

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

- 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 on line 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

- Fish tanks
- Art work 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



If there is a History of TBI and/or Trauma-possible strategies

- Referral to specialized services/support group/12 step program
- Staff needs to be aware of the history and potential triggers and accommodate accordingly
 - ➤ Don't insist on sharing/participation right off the bat in groups
 - ➤ Allow for self determined breaks, stretches, sitting away from the group until comfortable
 - > Pair new participant with a experienced participant

Support and Aftercare for Individuals Living with Brain Injury who also Misuse Substances

"Because of the neurobehavioral effects of Brain Injury, it is essential to fortify insight, including:

- 1. Structured and systemic engagement of natural supports
- 2. Avoidance of environments that can cue relapse
- 3. Prolonged maintenance of supports
- 4. Expanded use of Medical Assisted Treatment (MAT)
- * In general, there is a paucity of research on whether Substance Use Disorder treatment interventions that are effective for the general population show comparable efficacy for persons with TBI. This question would seem to be particularly important with regard to MAT."

Source:

Adapted from :(2020) Adams, Rachael Sayko., Corrigan, John D., and Dams-O'Connor. J. Neurotrauma.37:211-216.:



Techniques for change: Recommended for individuals with a history of brain injury

- Stages of Change: The 5 Stages of Change Prochaska and DiClemente cited by Corrigan 1999
- Motivational Interviewing: Based on the work of W. R. Miller, adapted by Corrigan & Colleagues

At the Programmatic and Systems Levels

- All brain injury inpatient and outpatient programs need to take a detailed behavioral health history and screen for past/current use of substances, and have a working understanding of the Stages of Change
 & Harm Reduction Models
- All behavioral health programs need to take a detailed history and screen for possible history of traumatic or acquired brain injury
- Harm Reduction Strategies: Syringe exchange, safe injection sites, Medical Assisted Treatment and brain injury informed supports and accommodations

https://wexnermedical.osu.edu/neurological-institute/departments-and-centers/research-centers/ohio-valley-center-for-brain-injury-prevention-and-rehabilitation/for-professionals/substance-use-and-tbi

Feedback from Individuals in Recovery...

- Early treatment for those living with a substance use disorder
- Pay attention to those whose use of substances is not disclosed/unknown to brain injury professionals (who do not consistently screen for or ask about a history of substance misuse)
- Challenge of redefining new self and life doubled with both TBI and substance misuse
- Hard to know where to find support, with the TBI community or the recovery community

Feedback from Individuals in Recovery...

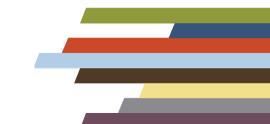
"find the right 12-step program, change "persons, places and things" that trigger use, spirituality, *pets.*"



Case Study- 45-year-old man- respond to questions in chat

- A recent Drinking While Intoxicated (DWI) charge has resulted in his entering court ordered treatment
- A heavy drinker in his youth, he has maintained sobriety for the past ten years, he stopped attending meetings years ago, finding them "boring" and difficult to sit through
- After his wife and he separated last year, he started drinking again. He says she left because she felt she was walking on eggs shells all the time. He admits to having a temper and a "stubborn" personality, but swears he was never physically abusive
- He played ice hockey from the age of 5 till his early 20's. He loved the rough and tumble lifestyle and admits to having as many brawls off the ice as on
- He has worked for the department of public works in his town for 25 years, he is having problems at work recently, mainly stemming from his frustration with the department's new supervisor who is "shaking things up," rolling out new ways of doing things and streamlining how the work is assigned and documented via a computerized project management system (he has been written up for insubordination), and reports his co-workers "don't have my back"

Questions or Comments for Judy and Stasia?



Thank You!

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See Handouts for Resources



