

Outcomes: Booze on the Brain

Goal: Health care providers, researchers, and caregivers share practical solutions and “best practices” in managing symptoms of brain injury.

Objectives: By the end of this session, participants will be able to:

- (1) Cite three areas of the brain impacted by alcohol.
- (2) Name 4 stages in the progressive evolution of the human brain.
- (3) List 3 signs and 3 symptoms common to both substance abuse and brain injury.
- (4) Suggest a possible remedy for each of 3 common brain functions.
- (5) Identify “TIP,” “AA”, and “Brainline.”
- (6) Solicit contact information from at least one provider and one caregiver.

Booze on the Brain: How Alcohol Hinders Recovery

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A Short (and sad) Story . . .

- “Have another drink!”---How does she decide?
- Executive Function—frontal lobe—self control/judgment, etc.
 - “ongoing construction site”
 - brain overproduces neurons, then prunes
 - alcohol impairs this ability
 - limbic system much “louder” than prefrontal cortex
- “One for the road. . .”
 - body can only process 1 drink per hour
 - 5 drinks in 2 hrs = “binge”
 - female body: 10% less water than male; need more time to accommodate alcohol; less weight = faster impact
 - often, more talkative, less inhibited, feel less pain
- “Just one more”
 - emotions rule: avoid argument (flight), get something to eat (hunger)
 - may become sad/depressed/ weepy
 - less coordination, balance

Brain Development

Cerebral Cortex “youngest”

- 2 hemispheres
- 4 lobes
 - frontal—under forehead; exec function
 - parietal—top of head; info from skin; posture
 - temporal—above ears; speech; perception
 - occipital—back of head; info from eyes

Limbic

- inside “border” of cerebrum; 1/5 of brain area
- regulates body temp, BP, heart rate, etc.
- forms memories in hippocampus, amygdala
- center of emotions (which may trigger body temp, etc.)

Midbrain (includes hippocampus??)

- top-most and smallest area
- reflex actions; eye movement; hearing; voluntary movement
- essential to survival (hunger, thirst, fight or flight)

Brain Stem “oldest”

- manages basic life functions (breathing, heart beat, etc.)
- strives to keep body alive
- prompts body to “pass out”

Signs & Symptoms

Typical Signs of Alcohol Problem

- Neglect responsibilities
- Use alcohol, despite potential danger (e.g. driving)
- Problems with relationships
- Problems with the law
- Use alcohol to relax, reduce stress, change mood

Common Symptoms

Alcohol Problem

Brain Injury

Poor concentration	71% experience poor concentration
Irritability	66% of persons with brain injury
Tired	64% report this symptom
Depressed	63% of persons with brain injury
Headaches	59% agree
Memory problems	59%

Some Resources

www.helpguide.org See Alcohol under Addiction: stress, anxiety, depression

www.caron.org See Alcohol

www.traumaticbraininjuryatoz/CaregiversJourney See Dizziness, *et al.*

www.mayoclinic.com/health/tension_headache

www.sleepbetter.org See Stress, Sleep Tips

Some Remedies...

“Have another drink!” Executive Function; Decisions

- Young people decide based on what “feels right” (i.e., not logic)
 - Use amygdala, not frontal lobe
 - They often miss body language cues that express emotion
- Rx—Learn to identify feelings
 - Notebook: Event. Feeling
 - What happened? How I felt?
 - Use only 1 of 4 feelings: mad/sad/scared/glad

“One for the road!” Hypothalamus; Hunger & Thirst

- Alcohol contains empty calories with no nutritional value
- Sugar, corn syrup, caffeine, disrupt hunger cycle
- Ideal = 3 meals + 2 snacks; fruits, vegetables, grains, etc.
- Rx—Eat together
 - Oxytocin, cholecystokinin = hormones released to the brain during nursing and during communal meals
 - “Let’s do lunch” may have positive benefits
- Rx—Foster more sleep—go to bed, get up at same time
 - Alcohol suppresses REM sleep
 - Young people produce melatonin until 0830; need later bed time and later awoken time
- Rx--Avoid heavy meals, exercise, excitement before bedtime
- Rx--Manage environment for light/noise/electronic devices

“Just one more!” Amygdala; Emotions

- Young people may need help to delay gratification
- They often need coping strategies to manage their feelings
- Rx—MAD—aerobic exercise; walk, dance; don’t store the anger!
- Rx—SAD—move! Seek solace in nature, music, friends, journaling
- Rx—SCARED—talk to friend; journal; exercise; see Norman Cousins

More Resources: Booze on the Brain

Alcoholics Anonymous, Baltimore Intergroup

For 75 years, AA has helped alcoholics recover via the 12 Step model. The local intergroup (check Yellow Pages) coordinates meetings, circulates AA literature, and announces events.

Call 410-663-1922 www.baltimoreaa.org

Alcoholics Anonymous , General Services (national headquarters),

This Website offers a variety of free brochures that visitors may download. Note especially "Is There An Alcoholic In Your Life?" (Under "Information on AA," select "For the Family").

www.aa.org

Brainline

A comprehensive resource, online. Collaboration between Public Broadcasting System (PBS) and the Defense and Veterans Brain Injury Center (DVBIC). Located in Arlington, VA at offices of WETA-TV.

www.brainline.org

Selected Research Studies

John D. Corrigan, PhD "Relationship Between TBI and Substance Abuse"
Read the abstract at www.ohiovalley.org/abuse/relationship.html

John D. Corrigan, PhD, *et alii* "Problematic Substance Abuse Identified in the TBI Model System" Sections on research, defining problematic use, and measuring substance abuse. www.tbims.org/corribi/substance/index.html

DiClemente & Prochaska Stages of Change: progressive steps from resistance to collaboration in recovery. See also "motivational interviewing."

Treatment Improvement Protocols (TIP Series)

Federal government series of 52 evidence-based, best practices. See complete list, with chapter titles, at www.ncbi.nlm.nih.gov/books/NBK14119 Call 800-729-6686

TIP 31 *Screening & Assessing Adolescents w/ Substance Use Disorders*

TIP 42 *Substance Abuse Treatment for Persons w/ Co-occurring Disorders*

TIP 48 *Managing Depressive Symptoms in Substance Abuse Clients*