Presented by the Traumatic Brain Injury Technical Assistance Resource Center (TBI TARC) and the Administration for Community Living (ACL)

Cognitive Impairment in Substance Use Disorder Treatment: Neurologic Informed Care

June 6, 2024

Welcome

Thank you for joining us to learn about **Cognitive Impairment in Substance Use Disorder Treatment: Neurologic Informed Care**. This webinar is sponsored by the Traumatic Brain Injury Technical Assistance and Resource Center. TBI TARC is funded by the Administration for Community Living and is managed by Human Services Research Institute (HSRI) in partnership with the National Association of State Head Injury Administrators (NASHIA). This webinar is free and open to the public.

Before we begin

- Participants will be in listen-only mode during the webinar. Please use the chat feature in Zoom to post questions and communicate with the hosts.
- The webinar will be live captioned in English and live interpreted in Spanish. Live English captions can be accessed by clicking the “CC” button at the bottom of your Zoom screen.
- If you use ASL interpretation, we encourage you to join on a desktop device as your mobile device may only show the active speaker.
- This live webinar includes polls and evaluation questions. Please be prepared to interact during polling times.

Antes de empezar

- Los participantes estarán en modo de solo escucha durante el seminario web. Utilice la función de chat en Zoom para publicar preguntas y comunicarse con los anfitriones.
- El seminario web se subtitulará en vivo en inglés y español. Se puede acceder a la interpretación en español en vivo haciendo clic en el botón "interpretation" en la parte inferior de la pantalla de Zoom (icono del mundo). Una vez en el canal español, por favor silencie el audio original.
- Si utiliza la interpretación de ASL, le recomendamos que se una en un dispositivo de escritorio, ya que es posible que su dispositivo móvil solo muestre al orador activo.
- Este seminario web en vivo incluye encuestas y preguntas de evaluación. Esté preparado para interactuar durante los horarios de votación.

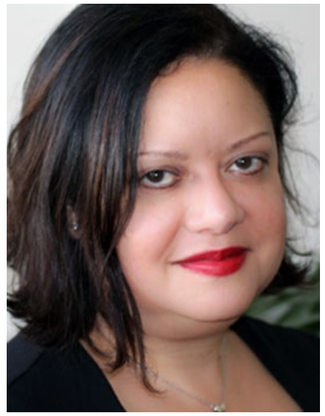
About TBI TARC

The Traumatic Brain Injury Technical Assistance and Resources Center (TBI TARC) is an initiative from the Administration for Community Living that helps TBI State Partnership Program grantees promote access to integrated, coordinated services and supports for people who have sustained a TBI, their families, and their caregivers. The Center also provides a variety of resources to non-grantee states, people affected by brain injury, policymakers, and providers.

TBI TARC
Traumatic Brain Injury Technical Assistance and Resource Center

ACL
Administration for Community Living

Meet Key TBI TARC Team



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Who is here?

In what role(s) do you self-identify? Select all that apply.

1. Person with a traumatic brain injury (TBI) or other disability
2. Family member or friend of a person with a TBI or other disability
3. Self-advocate / advocate
4. Peer-specialist / peer-mentor
5. Social worker, counselor, or care manager
6. Researcher / analyst
7. Service provider organization employee
8. Government employee (federal, state, tribal, or municipal)

Meet the Speaker

John D. Corrigan, PhD

John D. Corrigan, PhD, is a Professor in the Department of Physical Medicine and Rehabilitation at Ohio State University and Director of the Ohio Valley Center for Brain Injury Prevention and Rehabilitation. For the past 40 years he has treated and studied long-term outcomes of persons with traumatic brain injury. Dr. Corrigan is Editor-in-Chief of the Journal of Head Trauma Rehabilitation. He has been the PI and co-PI of the Ohio Regional Traumatic Brain Injury Model System since 1997 and chaired the Executive Committee of the TBI Model Systems Project Directors from 2007-2017. Since 2013 he has served as the Director of the Ohio Brain Injury Program, which is the designated lead agency in the state of Ohio for policy and planning related to living with brain injury. This position has provided a platform for translation of evidence on long-term outcomes to public policy. Dr. Corrigan is National Research Director for the Brain Injury Association of America and has previously served other national organizations, including CARF, the Injury Control Center at CDC, the Veterans Administration and the U.S. Department of Defense, Defense Health Board.

OHIO STATE

Ohio Brain Injury Program

Conflicts of Interest Disclosure

- Dr. Corrigan receives federal funding from:
  - National Institute on Disability Independent Living and Rehabilitation Research (NIDILRR)
  - Administration on Community Living (ACL)
  - National Institutes of Health (NIH)
- Dr. Corrigan, along with Jennifer Bogner, PhD, created the Ohio State University TBI Identification Method which is mentioned.
- Ohio State University, but not Dr. Corrigan, benefits from the OSU TBI-ID's inclusion in the Online Brain Injury Screening and Support System which is mentioned.

Objectives

At the completion of the training participants will be able to:

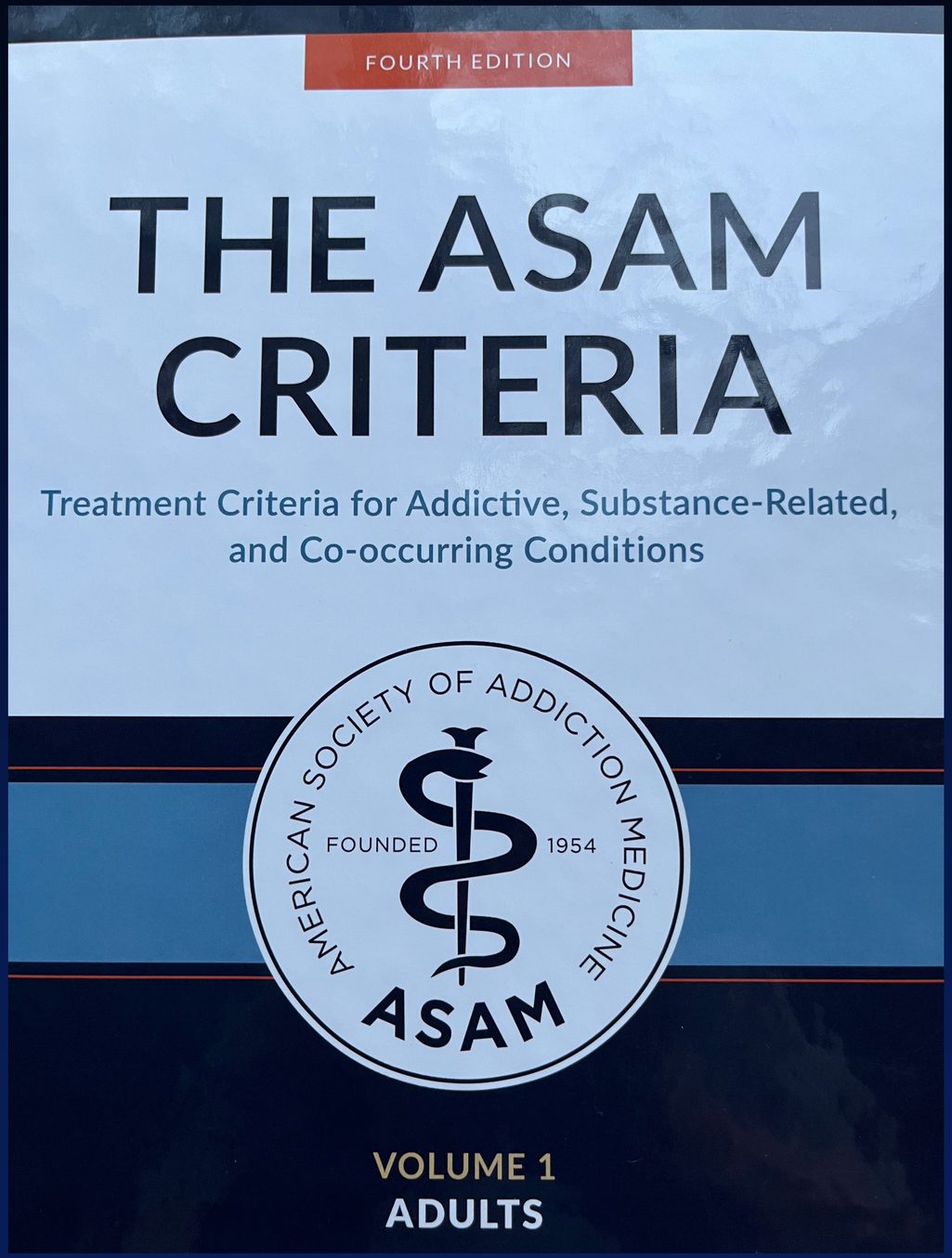
1. Describe ASAM Criteria, 4th Edition, expectations for serving persons with cognitive impairment.
2. List three to five common sources of cognitive impairment that may occur in clients receiving substance use disorder treatment.
3. Identify two to three cognitive impairments that may require accommodations to improve substance use disorder treatment.

4th Edition ASAM Criteria

Chapter 19

Cognitive Impairment

"…cognitive impairment exacerbates barriers to care, complicates clinical management, and further limits treatment outcomes" (p. 457)



Neurologic-Informed Care

- Addresses pronounced cognitive weaknesses as well as subtle weaknesses that may be misinterpreted by clinicians.
- Results from a clinical staff trained to understand and recognize cognitive impairment and adapt treatment to accommodate those impairments.
- Neurologic-informed care is not a specific substance use disorder (SUD) treatment modality—it is knowledge and skills that are applied to whatever treatment modalities a clinician employs.

Types of Cognitive Impairment
DSM-V TR

Delirium

Dementia

Major Neurocognitive Disorder

Mild Neurocognitive Disorder

Neurocognitive Disorders (NCD) in DSM-5

- The NCDs are conditions in which impaired cognition is present and is not the result of a congenital or early developmental cause (not an intellectual or developmental disability)
- Major NCD will limit independence but Mild NCD allows independence despite effects on function
- Variety of causes
- Despite “major” and “mild” categories, cognitive impairment actually exists on a continuum
- Cognitive impairment shows in several domains of cognition

Cognitive Domain	Major Neurocognitive Disorder	Mild Neurocognitive Disorder
Complex attention	Very limiting, cannot manage multiple stimuli	Less efficient but still functional, more tiring to manage effectively
Executive abilities	Abandons complex activities	Requires more effort, difficulty multi-tasking
Learning/memory	Limited episodic recall, poor antecedent memory, very limited new learning	Losses details of remote events, forgetful, new learning requires greater effort
Language	Anomia, paraphasias	Some difficulty naming and word finding
Perceptual-motor	Cannot navigate between places	Requires greater effort, repetition or visual cues (e.g., a map)
Social cognition	Unaware of social surroundings	Less sensitivity to social cues, reduced empathy

Cognitive Domain	Mild Neurocognitive Disorder
Complex attention	Less efficient but still functional, more tiring to manage effectively
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Have you ever heard it said…

“He pays attention to what he wants to pay attention to!”	Limited complex attention?
“She’s just lazy.”	Easily fatigues from cognitive tasks?
“He just wants all the attention.”	Hyper-verbose with low sensitivity to social cues?
“She’s in her own little world.”	Poor auditory processing?

Can’t versus Won’t?

What Causes Cognitive Impairment?

- Reversible causes
  - illness, metabolic disorders, infection, medications, intoxication, sleep deprivation, transient acquired brain injuries
- Persistent causes
  - intellectual and developmental disabilities
  - neurodegenerative diseases (e.g., dementias)
  - acquired brain injuries

Acquired Brain Injury (ABI) including Traumatic Brain Injury (TBI)

ABI

An injury to the brain that is not hereditary, congenital, induced by birth trauma or degenerative:

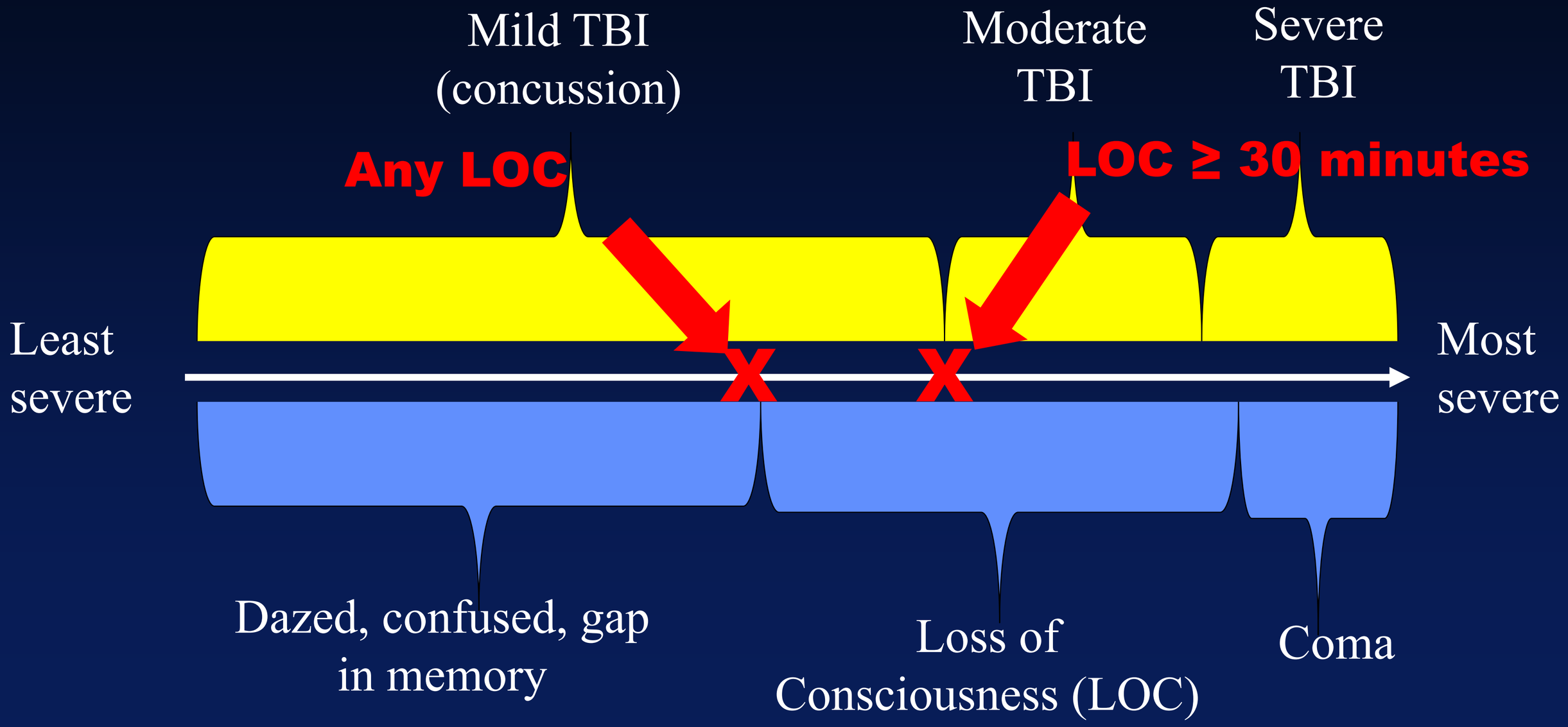
- Strokes/cva
- Infectious diseases
- Tumors
- Anoxia & hypoxia
- Traumatic brain injury

TBI

Disruption of brain function caused by an external force acting on the brain:

- Effects can be temporary or permanent
- A concussion is a TBI
- Vary greatly in severity

Continuum of TBI Severity



Lifetime Prevalence of TBI in Select Populations

Lifetime History of TBI:	Any TBI	TBI with LOC	Mod/Sev TBI
General population of adults (*2-state; **3-state average)	33%*	22%**	5%**
SUD treatment (*Corrigan & Bogner; **Felde et al.)	65%*	40%**	17%*
Psychiatric inpatients (Burg et al.)	66%	43%	19%
Prisoners (*Shiroma et al; **Bogner & Corrigan)	60%*	50%*	14%**
Homeless (*Stubbs et al.; **Bremner et al., Solliday-McRoy et al.)	53%*	47%**	25%*

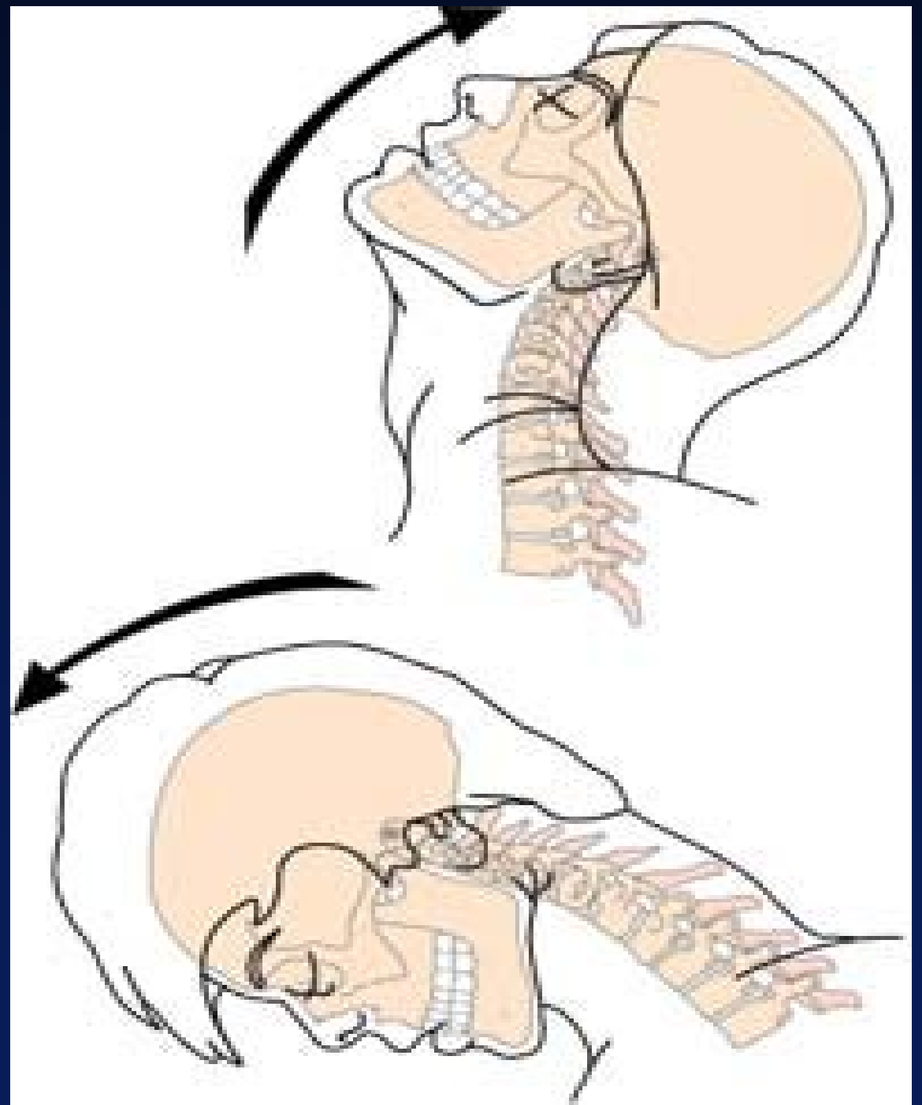
LOC = loss of consciousness; Mod/Sev = moderate or severe

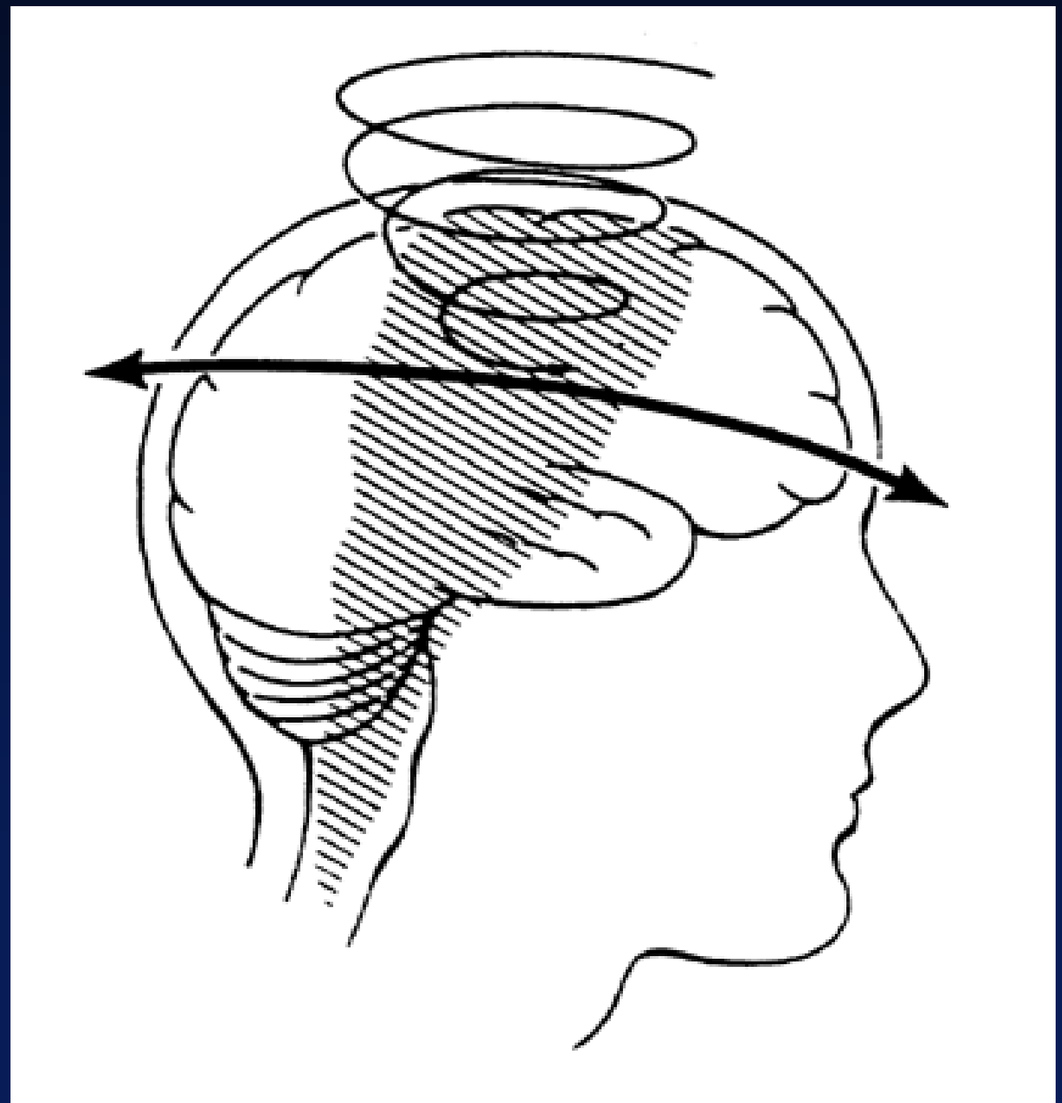
Why is TBI so common among vulnerable populations?

The “Fingerprint” of TBI

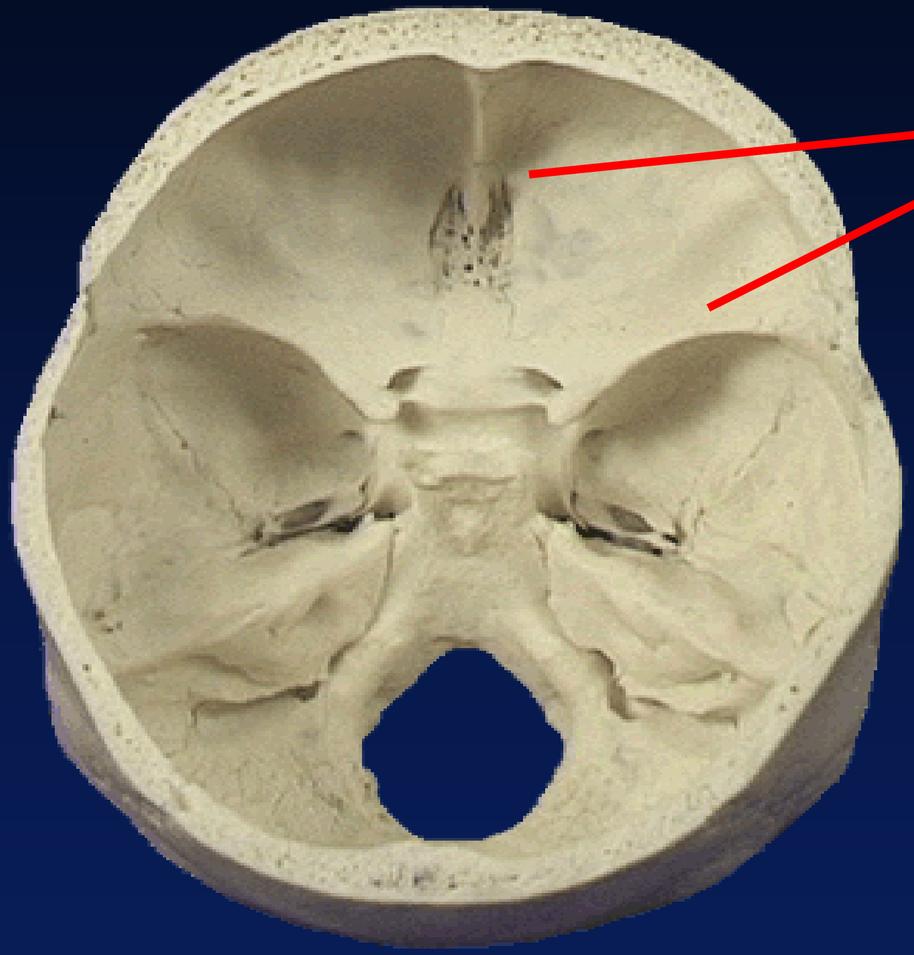
Frontal areas of the brain, including the frontal lobes, are the most likely to be injured as a result of TBI, regardless the point of impact to the head

The brain is set into motion along multiple axial planes

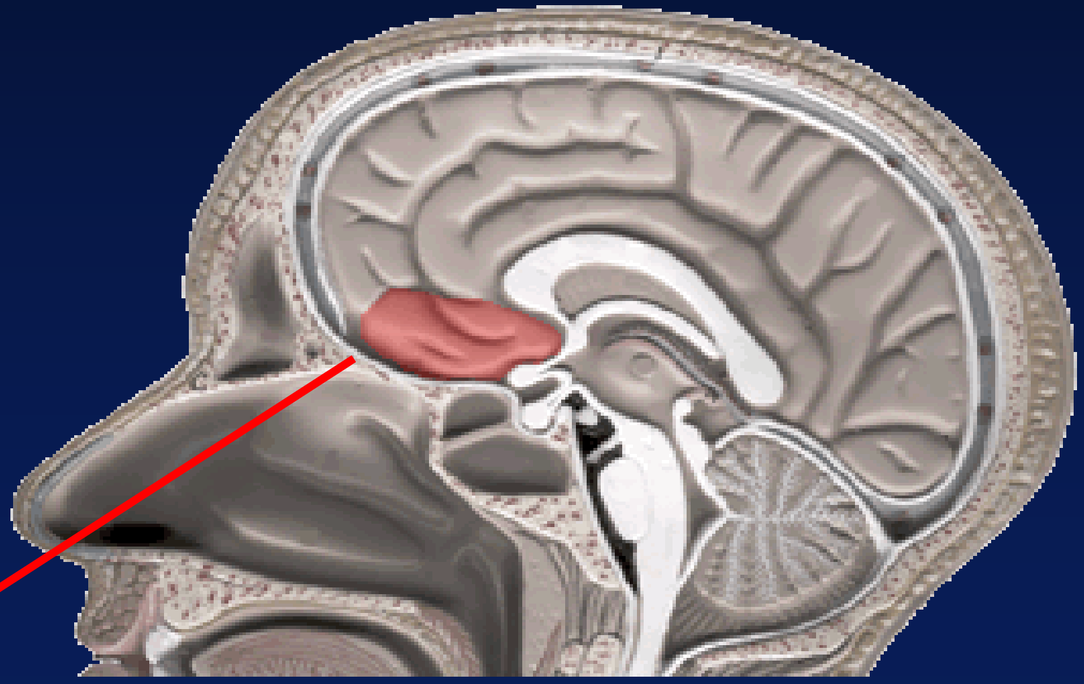




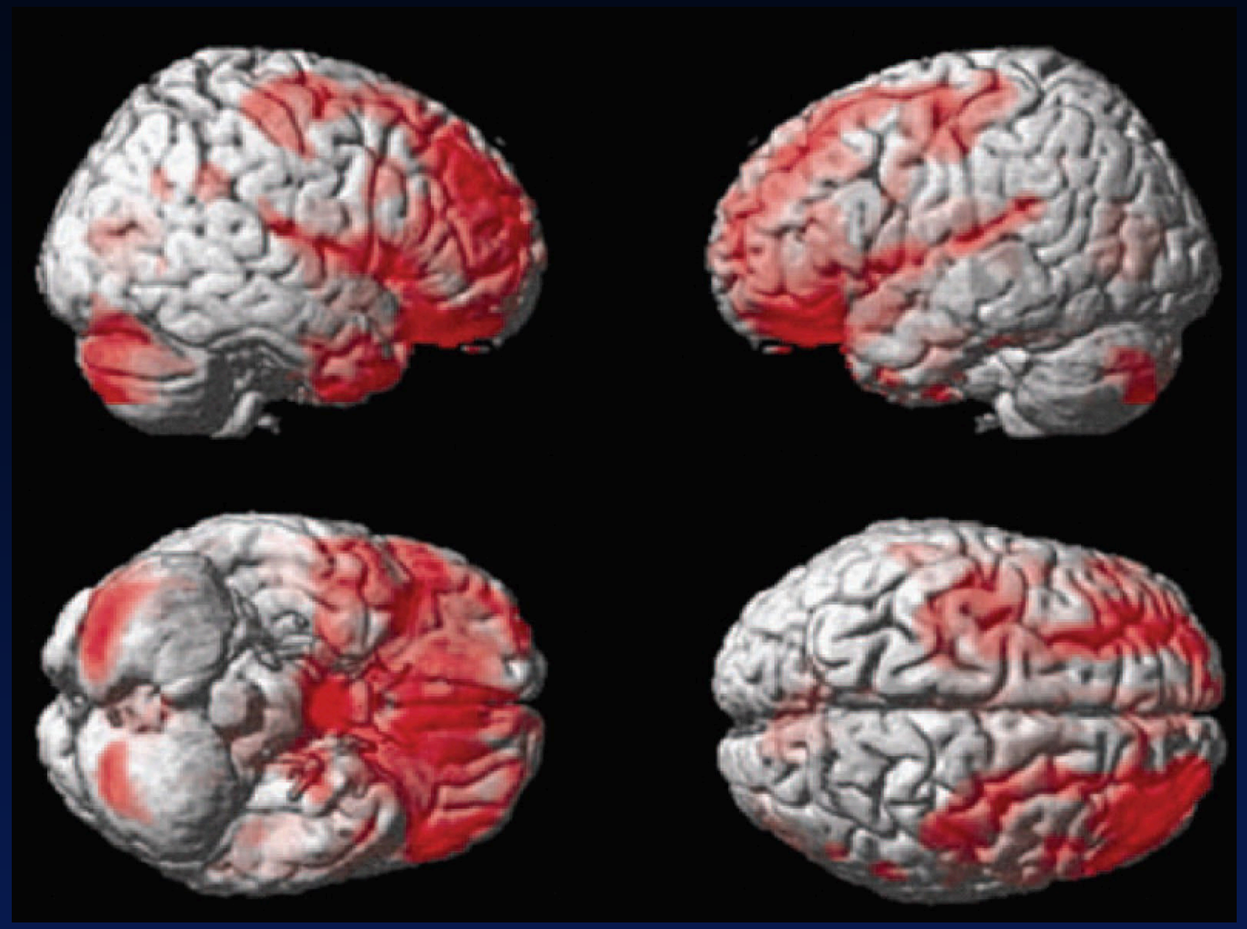
Interior Skull Surface



Bony ridges

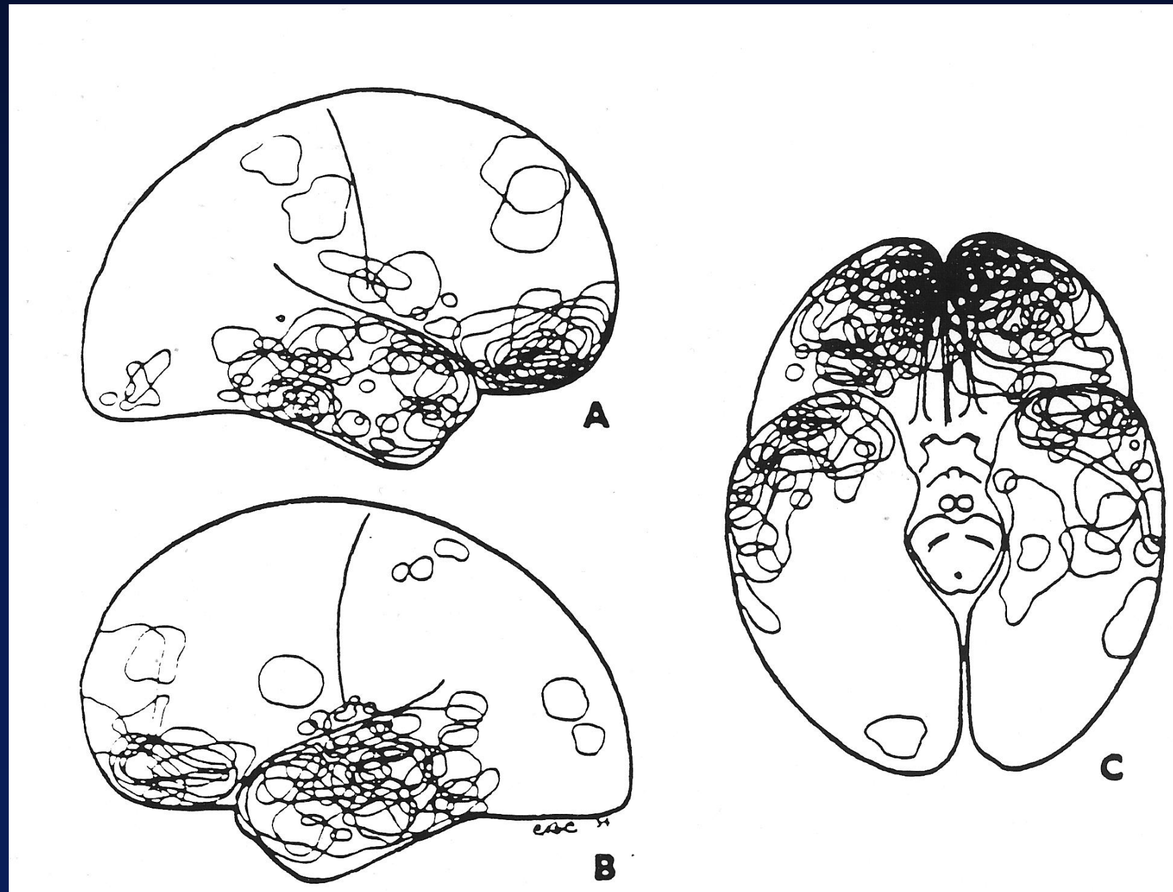


Injury from contact with skull

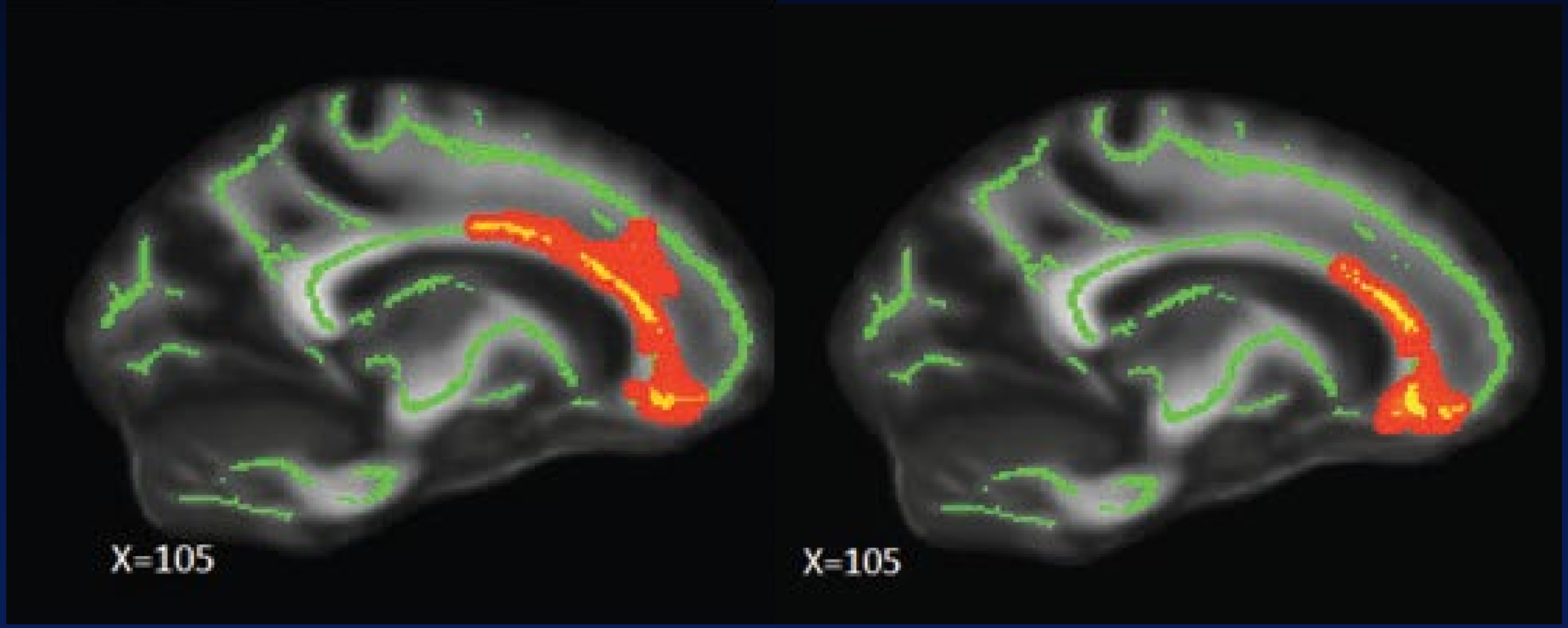


Loss of gray matter one year post-injury (Bigler, 2007)

Areas of contusion in (Courville, 1950)

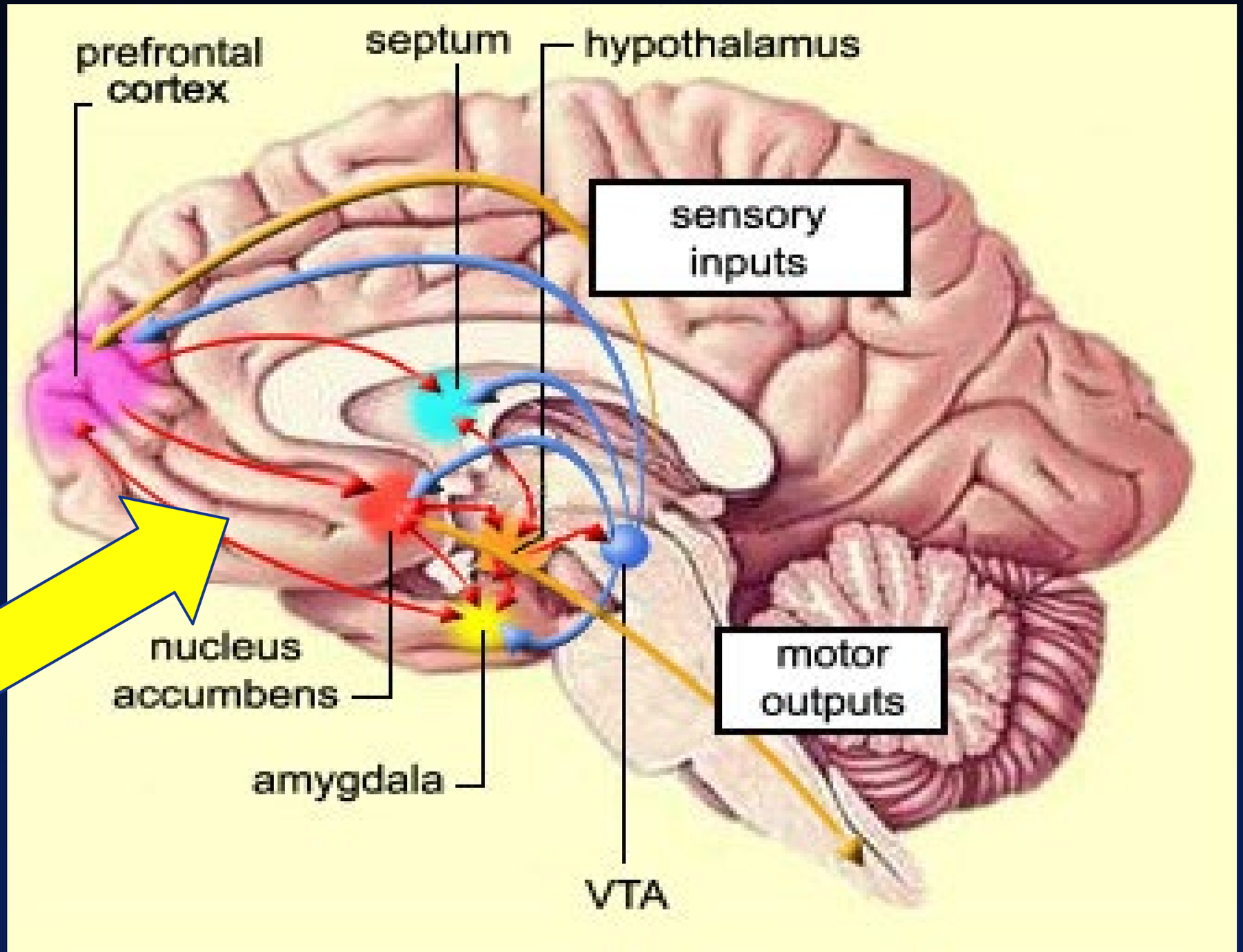


Diffusion Tensor Imaging
(Mustafi et al., 2018)



Axial Diffusivity

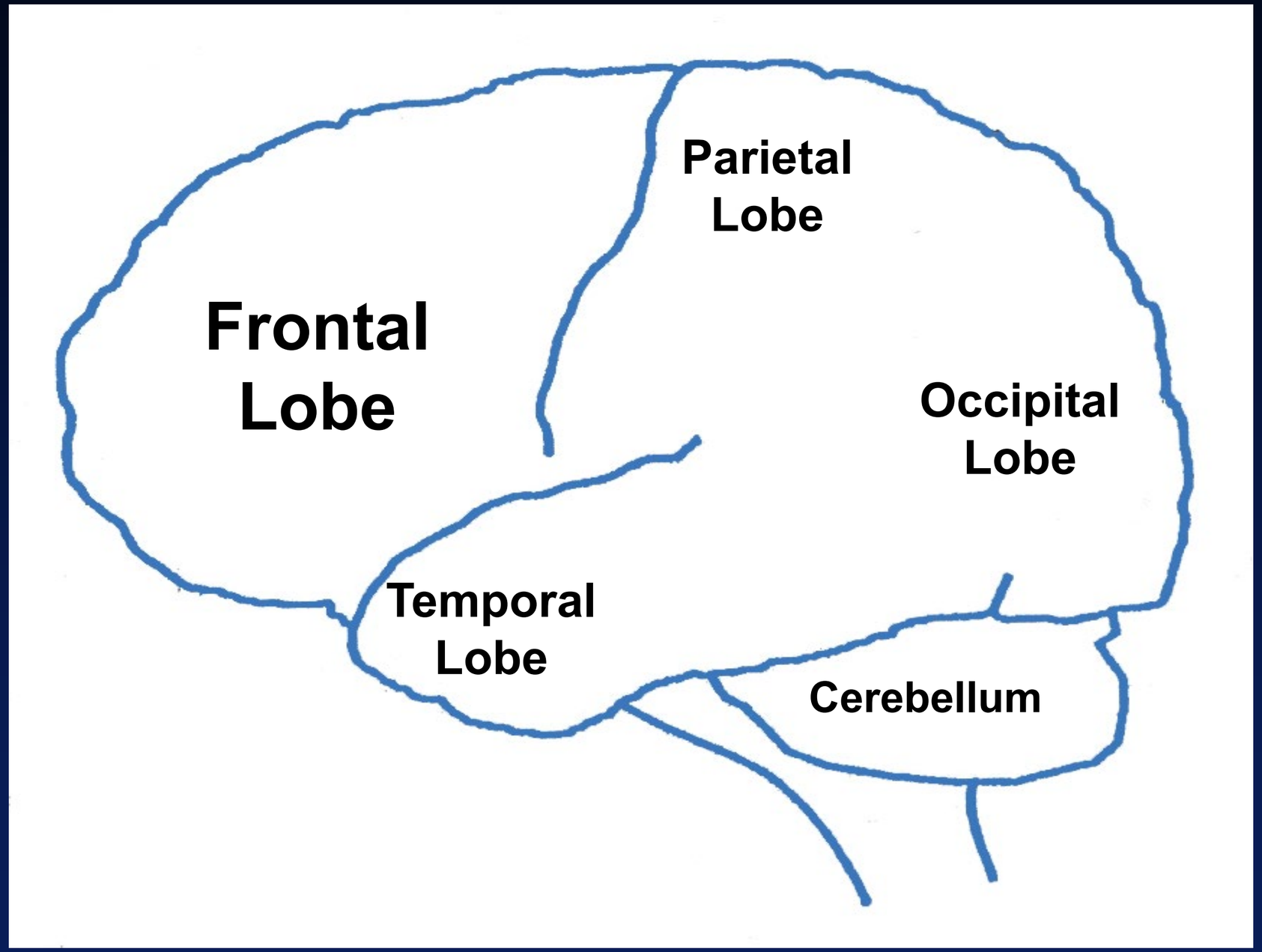
Mean Diffusivity


prefrontal cortex
septum
hypothalamus
sensory inputs
motor outputs
nucleus accumbens
amygdala
VTA

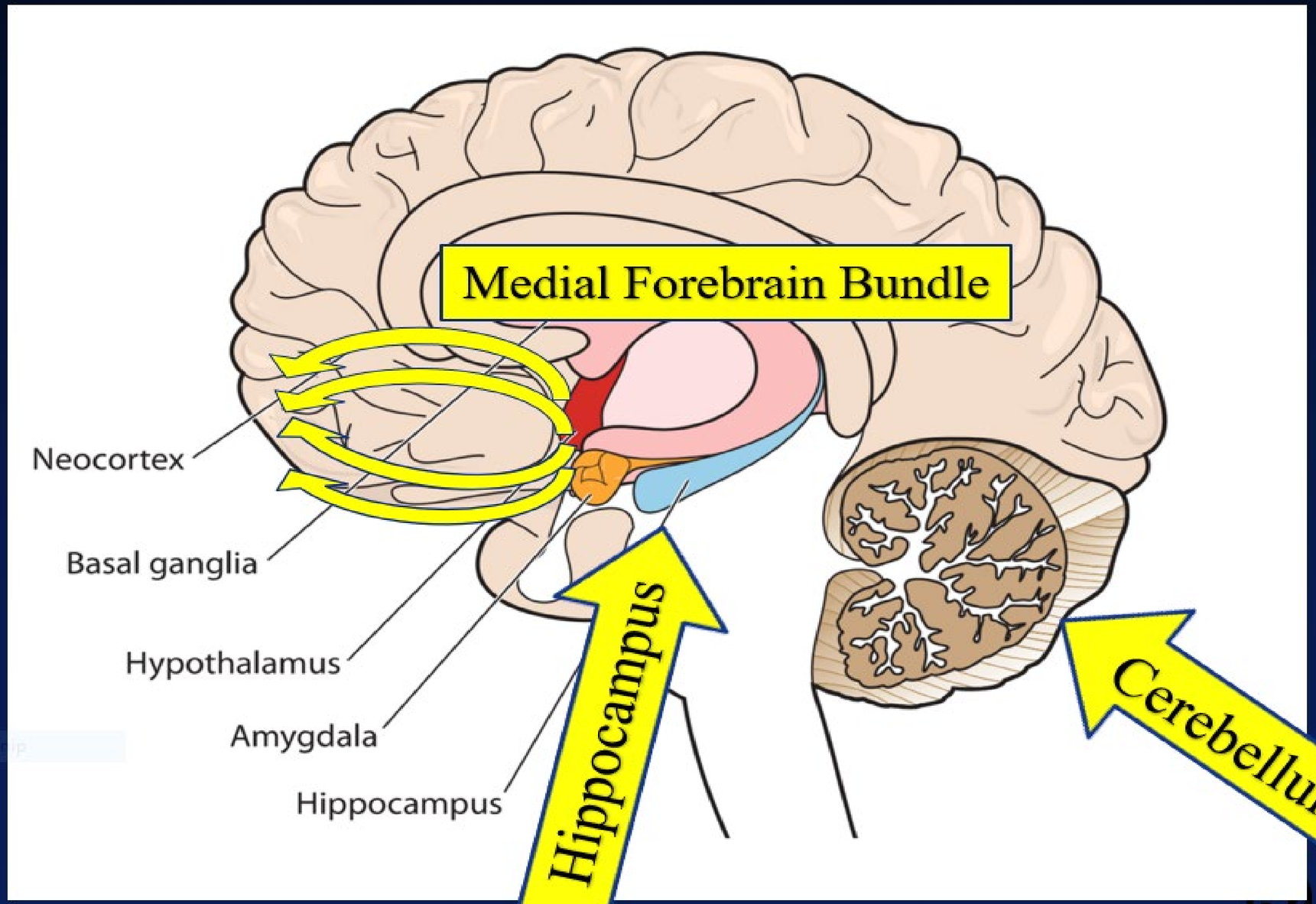
Simplified Brain Behavior Relationships

Frontal Lobes

- Initiation
- Problem solving
- Judgment
- Inhibition of impulse
- Planning/anticipation
- Self-monitoring
- Motor planning
- Personality/emotions
- Awareness of self
- Organization
- Concentration
- Mental flexibility
- Speaking



Anoxic/Hypoxic Brain Damage



Acquired Brain Injury (ABI) including Traumatic Brain Injury (TBI) (slide 2)

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Two Consistent Clinical Observations from SUD Treatment

- Compared to others in SUD treatment, for clients with brain injury there is an even *greater* disconnect between their intention to change behavior and successfully changing.
- Clients with brain injury are more likely to prematurely discontinue treatment, often after being characterized as non-compliant.

Neurobehavioral impairments undermine ability to participate "conventionally" in treatment

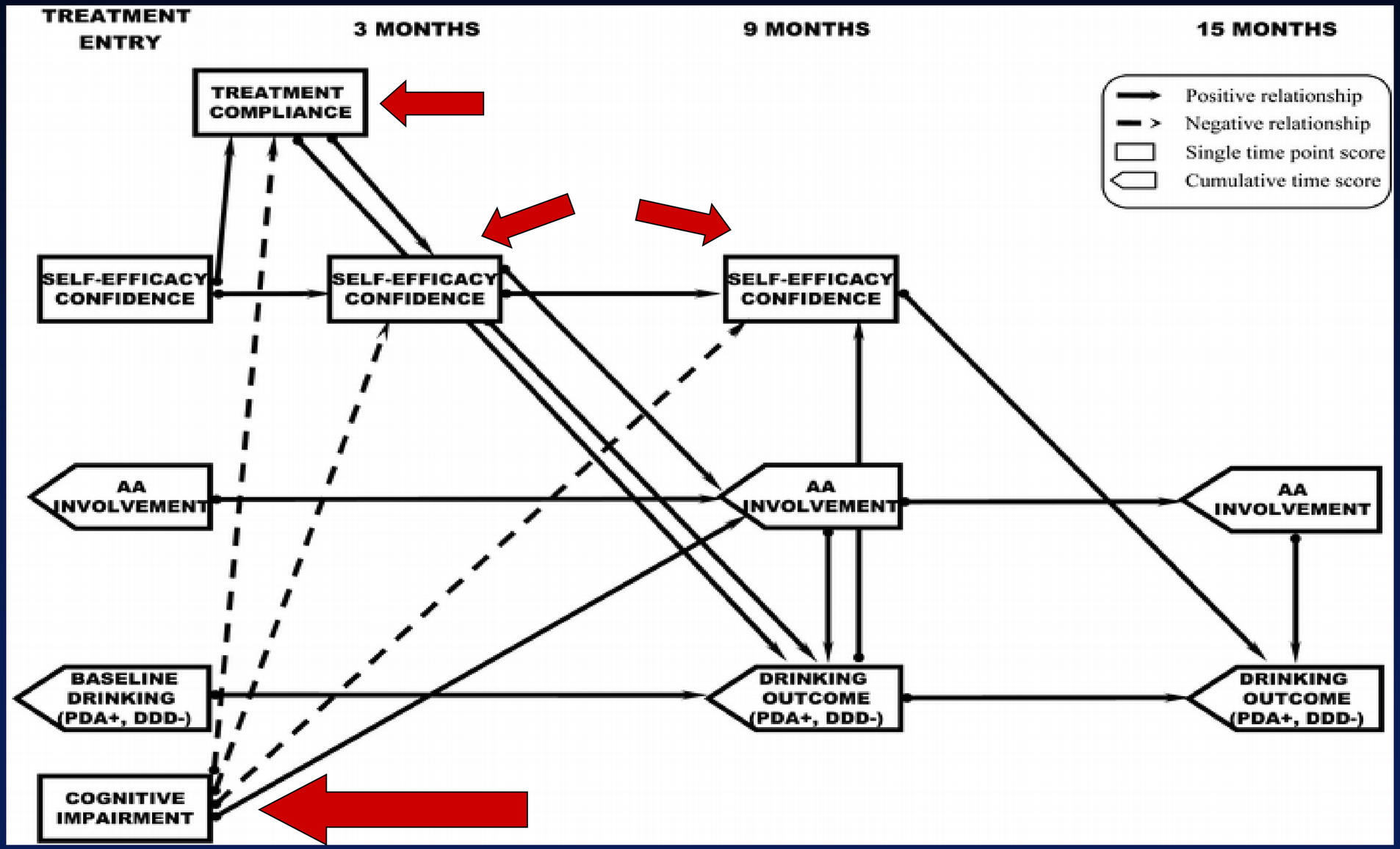
- It's easy to see behavior as intentionally disruptive, particularly when there are no visible signs of disability:
  - –Frontal lobe damage affects regulation of thoughts, feelings & behavior–promoting disinhibition.
  - –Social "rules" may not be observed and interpersonal cues not perceived, creating consternation for fellow clients and staff.

Neurobehavioral impairments undermine ability to participate "conventionally" in treatment…(cont'd)

- Cognitive impairments may affect a person's communication or learning style, making participation in didactic training and group interventions more difficult.
- Misinterpretation of neurological problems as resistance to treatment undermines treatment relationships.

Cognitive Impairment in the Match Study

(Bates et al. 2006)



How Do You Know if Someone Has Cognitive Impairment?

- Medical tests
  - Imaging
  - Blood biomarkers
- Performance tests
  - Neuropsychological testing
  - Cognitive screeners
- Self-reporting
  - Medical and injury history
  - Symptoms/problems experienced
- Observation

The Online Brain Injury Screening and Support System

- Online version of the OSU TBI Identification Method (+ ABI) and the Symptom Questionnaire for Brain Injury
- Self-administered
- If positive, identifies related challenges and shares strategies
- Treatment staff provided same information

Neurologic-Informed Care

- *Neurologic-responsive care* makes neurologic-based awareness, education and training a part of the fabric of a program or agency.
- *Neurologic-specific care* refers to the on-going process of using neurologic-based knowledge to improve the treatment experience and outcomes of each individual with cognitive impairment.

Summary

1. Cognitive impairment due to brain injury is common among persons in substance use disorder treatment.
2. Cognitive impairment presents unique clinical issues and treatment needs, necessitating Neurologic-Informed Care.
3. Behavioral health professionals need to be capable of identifying and accommodating cognitive impairment (i.e., Neurologic-Responsive Care).
4. Behavioral health programming needs to evolve toward Neurologic-Specific Care.

Questions

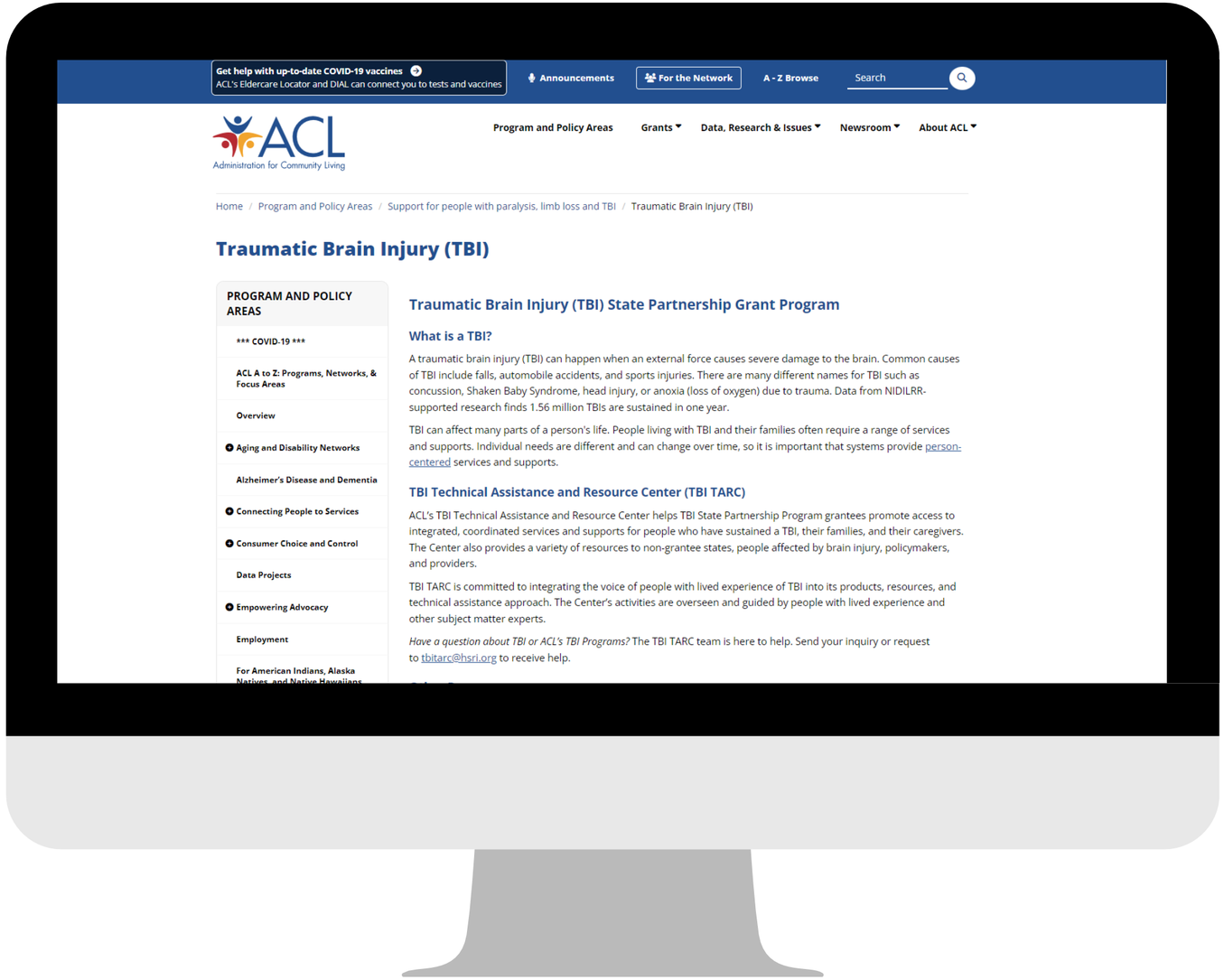
Real-Time Evaluation Questions

1. Overall, how would you rate the quality of this webinar?
2. How well did the webinar meet your expectations?
3. Do you think the webinar was too long, too short, or about right?
4. How likely are you to use this information in your work or day-to-day activities?
5. How likely are you to share the recording of this webinar or the PDF slides with colleagues, people you provide services to, or friends?
6. How could future webinars be improved?

Contact Us/ Questions

tbitarc@hsri.org

https://bit.ly/ACL-TBI



Thank you for joining us!

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