

Brain Injury Across the Lifespan: Prevention, Recognition, and Treatment

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Indian Health Service
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Learning Objectives

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

- Describe key epidemiologic patterns, risk factors, and protective factors for brain injury among American Indian and Alaska Native populations.
- Identify early signs and symptoms of brain injury and recognize barriers to timely identification in tribal and rural clinical settings.
- Apply culturally responsive and trauma-informed principles during brain injury screening and assessment.
- Compare commonly used brain injury screening and assessment tools and select feasible options for IHS, tribal, and urban Indian health systems.
- Discuss strategies to strengthen care coordination, referral, and follow-up while respecting tribal sovereignty and community priorities.

Brain Injury Is Bigger Than You Think



Video 4:59



[Brain Injury is BIGGER Than You Think - YouTube](#)



Common Causes of Brain Injury

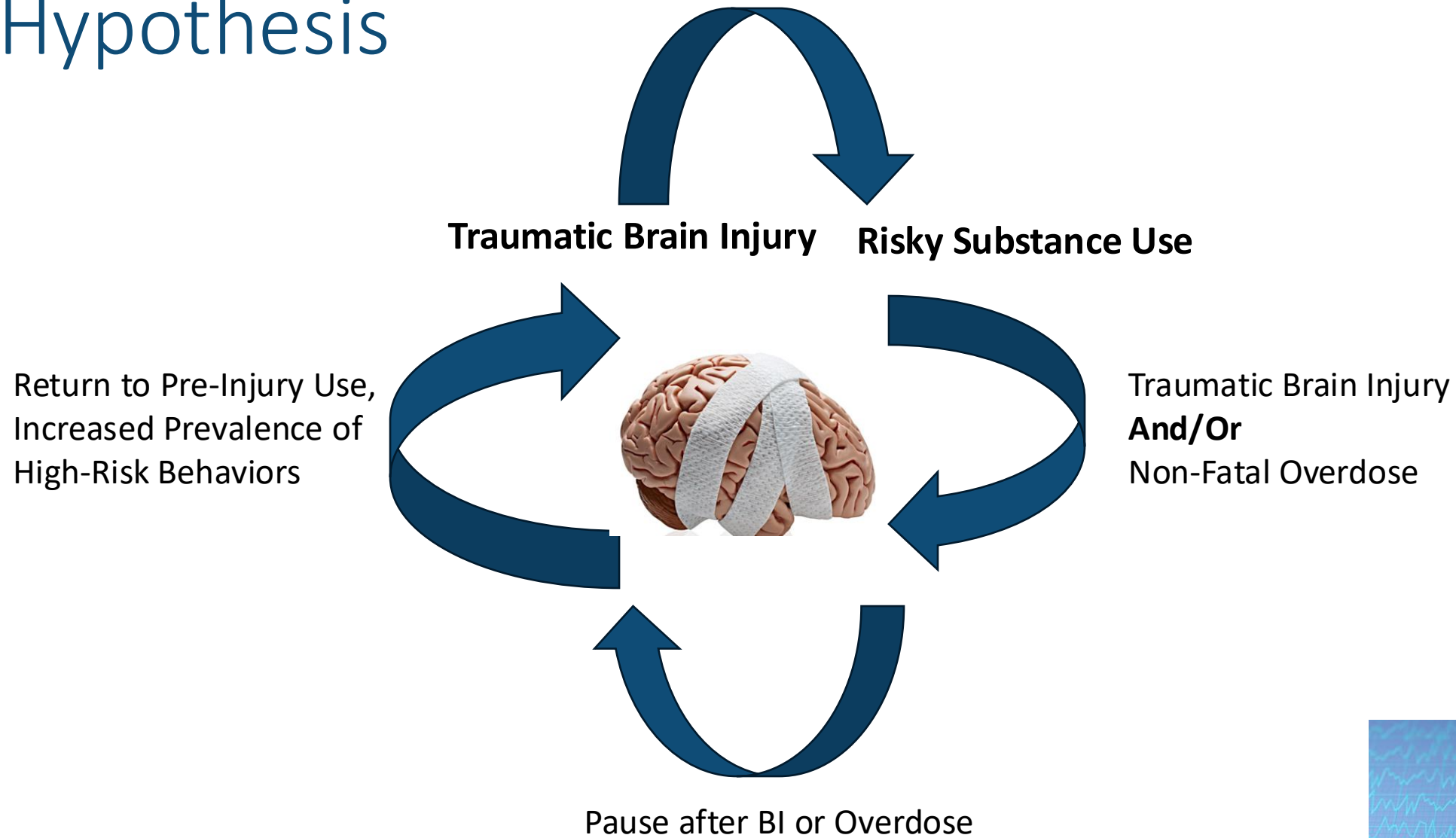
American Indians/Alaska Natives

- Motor vehicle accidents – cars, ATV's, motorcycles
- Falls
- Self-harm and Assaults
- Other unintentional accidents
 - **Non-Fatal Opioid Overdose**



Indian Health Service, 2025. Injuries. [Injuries | Fact Sheets](#)
[Fentanyl Overdoses May Cause Brain Injury | Psychology Today](#)

Hypothesis





Non-Fatal Opioid Overdose

“Respiratory depression is a defining characteristic of opioid overdose and prolonged cerebral hypoxia may cause brain injuries and/or neurocognitive impairments. The onset, characteristics, and duration of such injuries is variable, and additional research is needed to understand their clinical implications.”

doi:10.1016/j.drugalcdep.2021.108838



The Typical or Atypical NFOO?



L.Y. Choo et al.

Drug and Alcohol Dependence Reports 18 (2026) 100405

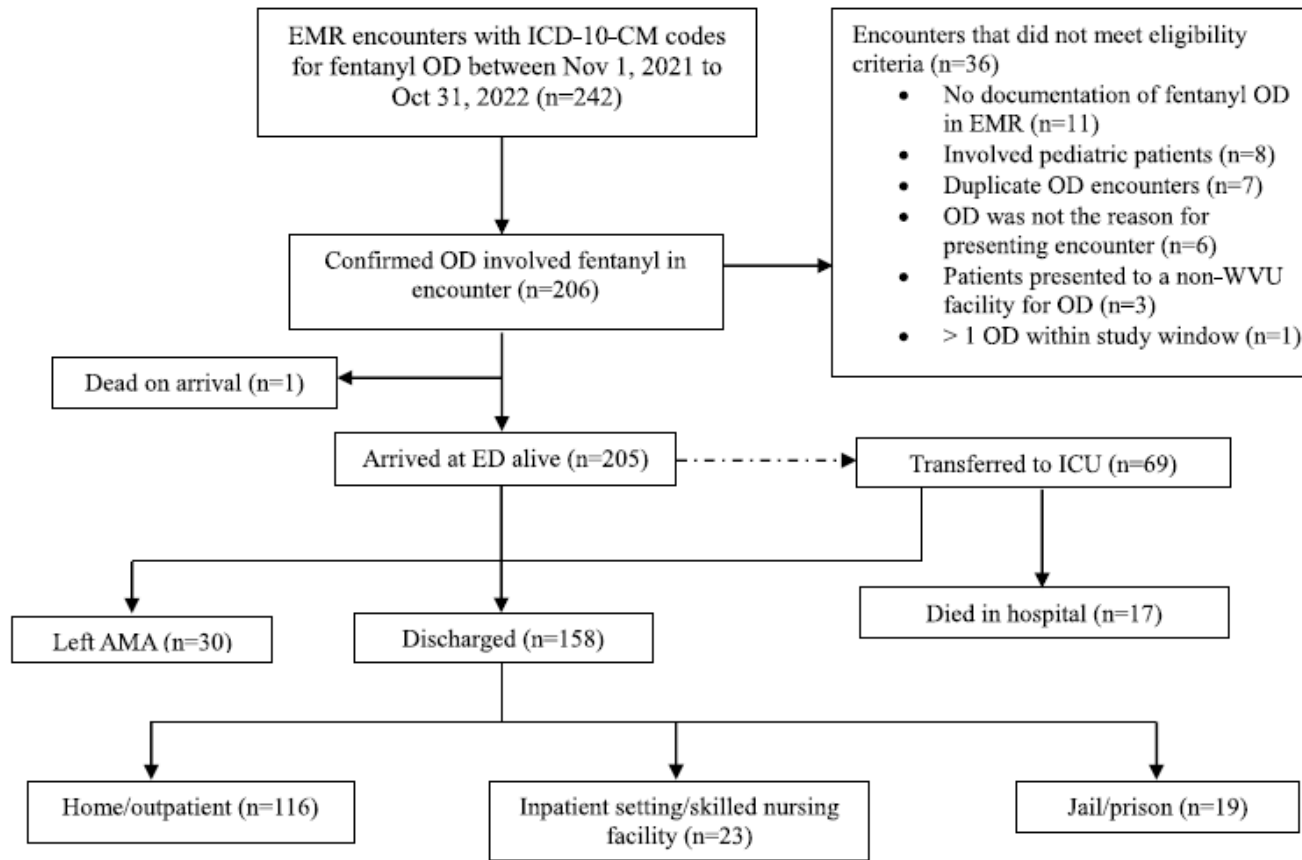


Fig. 1. Patient flow and journey within the health system from ED admission to discharge.



Next Steps

Brain Injury Prevention

Across the Lifespan

Children	Adolescents	Adults	Older Adults
<ul style="list-style-type: none"> • Safe sleep • Helmets • Car seats, seat belts, hot vehicles • Water safety – baths, buckets, rivers, lakes, pools • No shaking • Window guards • Baby gates • Non-slip mats in bath/shower 	<ul style="list-style-type: none"> • Seat belts • Sports safety • Substance use prevention • Healthy brain education and safety talks • Discussions on decision making 	<ul style="list-style-type: none"> • Workplace safety • Healthy relationships • Mental health • Helmets • Substance use prevention 	<ul style="list-style-type: none"> • Fall prevention • Home safety • Medication • Non-slip mats • Lighting • Regular vision exams • Strength training and regular exercise • Substance use prevention

ROUTINELY ASSESS FOR LIFETIME BRAIN INJURY

Possible Impairments After A Brain Injury

Immediate and Long-term

Physical
Motor Coordination
Hearing and Vision Loss
Spasticity and Tremors
Fatigue
Loss of Taste and Smell
Balance problems
Mobility
Speech
Seizures
Headaches
Chronic Pain
Changes in Sleep Patterns

Cognitive
Memory
Decision Making
Planning
Judgement
Slowed Processing
Problem Solving
Organization
Concentration
Lack of Awareness
Language
Initiation

Behavioral
Mood swings
Depression
Impulsivity
Inappropriate behavior
Socially inappropriate
Lack of response to social cues
Poor self-esteem
Relating to others
No empathy
Maintaining/Forming Relationships
Agitation
Irritability



Cultural & Community Considerations

- Prevention is protecting family and community well-being
- Collaborate with community healers, elders, and medicine people when appropriate
- Mind, body, spirit, and environment are interconnected
- Partner with tribal health programs, cultural liaisons, and community wellness initiatives



Screening and Evaluation

- Recognize and screen for brain injuries – History of OD?
- Implement neurologic informed care
- Understand cognitive impacts on recovery
- Adapt treatment environments and methods: creating supportive environments, such as reducing noise, adjusting lighting, and allowing for restlessness, along with practical strategies like visual aids, repetition, and hand on tools.
Have patients repeat back instructions to evaluate what they understood.
- Address sleep disorders
- Individualized care to reduce substance use risks, depression and suicide risks





Brain Injury Assessment Tools

[OSU TBD ID | Ohio State Brain Injury Prevention & Rehabilitation](#)

[Prescreening for Lifetime History of TBI \(from the OSU TBI-ID\) and other Acquired Brain Injuries](#)

[Ohio State University TBI Identification Method — Interview Form](#)

[TBI-Screening_v2.pdf](#)



Support

- I encourage caregivers to manage the scheduling of appointments and go with the patient.
- Perform lifetime brain injury assessment
 - Here is the typical list of referrals:
 - **Neurology**
 - Speech Therapy
 - Occupational Therapy
 - Physical Therapy
 - Acute Brain Injury Programs
 - Neurorehabilitation
 - Neuropsychology for full testing and evaluation with recommendations
 - **Psychiatry**
 - Neuro + Substance Use Rehabilitation [Neurobehavioral Services | NeuroRestorative](#)



Resources for Families

- [Home | MSKTC](#) Model Systems Knowledge Translation Center
 - [American Indians: Understanding Traumatic Brain Injury | MSKTC](#)



- [BrainLine | All About Brain Injury and PTSD](#)

[Brain Injury ID Card | BrainLine](#)

brainline.org Emergency ID

Name: _____

Address: _____

Telephone: _____

Emergency Contact: _____

Emergency Contact Telephone: _____

I HAVE A BRAIN INJURY.
 Symptoms caused by my injury may include:

- Poor coordination or unsteady walking
- Impaired talking, seeing, hearing, understanding, or remembering
- Confusion, disorientation, or distractibility
- Slow response to questions
- Agitation, irritability, impatience, or anxiety
- Anger, aggression, or explosive behavior

Please help me through this crisis by being patient and by calling the emergency contact number on the other side of this card.
 For more information on brain injury, please visit BrainLine at www.BrainLine.org.



Path Forward



March 24th and 31st at Noon – IHS National Webinars with Dr. John Corrigan from the Ohio Valley Center for Brain Injury Prevention and Rehabilitation will present on

- How to recognize and screen for brain injuries
- Implement neurologic informed care
- Understand cognitive impacts on recovery
- Adapt treatment environments and methods: creating supportive environments, such as reducing noise, adjusting lighting, and allowing for restlessness, along with practical strategies like visual aids, repetition, and hand on tools. Have patients repeat back instructions to evaluate what they understood.
- Address sleep disorders
- Individualized care to reduce substance use risks

April

CAO Best Practices Webinar

Traumatic brain injury and risk for opioid misuse, addiction, and consequences:
Strategies to enhance addiction treatment accommodations

Rachel Sayko Adams, PhD, MPH

Associate Professor

Boston University School of Public Health, Department of Health Law,
Policy & Management

Key Takeaways

- Brain injury is **common, underrecognized, and often cumulative** in AI/AN populations.
- **Context matters:** culture, geography, access, and trust influence assessment and outcomes.
- **Early identification and culturally responsive care** can improve recovery trajectories.
- Clinicians play a key role in **closing gaps across systems** and supporting community-defined priorities.



References



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Thank you!

Questions?

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