

*Helping Others in Trying Times Webinar Series*

# Traumatic Brain Injuries in Correctional Settings



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Hosted by David Prescott

Wednesday, December 7th @ 3 pm ET

A TBI is an acquired injury that can disrupt functioning. Traumatic Brain Injury can occur due to a bump, blow, jolt, or penetration to the head.

**THE CRASH REEL NOW AVAILABLE FOR DOWNLOAD/DVD/BLU-RAY [WWW.THECRASHREEL.COM](http://WWW.THECRASHREEL.COM)**



## WHAT IS A TBI?

### A TRAUMATIC BRAIN INJURY

occurs when a sudden trauma or head injury disrupts the function of the brain.

**PREVALENCE** **1.7 MILLION PEOPLE IN THE US SUSTAIN A TBI ANNUALLY.** Almost 1/3 of all injury-related deaths in the US are caused by a TBI.

**45% OF HOMELESS MEN HAVE SUFFERED A TBI**

**50% OF JAILED MEN WHOSE HAVE BRAIN INJURY**

**EFFECTS** TBI can cause a wide range of functional short- or long-term changes affecting:

- THINKING: Memory and Reasoning
- FEELING: Depression, Anxiety, Personality Changes, Aggression, Acting Out, and Social Inappropriateness
- LANGUAGE: Communication, Expression, and Understanding
- TOUCH, TASTE, AND SMELL: Touch, Taste, and Smell
- VISION: Depression, Anxiety, Personality Changes, Aggression, Acting Out, and Social Inappropriateness

**CAUSES**

- FALLS
- VEHICLE-RELATED COLLISIONS
- VIOLENCE
- SPORTS INJURIES

TBI IS OFTEN CALLED THE SIGNATURE WOUND of the Iraq and Afghanistan wars, with as many as **400,000** US veterans suffering from TBIs.

**RECOVERY** **BE EVALUATED AND TREATED BY TBI EXPERTS AND SPECIALTY CENTERS OF EXCELLENCE**

- Follow the advice of the professionals
- Involve your family, school, employer, friends in education and support of your rehabilitation
- Exercise to the extent you are able
- Healthy diet can be really helpful
- Do not use drugs or alcohol
- Get adequate sleep and rest breaks as necessary during the day
- Do not isolate yourself socially — stay involved in the community
- Use compensatory devices, memory aids, as necessary
- Keep fun in your life — recreation and leisure pursuits, hobbies, are important to emotional well-being

**NO TWO BRAIN INJURIES ARE THE SAME. RECOVERING FROM A SEVERE TBI CAN BE A LONG JOURNEY.**

Sometimes sufferers may seem fully recovered, but in fact are still dealing with the ongoing consequences of their injury. This is why TBI is often called an invisible injury.

Much of the recovery after a brain injury occurs early on — usually within the first six months — and the brain can continue to heal for up to two years, with improvements possible even after that.

If someone has a TBI they'll benefit from lots of patience, positivity, support, inspiration, and encouragement.

**BRAIN INJURY SUPPORT GROUPS AND STATE BRAIN INJURY ASSOCIATIONS ARE THERE TO HELP.**

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USE OUR HASHTAG #LOVEYOURBRAIN VISIT OUR SITE [THECRASHREEL.COM](http://THECRASHREEL.COM) FOR AWESOME #LOVEYOURBRAIN SWAG GIVEAWAYS

Information provided here was developed using the CDC guidelines ([www.cdc.gov/concussion/4steps\\_symptoms.html](http://www.cdc.gov/concussion/4steps_symptoms.html)) and in collaboration with medical advisors to the film.

# More Common Than You Think



## Acquired Brain Injury (ABI)

An injury to the brain that is not hereditary, congenital, degenerative, or induced by birth trauma. The injury results in a change in neuronal activity, which affects the physical integrity, the metabolic activity, or the functional ability of nerve cells in the brain.

## THERE ARE TWO TYPES OF BRAIN INJURY

1

### Non-Traumatic Brain Injury

Often referred to as an acquired brain injury, non-traumatic brain injuries cause damage to the brain by internal factors, such as a lack of oxygen, exposure to toxins, pressure from a tumor, etc...

2

### Traumatic Brain Injury

An alteration in brain function, or other evidence of brain pathology, caused by an external force. There are two primary mechanisms of TBI; those involving impact to the head (Traumatic Impact), and those involving inertial forces which affect the brain (Traumatic Inertial)

## CAUSES OF BRAIN INJURY



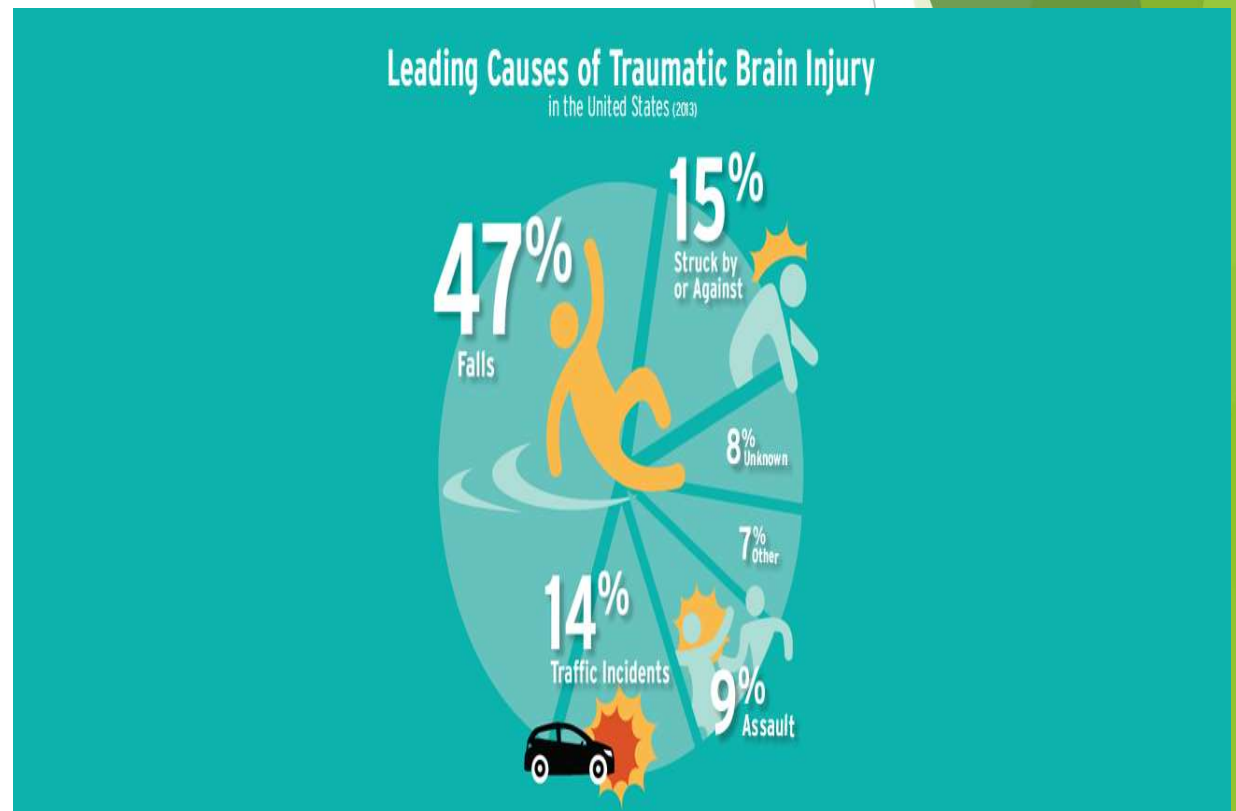
## ACQUIRED BRAIN INJURY

	TRAUMATIC IMPACT Contact Injury Head struck by or against an object		TRAUMATIC INERTIAL Non-Contact Injury Brain moves within skull	NON-TRAUMATIC Internal Insult
PRIMARY INJURY MECHANISM	CLOSED (Non-Penetrating)	OPEN (Penetrating) Skull Fracture Meninges Breach	Rotational/Angular Forces Acceleration/Deceleration Forces	Severe Reductions in Blood Flow Hemorrhage Due to Clotting
INJURY CLASSIFICATION	FOCAL -or- DIFFUSE	PRIMARY FOCAL	PRIMARILY DIFFUSE (MULTIFOCAL)	FOCAL -or- DIFFUSE
INJURY PATHO-PHYSIOLOGY	Brain Contusions Brain Lacerations Intracerebral Hemorrhage Diffuse Axonal Injury	Epidural Hematomas Subdural Hematomas Intracerebral Hemorrhage Infections	Diffuse Axonal Injury White Matter Lesions Hemorrhage	White Matter Lesions Hemorrhage
INJURY CAUSES	Blast Related Assaults Falls Vehicular Accidents Sports Accidents	Gunshot Stabbing Falls Vehicular Accidents Sports Accidents	Falls Vehicular Related Accidents Sports Related Accidents	Stroke Neurotoxic Poisoning Hypoxia/Anoxia Ischemia Infection Tumors



# Mechanisms

- ▶ Falls.
- ▶ Vehicle-related collisions.
- ▶ Violence.
- ▶ Sports injuries.
- ▶ Explosive blasts and other combat injuries.

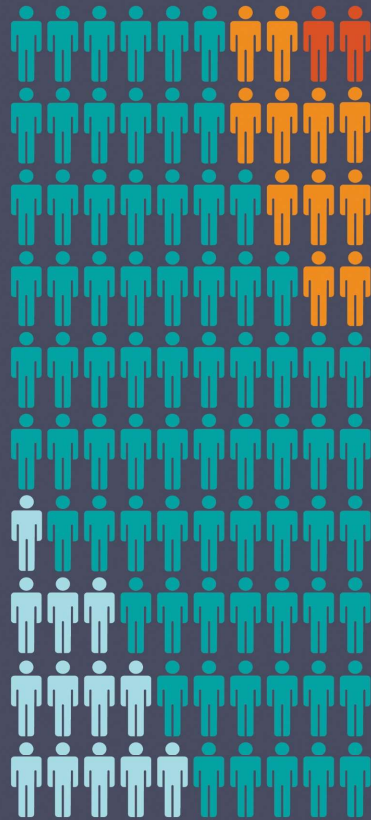


# Prevalence: General Population

- ▶ In 2014, there were 2.87 million TBI-related emergencies, hospitalizations, and deaths in the United States (Centers for Disease Control and Prevention [CDC], 2019).
- ▶ Corrigan et al. (2012) estimated that 3 to 5 million people are living with a TBI-related disability.
- ▶ CDC considers TBI a serious public health issue with a **prevalence** rate in the general population reported to range from **2% to 8.5%** (CDC, 2016).

# 2.8 Million Traumatic Brain Injuries a Year

in the United States



56,000  
Die

282,000  
Hospitalized

2.5 million  
Treated and released  
from ER

Up to 15% of those diagnosed with a mild TBI may have long-term problems.

brainline.org

Visit [www.brainline.org](http://www.brainline.org) for more information on preventing, treating, and living with traumatic brain injury.

© 2018 WETA. All Rights Reserved. Source: [www.cdc.gov/traumaticbraininjury](http://www.cdc.gov/traumaticbraininjury)

# Prevalence in Criminal Justice

- ▶ The rate of TBI history is reported to range from 23% (McKinlay & Albicini, 2016) to 60% (Shiroma et al., 2010) to as high as 87% (Slaughter et al., 2003) or 88% (Diamond et al., 2007).
- ▶ Recently, a Pennsylvania study reported the prevalence of TBI history in maximum-security prison setting to be 76% (Nagele et al., 2019).
- ▶ In a Colorado study, female offenders endorsed a history of TBI at a rate of 97% (Gorgens et al., 2021).

## Probation/Community Corrections (Gorgens et al., 2021)

- ▶ 47% of persons on probation report TBI.
- ▶ People on probation with TBI also had comorbid behavioral health conditions like mental illness, substance abuse, trauma history, and attempted suicide.
- ▶ They were more likely to be determined to be high risk by probation officers,
- ▶ Had a higher rate of felony convictions,
- ▶ Had lower rates of successful probation completion, and
- ▶ Were significantly more likely to re-offend.



## Why Is This Important

- ▶ As many of us who work within the field of criminal justice know, Adverse Childhood Experiences (ACEs) that occur during the developmental period, have been well researched and recognized as having lasting impacts on functioning in adulthood. As such, we assess for the presence of and target ACEs with clients.
- ▶ Similarly, TBI, particularly when mild in severity, can also impact functioning. Therefore, it is one of those “invisible injuries” that needs to be included in the assessment, treatment, and management of risk.



- ▶ Previous research has strongly advocated increased awareness of TBI in criminal justice populations, due to the indicated implications for diagnosis, treatment, and rehabilitation of persons with history of TBI's.
- ▶ It becomes an important part of **RNR**. Specifically, the third “**R**” **Responsivity**.

# Complications and Criminal Justice

- ▶ Increased utilization of services while incarcerated (health and psychological)
- ▶ Lower treatment completion rates and higher rates of disciplinary incidents
- ▶ Lower ability to maintain rule-abiding behavior during incarceration
- ▶ More prior incarcerations
- ▶ Higher rates of recidivism, 69% compared to 37% of peers without TBI (Piccolino & Solberg, 2014)
- ▶ Criminal behavior can increase after TBI (especially severe TBI)

## What Can You Do?

- ▶ Include a formal method of TBI measurement in your assessment procedures
  - ▶ Identification, Awareness, Education, Treatment/Intervention
  - ▶ Provide support to both client as well as staff working to more effectively manage presenting variables (i.e., behavioral, cognitive social/emotional deficits).

# Integrating Best Practices Protocol: Another Tool for the Toolbox

(National Association of State Head Injury Administrators/NASHIA/Colorado TBI Model)

- 1) Screening for lifetime history of brain injury (“Risk”)
- 2) Screening for current impairment (identifying “Need”)
- 3) Provide strategies to support adjustment/accommodation and compensating for impairment (“Responsivity”)
- 4) Training and education for justice-involved individuals
- 5) Refer those who continue to struggle for NPSY screen
- 6) Provide training to criminal justice staff

*Criminal and Juvenile Justice Best Practice Guide and Supporting Materials:*  
<https://www.nashia.org/resourceslist/ultvlaoicnk14l0k1f0prgqvhl04f-8wllr>



# Resources

- ▶ <https://www.nashia.org/cj-best-practice-guide-attachments-resources-copy>
- ▶ [https://static1.squarespace.com/static/5eb2bae2bb8af12ca7ab9f12/t/5f66c8e7902e0625b91eb71f/1600571625059/STRATE\\_2.PDF](https://static1.squarespace.com/static/5eb2bae2bb8af12ca7ab9f12/t/5f66c8e7902e0625b91eb71f/1600571625059/STRATE_2.PDF)
- ▶ <https://www.brainline.org/resource-directory/state/WI>
- ▶ [https://www.cdc.gov/traumaticbraininjury/pdf/Prisoner\\_TBI\\_Prof-a.pdf](https://www.cdc.gov/traumaticbraininjury/pdf/Prisoner_TBI_Prof-a.pdf)
- ▶ [https://www.mirecc.va.gov/visn19/tbi\\_toolkit/justice/screening\\_assessment.asp#impactTreatment](https://www.mirecc.va.gov/visn19/tbi_toolkit/justice/screening_assessment.asp#impactTreatment)
- ▶ <https://mindsourcencolorado.org/ahead/>
- ▶ <https://www.biausa.org/public-affairs/media>
- ▶ [www.ohiovalley.org](http://www.ohiovalley.org)

# References

- Centers for Disease Control and Prevention. (2019). Surveillance report of traumatic brain injury-related emergency department visits, hospitalizations, and deaths—United States, 2014. U.S. Department of Health and Human Services. [https://www.cdc.gov/traumaticbraininjury/pdf/TBI-Surveillance-Report-FINAL\\_508.pdf](https://www.cdc.gov/traumaticbraininjury/pdf/TBI-Surveillance-Report-FINAL_508.pdf)
- Corrigan, J. D., Bogner, J. (2007). *Screening and identification of TBI. Journal of Head Trauma Rehabilitation, 22(6), 315-317.*
- Diamond, P. M., Harzke, A. J., Magaletta, P. R., Cummins, A. G., & Frankowski, R. (2007). Screening for traumatic brain injury in an offender sample: A first look at the reliability and validity of the Traumatic Brain Injury Questionnaire. *Journal of Head Trauma Rehabilitation, 22, 330-338.*
- Farrer, T., Frost, R., & Hedges, D. (2013). Prevalence of traumatic brain injury in juvenile offenders: A meta-analysis. *Child Neuropsychology, 24(3), 1-10.*
- Fazel, S., Lichtenstein, P., Grann, M., & Långström, N. (2011). Risk of violent crime in individuals with epilepsy and traumatic brain injury: A 35-Year Swedish population study. *PLoS Medicine, 8(12).* <http://doi.org/10.1371/journal.pmed.1001150>
- Gorgens, K.A., Davis, T.M., Dettmer, J., & Gafford, J. (2018). Violence-Related Traumatic Brain Injury in Justice-Involved Women. *Criminal Justice and Behavior, 1-18.*
- Gorgens, K.A., Meyer, L., Dettmer, J., Standeven, M., Goodwin, E., Marchi, C., & Lyman, H. (2021). *Prevalence and Differences in Compliance and Long-Term Outcomes Among Men and Women on Probation. Criminal Justice and Behavior.*
- Merbitz, C., Jain, S., Good, G. L., & Jain, A. (1995). A reported head injury and disciplinary rule infractions in prison. *Journal of Offender Rehabilitation, 22, 11-19.*
- Morrell RF, Merbitz CT, Jain S, Jain, S. Traumatic brain injury in prisoners. *Journal of Offender Rehabilitation 1998;27(3-4):1-8.*

# References

- Piccolino, A. L., & Solberg, K.B. (2014). The impact of traumatic brain injury on prison health services and offender management. *Journal of Correctional Health Care*, 20(3), 203-212.
- Ray, B. & Richardson, N. (2017). Traumatic brain injury and recidivism among returning inmates. *Criminal Justice and Behavior*, 44(3), 472-486. <http://doi.org/10.1177/0093854816686631>.
- Schofield PW, Butler TG, Hollis SJ, Smith NE, Lee SJ, Kelso WM. Traumatic brain injury among Australian prisoners: rates, recurrence and sequelae. *Brain Injury* 2006;20(5):499-506.
- Shiroma, E. J., Ferguson, P. L., & Pickelsimer, E. E. (2010). Prevalence of traumatic brain injury in an offender population: A meta-analysis. *Journal of Correctional Health Care*, 16, 147-159.
- The U.S. Department of Justice, Office of Justice Programs, Bureau of Justice Statistics (2016). Retrieved from <https://www.bjs.gov/index.cfm?ty=kfdetail&iid=487>.
- Trexler, L.E., Parrott, D.R., Models of brain injury vocational rehabilitation: The evidence for resource facilitation from efficacy to effectiveness; *Journal of Vocational Rehabilitation*, 49 (2018) 195-203.
- Trexler, L.E., Parrott, D.R., Malec, J.M., Replication of a Prospective Randomized Controlled Trial of Resource Facilitation to Improve Return to Work and School After Brain Injury; *Archives of Physical Medicine and Rehabilitation*, 2016;97:204-10.
- Vaughn, M., Salas-Wright, C., Delisi, M., & Perron, B. (2014). Correlates of traumatic brain injury among juvenile offenders: A multi-site study. *Criminal Behaviour and Mental Health*, 19(3), 225-234.
- Williams, W. H., Mewse, A. J., Tonks, J., Mills, S., Burgess, C. N., & Cordan, G. (2010). Traumatic brain injury in a prison population: Prevalence and risk for re-offending. *Brain Injury*, 24, 1184-1188.