Why isn’t this working?
Different approaches for individuals with cognitive impairment

What We Will Cover

- Facts about brain injury
  - Definition, prevalence in juvenile justice, and effects
- Impact of BI on behavior and treatment success in juvenile justice
- Impact of BI on staff stress
- Interventions and Accommodations
  - To increase success
  - To reduce staff stress
- Implications for practice

Funded by TBI State Implementation Partnership Grant SAP# 4100081563 from U.S. Department of Health and Human Services, Administration for Community Living (ACL).
Contents are the responsibility of authors and do not necessarily represent the official view of ACL.

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Learning Objectives:

- Attendees will be able to—
  - Describe a number of the physical, cognitive, and behavioral problems associated with brain injury.
  - Discuss the potential impact of brain injury on both risk and responsivity to treatment.
  - Discuss the impact of brain injury on staff feelings of burnout and compassion fatigue
  - Discuss some basic accommodations which may be helpful to juvenile offenders with brain injury and those who work with them.

Brain Injury Education, Training and Consultation Project

Bucks County Youth Detention Center

Montgomery County Youth Detention Center

Loysville Youth Development Center

Butler County Juvenile Probation

2014-2018

Technical Assistance

2018-2021

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History of the Project

- Informed by a prior BIAPA project involving men at SCI-Graterford
- Funded by Health Resources and Services Administration HRSA/ACL for a 4-year period (2014-2018) and an ACL grant (2018-2021)
- Part of the TBI Implementation Partnership Grant Program
- Designed to address common barriers to access in care

Common Barriers to Access to Care

- Lack of information regarding available services and supports
- Shortage of healthcare professionals who have training in TBI (specifically, an ability to identify TBI and treat the resulting symptoms)
- Frequent absence of a TBI diagnosis or the assignment of an incorrect diagnosis
- TBI services spread across a variety of agencies resulting in services being difficult for families to find and/or navigate

Grant Activities

- Screening to identify individuals with TBI
- Building a trained TBI workforce
- Providing information about TBI to families
- Facilitating access to services through resource facilitation

The overarching goal is to build a sustainable service delivery infrastructure for individuals with TBI and those at high risk for TBI.

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Assist populations at high risk for TBI

- Children 0 – 4 (African American children have the highest rate for this age group)
- Youth aged 15 -19 (African American youth have the highest rate for this age group)
- The elderly
- Athletes of all ages
- Individuals harmed by domestic violence
- Homeless individuals of all ages
- Incarcerated individuals, including juvenile offenders

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Acquired Brain Injury

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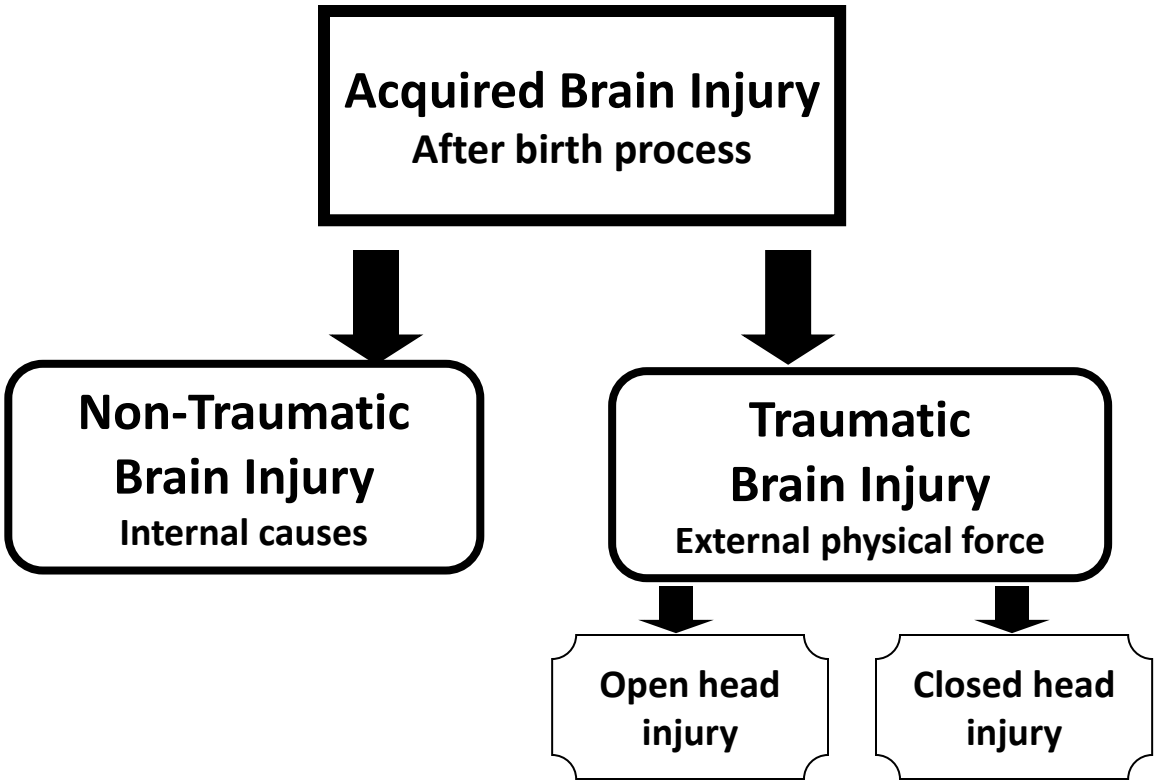
Types of Brain Injury



Non-Traumatic Brain Injury

– **An insult to the brain resulting from internal causes:**

- Brain Tumors
- Anoxia/Hypoxia
- Infections of the Brain
  - Meningitis or Encephalitis
- Cerebral Vascular Accidents
  - Hemorrhaging
  - Aneurysms
- Ingestion of Toxic Substances
  - Inhalation of organic solvents
  - Alcohol and drug abuse
  - Ingestion of heavy metals

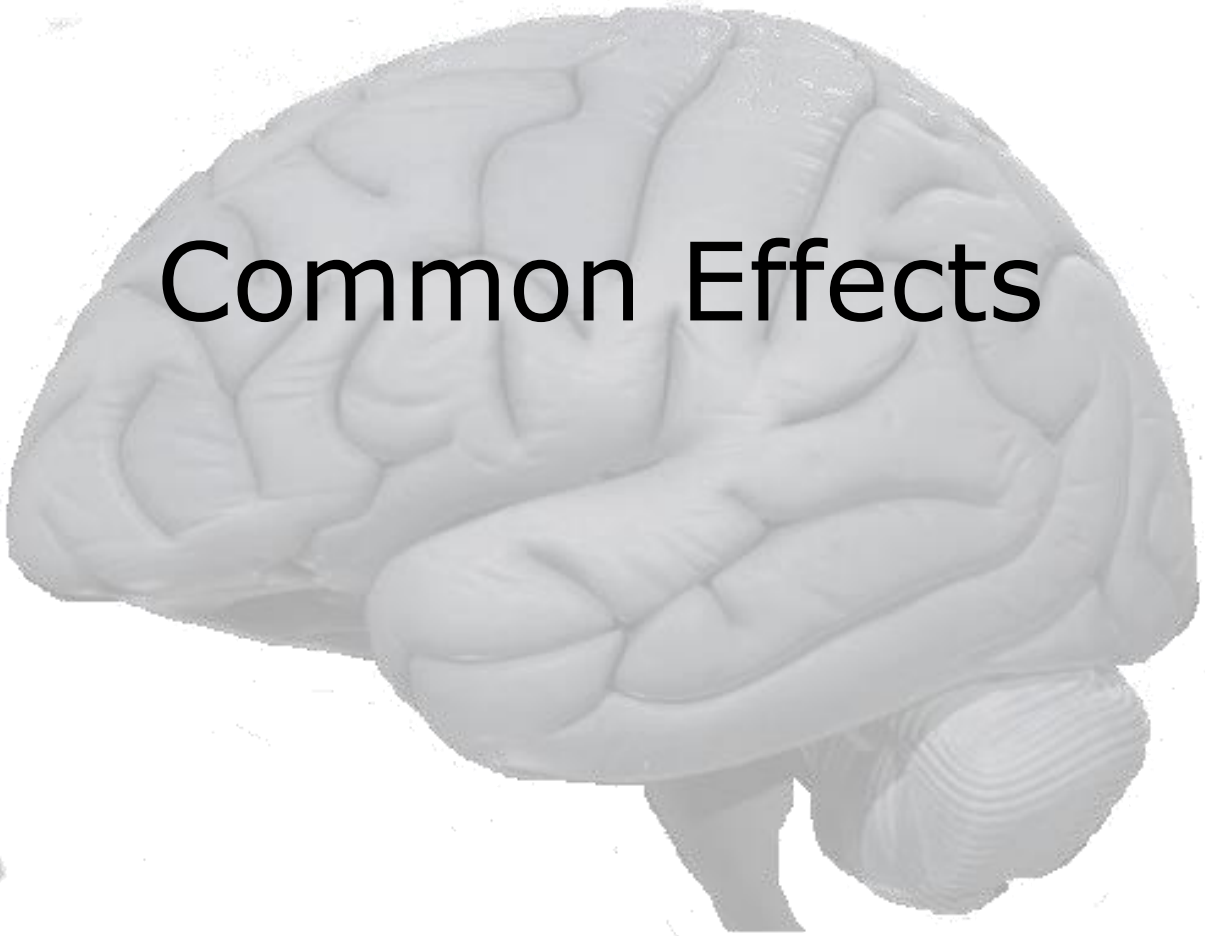
Traumatic Brain Injury

- An insult to the brain caused by external physical force
- Not all blows or jolts to the head result in a TBI
- Severity range
  - **Mild** with a brief change in mental status or consciousness
  - **Severe** with an extended period of unconsciousness or amnesia after injury

Who is most at risk?

- Age groups most likely to sustain a TBI:
  - **0-4**
  - **15-19**
  - >65
- In every age group, TBI rates are higher for males than females
- Males aged 0-4 years have the highest rates of TBI-related emergency department visits, hospitalizations, and deaths combined

Brain Injury



Common Effects

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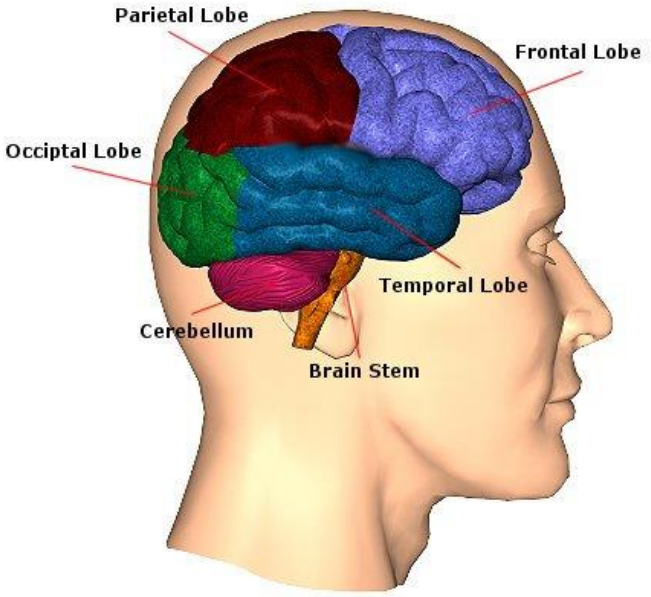
Brain Behavior Relationships

Parietal Lobe
- Sense of touch
- Differentiation: size, shape, color
- Spatial perception
- Visual perception

Occipital Lobe
- Vision

Cerebellum
- Balance
- Coordination
- Skilled motor activity



Brain Stem
- Breathing
- Heart rate
- Arousal/consciousness
- Sleep/wake functions
- Attention/concentration

Frontal Lobe
- Initiation
- Problem solving
- Judgment
- Inhibition of behavior
- Planning/anticipation
- Self-monitoring
- Motor planning
- Personality/emotions
- Awareness of abilities/limitations
- Mental flexibility
- Speaking (expressive language)

Temporal Lobe
- Memory
- Hearing
- Understanding language (receptive language)
- Organization and sequencing

Possible Physical Changes

- Seizures
- Headaches and Pain
- Smell/Taste
- Sensitivity to Light and Noise
- Motor Skills/Balance
- Spasticity/Tremors
- Swallowing/Speech
- Fatigue/Weakness

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Cognition

The act of knowing or thinking and includes the ability to choose, understand, remember, and use information

- Includes:
  - Attention and concentration
  - Processing and understanding information
  - Memory
  - Communication
  - Executive functioning

Attention

Ability to remain alert, aware of environment, and to focus on the important aspects of a situation, activity or thought

Impacts arousal, learning and memory, and can be perceived as disrespect

Information Processing

The brain is responsible for getting information in and ready to use…

- Decreased processing speed can affect:
  - Keeping up with conversations
  - Following lessons, discussions, events in every day life
  - Getting things done in the time expected
  - Being able to complete as much as expected
  - The ability to tolerate noise, crowds, etc.
- Can be perceived as disinterest or disrespect
- Can lead to cognitive fatigue

Cognitive Fatigue

- Fatigue is one of the most common effects after TBI
- Cognitive fatigue comes from the extra effort it takes to think
  - Many common tasks take much more concentration than they did before
  - Working harder to think and stay focused can make people mentally tired
  - Can lead to headache and irritability

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Memory

Not a unitary function: Multiple types of memory:

- Working Memory (Buffer) – holding on to information while processing other information
- Memory for New Information – ability to store, access, and retrieve new or novel information
- Memory for Old Information – store and access information from the past
- Prospective Memory – remembering into the future; remembering to do the things you intend to do

Speech and Language

- Expressive language impairments
  - Speaking and writing
- Receptive language impairments
  - Misunderstanding what is said or written
- Misinterpretation of non-verbal cues
  - Tone of voice
  - Body language

Executive Function

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A higher order cognitive construct involved in planning, initiation, and regulation of goal-directed behavior

(Lezak, 1983; Luria, 1980)

- Initiation
- Planning and Organization
- Mental Flexibility and Problem-Solving
- Inhibition
- Judgment
- Self-Monitoring or Awareness

Initiation and Intentional Behavior

The brain lacks ability to generate what should occur next and implement the plan via action.

- Has trouble getting started
- Needs frequent prompts to complete a task
- Can identify a goal but cannot achieve it
- Appears passive or unmotivated
- May be thought of as depression
- Perceived as lazy

Impulsivity and Disinhibition

The brain lacks ability to think ahead, anticipate consequences or automatically employ rules.

- May say or do things without thinking
- May not know when to stop
- May not regard safety
- May not follow directions or rules
- May dominate conversations
- May be perceived as rude

Planning and Organization

The brain has difficulty figuring out how things fit together and/or sequencing things.

- May be late for or miss appointments
- May have trouble remembering things to be done in the future
- May have messy rooms, backpacks, etc.
- May give up easily on complicated or multi-step tasks

Mental Flexibility

The brain has difficulty shifting, seeing multiple options, or gets stuck easily.

- May have difficulty thinking on the spot
- May get stuck on one idea or way of thinking
- May not be able to see another person's perspective
- Has difficulty adjusting to the unexpected
- Has difficulty solving problems

Self-Awareness and Insight

An individual may not easily recognize their abilities and limitations or accurately perceive how they are performing or coming across.

- Denies or underestimates problems
- Sets unrealistic goals
- Unable to identify or alter inappropriate behaviors
- Blames others for their problems

Emotional and Behavioral Issues

- Lability
  - Lack of emotional control, unpredictable mood swings
- Alexithymia
  - Lack of awareness of emotions in self or others
- Irritability
- Disinhibition and Aggression
  - Behaves without regard for norms, without thinking
  - Can be anger-related or sexual
- Anxiety
- Depression

These problems can result in:

- Difficulties in living independently
- Disrupted relationships
- Substance abuse problems
- Employment issues
- Financial hardship
- Justice involvement

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What about Concussion? Signs and Symptoms

THINKING/ REMEMBERING	PHYSICAL	EMOTIONAL/ MOOD	SLEEP DISTURBANCE
• Difficulty thinking clearly • Feeling slowed down • Difficulty concentrating • Difficulty remembering new information	• Headache • Nausea or vomiting (early on) • Balance problems • Dizziness • Fuzzy or blurry vision • Feeling tired, having no energy • Sensitivity to noise or light	• Irritability • Sadness • More emotional • Nervousness or anxiety	• Sleeping more than usual • Sleeping less than usual • Trouble falling asleep

Concussion Management

- Recognize and manage:
  - Remove from play and/or risky activities
  - Provide medical attention
  - Offer temporary accommodations
    -Bottom bunk status -Elevator use
    -Assistance in cafeteria -School relief
  - Monitor recovery by observing symptoms
  - Seek concussion specialty care if symptoms do not resolve within 4 weeks

Key Recommendations from the CDC Pediatric mTBI Guideline:

1. Do not routinely image patients to diagnose mTBI.
2. Use validated, age-appropriate symptom scales to diagnose mTBI.
3. Assess evidence-based risk factors for prolonged recovery.
4. Provide patients with instructions on return to activity customized to their symptoms.
5. Counsel patients to return gradually to non-sports activities after no more than 2-3 days of rest.

Many brain injuries in justice involved youth are undiagnosed…

Impact on justice-involved populations

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Highlights from Past Research

- 60% of inmates have a history of brain injury prior to incarceration (Shiroma, et al., 2010)
- Criminal behavior appears to increase after TBI (Farrer & Hedges, 2011; Brooks et al., 1986; Fazel et al., 2011; McIsaac et al., 2016; Timonen et al., 2002; Elbogen et al., 2015; Ryan et al., 2015)
- Rate of TBI is 3 to 8 times higher among juvenile offenders (Hughes et al., 2015)
- Half of youth offenders have a history of loss of consciousness, with repeat injuries being very common (Davies et al., 2012; Kaba et al., 2013)

TBI Among Justice Involved Youth

- Youth with TBI display:
  - Significantly more psychiatric distress
  - Earlier onset of criminal behavior
  - Earlier onset of substance misuse
  - More lifetime substance abuse and suicidality
- Lifetime prevalence of TBI will continue to climb as youth enter early and middle adulthood (Perron & Howard, 2008; Walker et al, 2003)
- History of TBI is also associated with increased risk of recidivism (Ray & Richardson, 2017)

Project Findings in PA…

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Summary of Findings: Adult Corrections

PA 2013-2015	N=164
Screened Positive Events that could have caused a Brain Injury	**75.95%**
Average Number of Events per Individual	4.1
Percentage of Events that Occurred before age 21	75%
Showed Evidence of Neurocognitive Impairments on Standardized Testing	71.59%

JUVENILE Summary of Data

Screened for Brain Injury	485
Screened Positive for an Event that could have caused a Brain Injury	235 **(48.5%)**
Average Number of Episodes per Youth	3
Administered NeuroCognitive Testing	146
Showed Evidence of Impairments	83 (56.8%)

Interesting Data…

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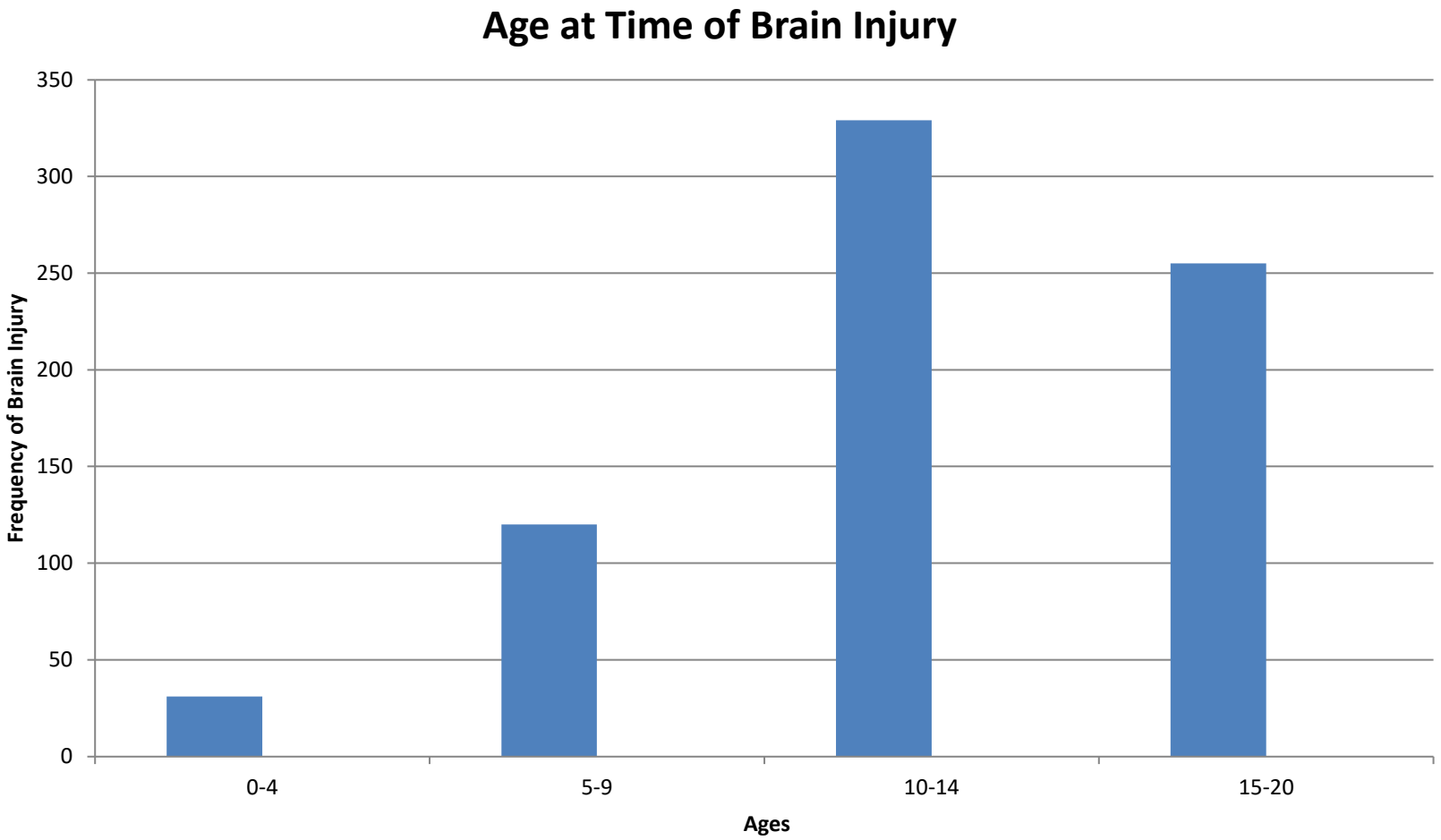
Age at Time of Injury



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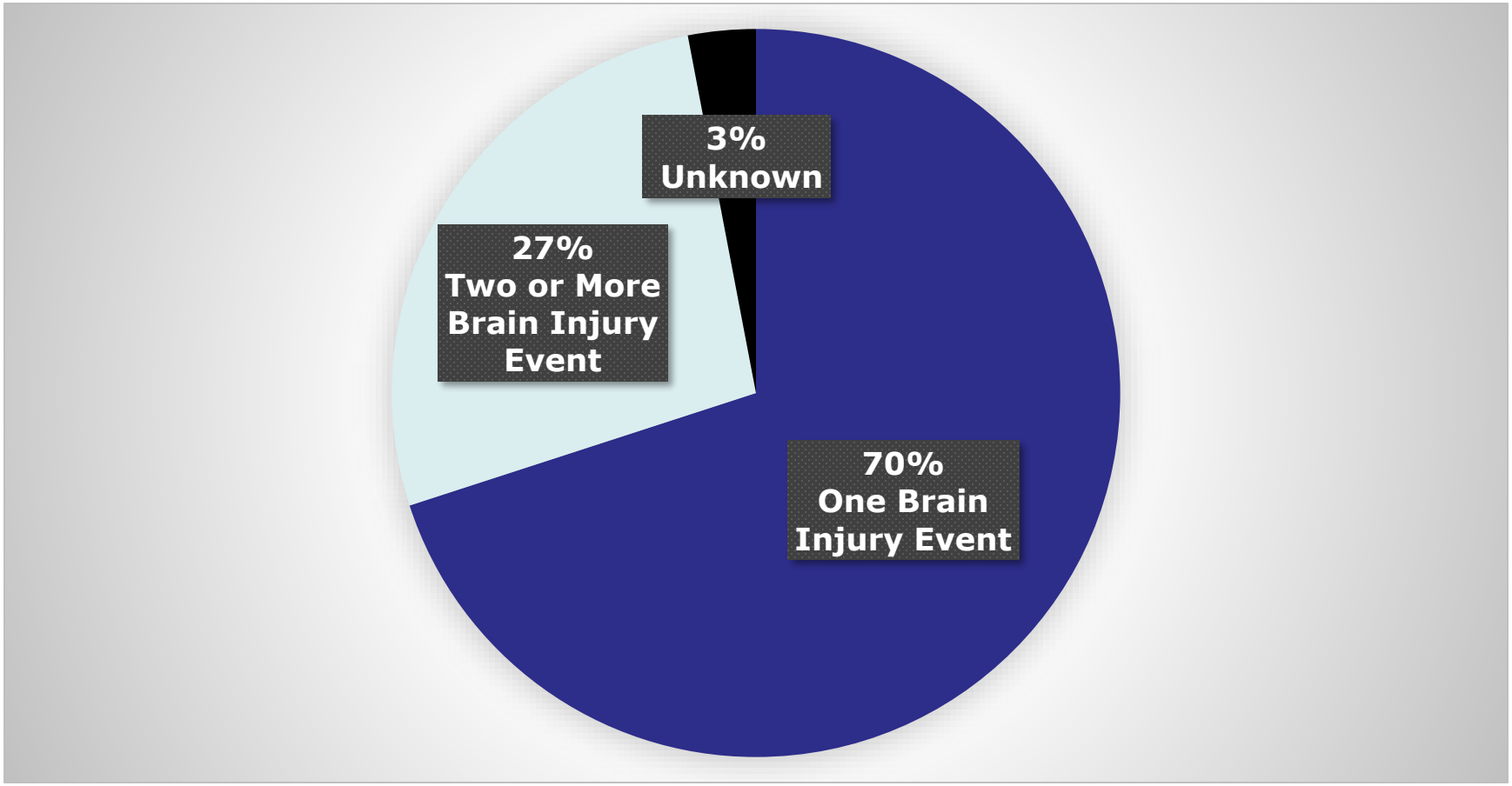
Multiple Injuries



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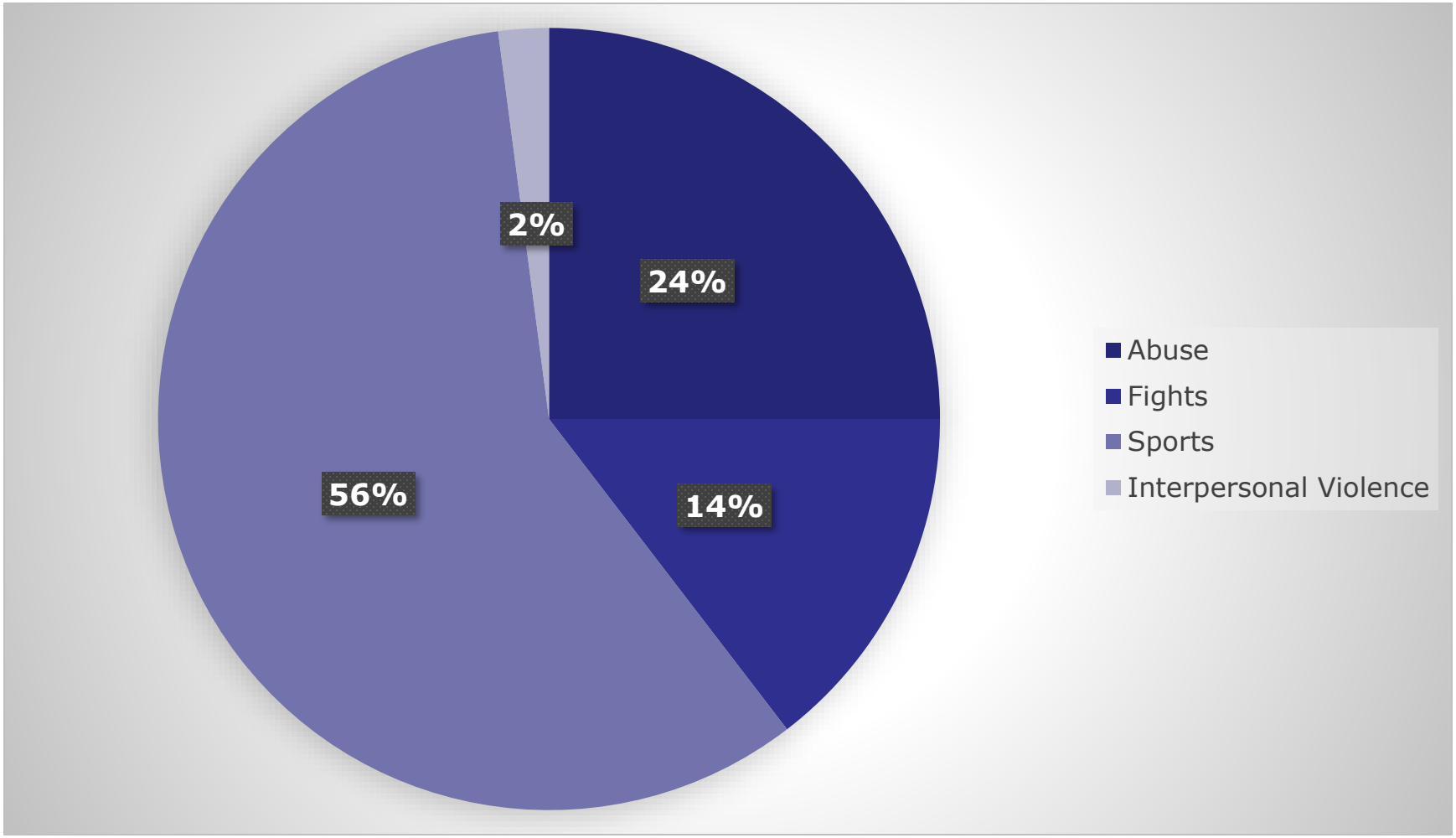
Causes of Repetitive Blows to the Head



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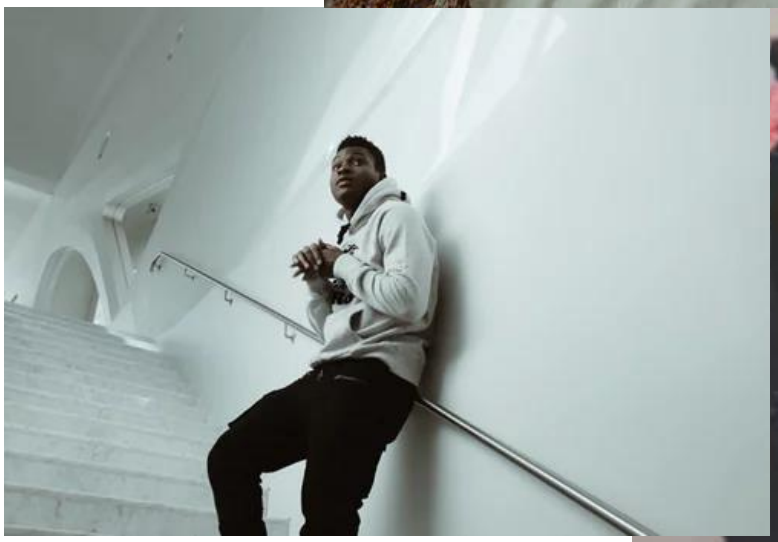
Characteristics of Brain Injury

How might they look in justice settings?



Characteristics of Brain Injury:
How they may look in justice settings

Characteristic	Behavior
Poor cognitive skills including memory and organization	Can't recall information or retell stories consistently; Misses appointments; Decreased academic engagement
Slowed processing and poor attention	Responds slowly to directives; Appears distracted or disinterested; Does not participate effectively in group treatment
Poor problem-solving/reasoning and judgment	Doesn't anticipate consequences of actions; Susceptible to negative influence; Can't generate alternative solutions
Poor initiation	Has trouble getting started – chores, homework, etc.; Doesn't ask for help
Limited ability to self-monitor or evaluate	Doesn't see self as others do; Has trouble setting realistic goals; Does not see mistakes or ask for help
Emotional dysregulation and/or anxiety and depression	Over-reacts emotionally; Tends to feel nervous or depressed; Sleep issues

Impact of ABI on risk and responsivity to treatment

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Evidence-based programs

- Such as Aggression Replacement Therapy, Thinking for a Change, etc.
- Designed for neuro-typical individuals
- Individuals with cognitive impairment can be successful but may need accommodations and/or additional assistance to benefit from these programs

In treatment groups or school…

- May have trouble understanding the content or processing the info quickly enough
- May have limited ability to recognize content's applicability to self
- May over or under-contribute
- May repeat self
- May not be able to initiate or complete homework tasks
- May come to group unprepared

- May do poorly on tests
- May not have an accurate sense of how well or poorly one is doing
- May not recognize the need to ask for assistance
- May have difficulty tolerating long sessions (many groups are 2 hours in length)

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Impact on Staff Stress

- Behaviors associated with brain injury can prove stressful to staff
  - Failure to benefit from experience or treatment
  - Mood instability and behavioral dyscontrol
  - Executive Dysfunction
- Brain injury is associated with higher levels of emotional exhaustion in staff (Saban et al., 2013; Gosseries et al., 2012; Wittig et al., 2003)

It is likely that brain injury behaviors are especially frustrating when there is no diagnosis

Other Factors that Contribute to Stress

- Mismatch between the security and treatment missions
- Work place dynamics and non-clinical job responsibilities
- Vicarious trauma
- Treatment failures
- Lack of expertise or resources to properly support individuals
  - Clinical/Educational
  - Environmental

Why do those with brain injury need a different approach?

- Executive dysfunction
- Emotional dysregulation
- Memory Impairment
  - Variability of memory
  - Prospective Memory

These are neuropsychological functions, mediated by the brain, not always under willful control.

How to address ABI in justice settings and why:

Not addressing BI leads to failure and stress, for both individuals and staff!

- Adjust expectations
  - Of the individuals
    - The behaviors individuals exhibit may be related to impairments in memory and executive functioning and not "willful"
    - Consider neurocognitive explanations for behavior and interventions to support success
  - Of you and your team
    - Without education and resources, treatment failures may occur
    - Seek additional support to identify brain injury and resources for further treatment

- Develop competence
  - Having tools which are effective will increase staff feelings of satisfaction and competence
  - The use of evidence-based practices is associated with less burnout
  - Successes also mitigate feelings of burnout and fatigue

- Utilize strategies to maximize success
  - Reminders, routines, written information
  - Allow additional time for processing
  - Check-ins on comprehension
  - Provide context when asking questions, especially in groups
  - Provide support/direction for problem-solving and follow through
  - 1:1 supports at home, school, etc.

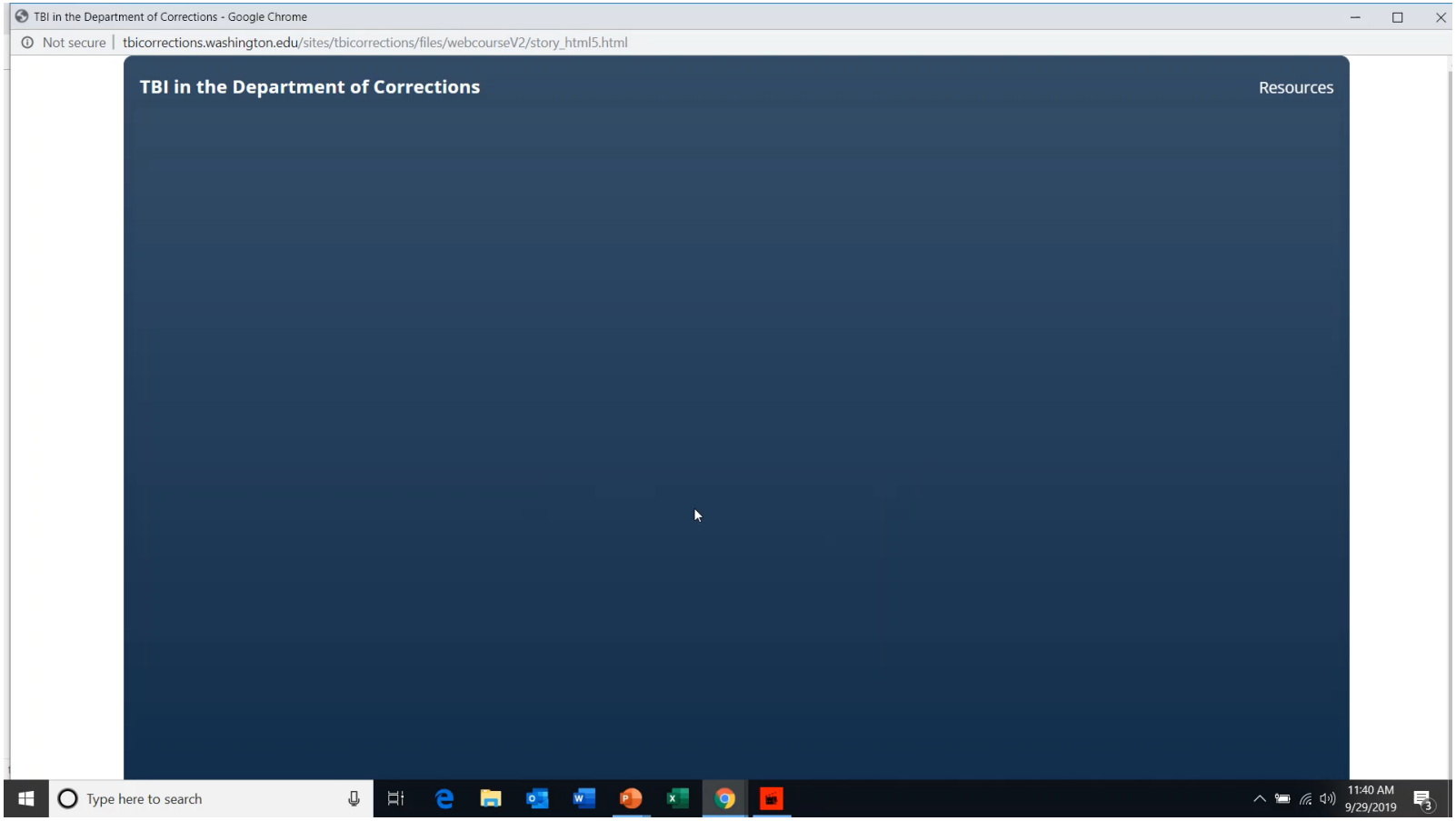
Universal Approaches

- Talk slowly
- Keep it simple, direct, and straightforward
- Keep your voice low and watch non-verbals. Try to de-escalate the situation
  - Lower the volume
  - Pull them aside if possible

- Give information and feedback in small and more frequent chunks
- Consider pairing with written information
  - Examples: Phone call or visitor information; important dates or requirements
- Be proactive
  - How can you help someone to prepare?
  - How can you help someone remember?
  - How can you help someone avoid difficult situations?

- Connect individuals to appropriate resources
  - Proper evaluation
    - Neurocognitive assessment
    - Medical evaluation
  - BrainSTEPS (school)
  - OVR (work)
  - Brain injury professionals/providers
  - Brain Injury Resource Line
    - 1-800-444-6443

From TBI in Corrections Project, University of Washington in collaboration with Washington State Department of Corrections



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Additional Strategies for Staff

- Connect with others
- Seek a healthy lifestyle
- Pursue outside interests
- Manage the work environment
- Maintain positive thinking

Saban (2013)

Questions and Implications for Juvenile Service Providers:

- How might you identify those youth who have history of brain injury?
- How might you identify their cognitive difficulties?
- How will this information affect treatment recommendations and expectations?
- What resource connections can be made for these individuals and who can make them?

How can we help?

Technical Assistance 2018-2021

- Grant-funded assistance is available to service providers and juvenile probation departments in PA
- Can include:
  - Brain injury education and training
  - Consultation to develop brain injury protocols or resource connections for your organization
  - Screening
  - **Customized** to your organization's needs

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For further information

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Toll Free Brain Injury Resource Line

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1-717-772-2763

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