

Brain Injury 101: Making the Connections

10 Things Law Enforcement Personnel Should Know About Brain Injury

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1

Did you know...

- A brain injury occurs every 9 seconds in the US
- CDC reports that each year:
 - 1.1 million people are treated and released from hospital emergency departments
 - 290,000 people are hospitalized and survive
 - 475,000 are children 0-14
 - 51,000 people die
- More than a quarter million people are living in Illinois with a long term disability as a result of traumatic brain injury
- CT scans are negative in 45% of studies

2

This Is Your Brain

The diagram shows a profile of a human head with the brain exposed. Labels point to various parts of the brain and their associated functions:

- Parietal Lobe:** Body Sensation (touch, temp, pain), Spatial Relations, Differentiation of size, shape & color, Academic Skills (Reading)
- Frontal Lobe:** Initiation, Problem Solving, Judgment, Planning/anticipation, Organization, Attention, Self-monitoring, Emotional Control, Impulse Control, Judgment, Motivation
- Occipital Lobe:** Visual Perception
- Temporal Lobe:** Communication (speaking, hearing and understanding language), Memory, Organization, Sequencing
- Cerebellum:** Muscle Tone, Posture, Balance, Coordination
- Brain Stem:** Basic life functions

3

Mechanisms of TBI

- **Primary**
 - Biomechanical Injury
 - acceleration –deceleration
 - translational/rotational
 - cavitation (“microexplosive”)
 - diffuse axonal injury (DAI)
 - Cellular Injury
 - axonal swelling
 - disturbance of cell metabolism: energy crisis, neurotransmitter excitotoxicity
- **Secondary**
 - Traumatic Hematomas
 - Cerebral Edema
 - Increased Intracranial Pressure (ICP)

4

TBI Produces Cognitive, Emotional, Behavioral, and Physical Disturbances

Brain Injury →

Cognitive
Emotional
Behavioral
Physical

→

Impaired Attention
Memory Disturbance
Language Impairment
Executive Dysfunction
Intellectual Loss
Irritability
Rage
Depression
Anxiety
Agitation
Aggression
Disinhibition
Apathy
Sleep Disturbance
Headaches
Visual Problems
Dizziness/Vertigo
Seizures

5

Something to Think About....

- The rate of head injury among the homeless may be as high as 24 %, compared to 1% in the general population
(Petrenchik, 2006)
- Studies of the prevalence of brain injury among incarcerated adults found rates between 25- 92%
- Research proves that brain injury is a risk factor for mental illness and mental illness is a risk factor for brain injury.

6

#1

• ***A concussion IS a brain injury:***

- Even though most concussions are mild, all are potentially serious and may result in complications including prolonged brain damage and death if not recognized and managed properly. In other words, even a "ding" or a bump on the head can be serious.
- When called to a situation in which someone has been the victim of assault, take the symptoms of concussion into account
- Observe if the following are present:
 - Appears dazed
 - Vacant facial expression
 - Moves clumsily or displays incoordination
 - Answers questions slowly
 - Slurred speech
 - Behavior or personality changes
 - Repeating the same question/comment
 - Seizures or convulsions
 - Nausea or vomiting
 - Loss of consciousness
 - Ability to recall events prior to or after hit
- Ask about the presence of
 - Headaches
 - "Pressure in head"
 - Balance problems or dizziness
 - Blurred, double, or fuzzy vision
 - Sensitivity to light or noise
 - Feeling foggy or groggy
 - Nervousness or anxiety
 - Irritability
 - Confusion
 - Concentration or memory problems

7

#2

• ***Behavior has a neuro-anatomic basis:***

- Damage to the frontal and temporal lobes is common with traumatic brain injury.
- Damage to the frontal lobe may cause disinhibition, impulsivity, problem stopping an ongoing pattern of behavior, perseveration, loss or lack of motivation, and emotional dyscontrol.
- Temporal lobe injury may result in lower frustration tolerance and altered mood states, usually depression.

8

#3

• ***Some behavioral characteristics of persons with brain injury may include:***

- Lack of insight and ability to self-monitor their behavior
- Difficulty appreciating the effects of their behavior on others or to make judgments as to the appropriateness of their behavior.
- Trouble modulating their behavior or responses to situations.
- Appearing uncaring, lazy and unmotivated.
- Irritating or explosive social behaviors.
- Problems changing their behavior patterns in response to the consequences that may be effective in managing the behavior of others.

9

#4

• *Some things are often mislabeled as inappropriate behavior:*

- Confusion about expectations
- Inaccurate interpretation of instruction
- Language and non-verbal communication deficits
- Planning and organization deficits
- Poor insight into deficits
- Inability to generalize learning from one situation to another
- Memory problems
- Diminished cognitive flexibility-getting stuck on one way of responding

10

#5

• *Thinking difficulties can lead to behavioral issues when someone:*

- Cannot initiate activity, or stop once they've started.
- Is impulsive, and cannot inhibit their behavior.
- Is egocentric and unable to see another's perspective.
- Can't do what you want or need them to do (so they engage in other behavior).
- Cannot understand what is expected of them / cannot remember long enough to carry out what is expected.
- Cannot attend to what's important in their environment.

11

#6

• *Types of communication difficulties persons with brain injury may have include:*

- Difficulty recognizing and repairing breakdowns in communication
- Appearing argumentative, stubborn or belligerent
- Difficulty interpreting body language and social cues
- Poor listening
- Passive, monotone, and slurred speech
- Trouble finding right word
- Difficulty judging personal space
- Getting stuck on an aspect of conversation
- Difficulty seeing things from a different point of view
- Inability to recognize dangerous situations, distinguish between minor & serious problems

12

#7

- **Common pitfalls when communicating with someone who has a brain injury include:**
 - Communication in an environment that is too distracting
 - Speaking too fast or slow, or giving too much or little information
 - Speaking for/finishing the person's sentences
 - Personalization of inappropriate or aggressive language
 - Demonstration or verbalization of frustration when the person wanders off, forgets something, or fails to comply with an instruction
 - Lack of non-verbal cues to improve comprehension
 - Too little or too much verbal information
 - Inability to decipher underlying communication when unusual or aggressive behavior is exhibited.

13

#8

- *Law enforcement and court personnel may unexpectedly encounter or be asked to find a person who has a brain injury. Recognizing the behavioral symptoms and knowing contact approaches are necessary to avoid situations of risk. In patrol situations or encounters with a person with brain injury:*
 - Talk in direct, short phrases, and remember that talking louder will not help understanding
 - Allow for delayed responses to questions or directions or commands
 - Provide clear and direct feedback regarding behavior
 - Respond to undesirable behaviors with a clear and specific statement of the behaviors you do and do not want (don't count on a person with a brain injury to understand what's implied—it must be explicit)
 - Avoid sarcasm, innuendo, literal expressions & random comments (because of concrete thinking, they may take your comments literally or miss the meaning of your statement or request)

14

#8 (continued)

- Repeat questions or instructions in exactly the same way to allow for slowed processing; if problems complying with directions appear to be related to comprehension, phrase it another way
- Don't interpret limited or lack of eye contact as deceit or disrespect; look for, wait for, or ask for response and/or eye contact.
- Evaluate the person for injury; s/he may have high pain thresholds and be unaware that an injury has occurred.
- Seek advice from the court system for evaluation from community mental health personnel
- If the person is taken into custody for booking and arraignment, and an officer believes or is unsure if the person has a brain injury, err on the side of caution and segregate him/her from the general population; they are at high risk for abuse and further injury

15

#9

- **De-escalation strategies:**

- The behavior of the messenger can affect the behavior of others; rapid movement and increased voice tone convey an escalation of emotion. Model calm body language, move and breathe slowly, keep hands down, and use low vocal pitch and congruent facial expression.
- Utilize people who know the person well, who have worked with them before, and know what their behavior may result from and how to handle it
- "Mirroring"; done without agreement or disagreement, without frustration or emotional reaction, with no insinuation of judgment, and with no attempt at logic or correction
 - I guess you're really are mad about this...
 - So, you really think I do not understand...
 - Sounds like you think this is a problem...

16

#10

- **Screening for a possible brain injury is not difficult, can be accomplished in less than 3 minutes and could save someone's life**

- Was your head hit or slammed into an object?
- Were you choked, suffocated, shaken or strangled?
- Did you lose consciousness?
- Did you feel dazed and/or confused?
- Are you having trouble concentrating, organizing, or remembering things?
- Are you experiencing headaches, vision and/or hearing problems or loss of balance?

17

Points to Keep in Mind...

- Don't take inappropriate behavior personally; it's not about you
- Remember that the very nature of brain injury can lend itself to disordered thinking
- Speak slowly; allow for increased processing time
- Limit the amount of information given at one time
- State expectations clearly
- Ensure understanding
- If there's something that needs to be remembered, write it down, and write it down in such a way as to make sense later.
- If there's a plan that needs to be enacted, spell each step out and write it down
- Believe that at any given time, a person is doing the best they are capable of given their unique skills, personality, environment, and circumstances

18

Contact Information

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