

Unmasking Brain Injury

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Brain Injury Defined

Acquired Brain Injury (ABI)

Traumatic
Brain Injury (TBI)

External Events: assault,
fall, blast injury, motor
vehicle crash

Non-Traumatic
Brain Injury

Internal Events: stroke,
tumor, anoxia,
aneurysm, infection

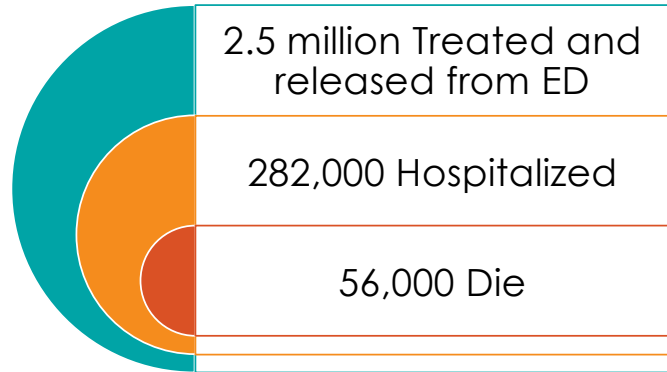
North Dakota's Definition

"Brain injury means damage to the brain or the coverings of the brain which produces an altered mental state and results in a decrease in cognitive, behavioral, emotional, or physical functioning. The term does not include an insult of a degenerative or congenital nature."

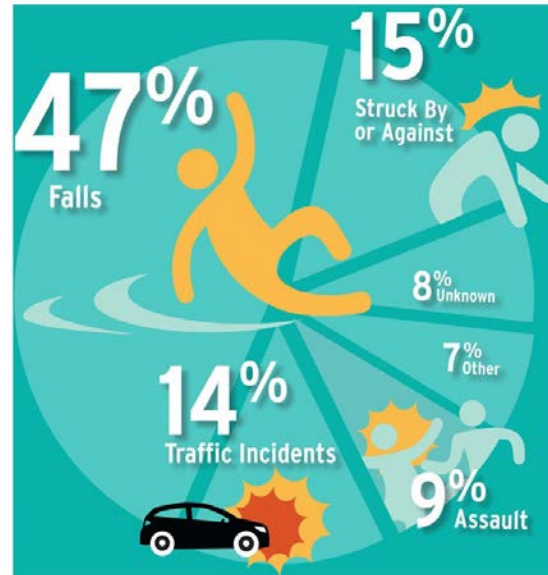
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2.8 Million TBIs a year



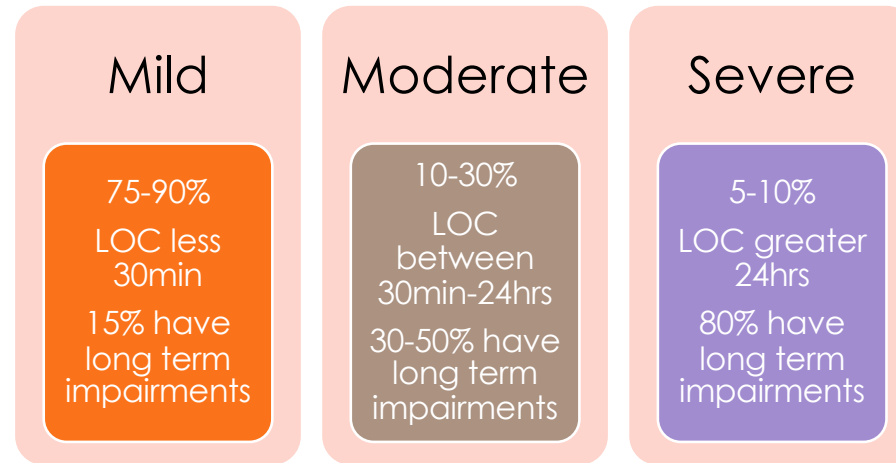
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Leading Causes of TBI

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Severity Continuum



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Brain injuries are like earthquakes.

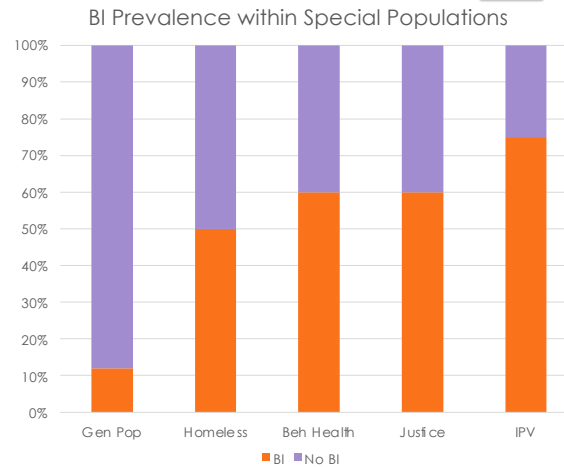
- ▶ In a major quake, a severe brain injury involving fractures, hemorrhages or penetrating wounds — bridges go down and buildings collapse. The city is devastated.
- ▶ But mild brain injuries are smaller quakes: Books fall off shelves; vases are broken. It's harder to survey the damage and easy to miss what's broken, but something is clearly wrong.



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Health Disparities

- ▶ Screening programs have shown that brain injuries hide in plain sight
- ▶ Particularly in high-risk populations



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Recovery After Brain Injury

There is no cure for brain injury.....

- ▶ Recovery is usually most rapid in the first six months.
- ▶ More like a **chronic condition** that has changing needs.

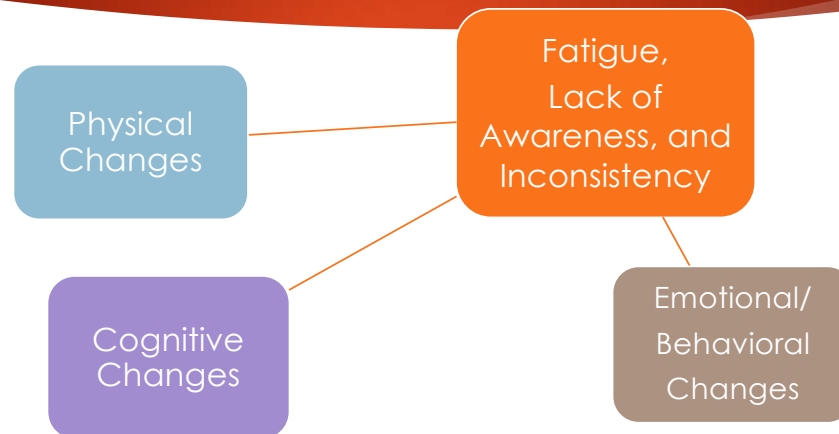
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Outcome Predictors

- ▶ Severity of injury
- ▶ Age of injury
- ▶ Access to appropriate acute care and rehabilitation
- ▶ Family life and support system

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Possible Consequences after a Brain Injury



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“Silent Epidemic” “Invisible Disability”

- ▶ Injury forgotten once physically healed
- ▶ Person looks the same
- ▶ May have no conclusive measures
- ▶ Individuals often told they would be fine
- ▶ Unreported / non-accidental injuries
- ▶ Minor blows to the head or “concussions” are often not perceived as “brain injuries”

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Unmasking Brain Injury

- ▶ Part of a national awareness effort
 - ▶ <http://unmaskingbraininjury.org/>
- ▶ NDBIN hosts events across ND
 - ▶ Over 150 total masks



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Screening/Symptom Inventory

Name: _____ Current Age: _____ Injured Date: _____ Date: _____

Lifetime History of Traumatic Brain Injury (from the OSU TBI-ID) and other Acquired Brain Injuries

Has this survey been validated? It has been validated on over 1000 people. The information that you see on this page is not a diagnosis. You may wish to contact your primary care provider or a specialist for more information and assessment with a trained professional. All information is kept confidential. Your answers may be analyzed statistically for program evaluation and research.

- Please think about injuries you have had during your entire lifetime. Remember to think about injuries that affected your head or neck. It might help to remember injuries you took in the hospital or Emergency Department. Think about injuries you have had from falls, car or motorcycle accidents, sports, being hit by something, falling down, being hit by someone, military service or an injury during military service.
- Have you ever had a period of time in which you experienced multiple repeated injuries to your head (e.g., boxing or MMA, contact sports, military service)?
- Have you ever lost consciousness from a single episode of being hit/headstruck?
- Have you EVER been told by a doctor or other health professional that you had any of the following?
 - epilepsy or seizures
 - a stroke, cerebral aneurysm, disease or a transient ischemic attack
 - a tumor of the brain
 - swelling of the brain (edema)
 - loss of consciousness by substance
 - effects like meningitis or encephalitis
 - a brain bleed or hemorrhage
 - loss of oxygen to the brain (due to a stroke when you stopped breathing, had a near drowning or experienced a strangulation)

4. Thinking about any injuries you have had in your lifetime, were you ever knocked out or did you lose consciousness?
 Yes
 No (If NO, GO TO QUESTION 6)

5. How old were you when you were knocked out or unconscious? (Choose just one. If you are not sure please make your best guess.)
 knocked out or lost consciousness for less than 24 hours
 knocked out or lost consciousness between 24 hours and 28 hours
 knocked out or lost consciousness for 28 hours or longer

6. How old were you, the last time you were knocked out or lost consciousness?
 18 years old

Intermittent Erasing
The ability of the brain to store or retrieve information is a key function of a person's memory. Being able to recall events is essential to the individual that consciousness has resulted from one's lifetime exposure.

Approximate memory recall is based on age of person if they have any of the following:

- 18-20: One minute or more TQ
- 21-25: 10-15% of all information within age 10
- 26-30: 10-15% of all information within age 10
- 31-35: 10-15% of all information within age 10
- 36-40: 10-15% of all information within age 10
- 41-45: 10-15% of all information within age 10
- 46-50: 10-15% of all information within age 10
- 51-55: 10-15% of all information within age 10
- 56-60: 10-15% of all information within age 10
- 61-65: 10-15% of all information within age 10
- 66-70: 10-15% of all information within age 10
- 71-75: 10-15% of all information within age 10
- 76-80: 10-15% of all information within age 10
- 81-85: 10-15% of all information within age 10
- 86-90: 10-15% of all information within age 10
- 91-95: 10-15% of all information within age 10
- 96-100: 10-15% of all information within age 10

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NORTH DAKOTA BRAIN INJURY NETWORK

Brain Injury Symptom Inventory

Name: _____ Date: _____

In recent weeks, how much have you been bothered by the following problems?

Please mark only one circle per item.

SECTION 1	Not at all	I have this problem but I rarely bother me	I am slightly bothered by this problem	I am very bothered by this problem	I am extremely bothered by this problem
1. Have any headaches or migraines?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Forget what people tell me	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Forget what I've read	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Lose track of time	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Forget what I did yesterday	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Forget things I've just learned	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Forget meetings/appointments	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Forget to turn off appliances (oven, stove)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SECTION 2	Not at all	I have this problem but I rarely bother me	I am slightly bothered by this problem	I am very bothered by this problem	I am extremely bothered by this problem
9. Have a hard time following conversations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. Can remember only one or two steps of instructions or directions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Have trouble staying on task when you are working independently	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Have trouble staying on task when you are working with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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ATTENTION ACCOMMODATIONS

- Reduce auditory and visual distractions
- Use visual aids to help with focus
- Work in quiet/non-distracting places or wear earplugs to drown out noise
- Break larger tasks into smaller, written down steps
- Use highlighters or color coding when following along with handouts
- Take frequent "brain breaks"
- Use a recorder to help remember important details
- Try using doodling or fidget devices to stay focused
- Schedule appointments during most alert time frames

Aside from being awake and alert, one of the most important cognitive abilities is being able to pay attention to conversations and important things happening around me.

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ATTENTION

TYPES OF ATTENTION:

- Sustained:** the ability to focus on one thing over a period of time
- Selective:** the ability to focus on one thing despite distractions
- Alternating:** the ability to shift attention from one thing to another
- Divided:** the ability to focus on multiple things at the same time

LOOK FOR:

- Difficulty staying on task when working independently
- Difficulty listening across the duration of a conversation, lecture, TV show
- Difficulty to complete tasks
- Inattention
- Difficulty following a conversation and ignoring background noise
- Reduced concentration caused by auditory or visual distractions
- Difficulty concentrating caused by fatigue, worry or sadness
- Alternating
- Lacking tasks incomplete after interruptions
- Divided
- Difficulty focusing on more than 1 thing at a time
- Difficulty engaging in 1 task at a time

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ATTENTION ACCOMMODATIONS FOR PROFESSIONALS

- **Attention Grabber**
 - Check for eye contact and initial attention
 - Begin an activity with something that demands attention or begins an activity with something that demands attention or participation that includes their participation!
 - Utilize visual aids
- **Reduce Distractions**
 - Allow for work in a quiet space/wear earplugs to drown out external noise
- **Break It Down**
 - Keep instructions brief, simple, and to the point
 - Encourage critical parts of the meeting/conversation
 - Present information in short and concise segments, one at a time
 - Juggle using a calendar or reminders on phone, watch, computer
- **Hands On**
 - Use movement and tactile activities to enhance energy and attention
 - Encourage note taking to record important information, (e.g., during a meeting write down the start of the meeting they are in the room)
 - Try to schedule appointments earlier in the day

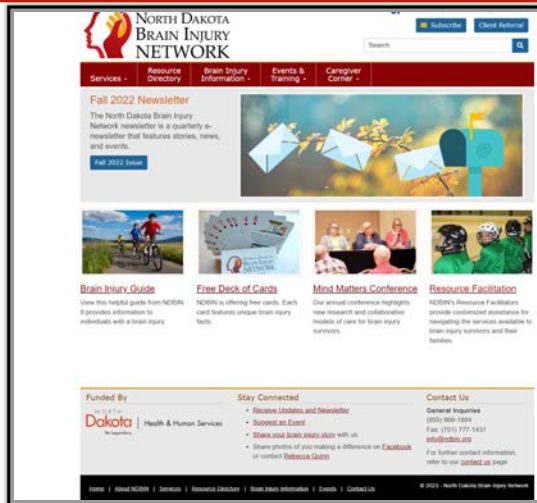
Aside from being awake and alert, one of the most important cognitive abilities is being able to pay attention to conversations and important things happening around me.

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Tip Sheets for Individuals & Professionals

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