



# Face/Neck/Head Injuries: Concussions & Older Adults

Presenter:

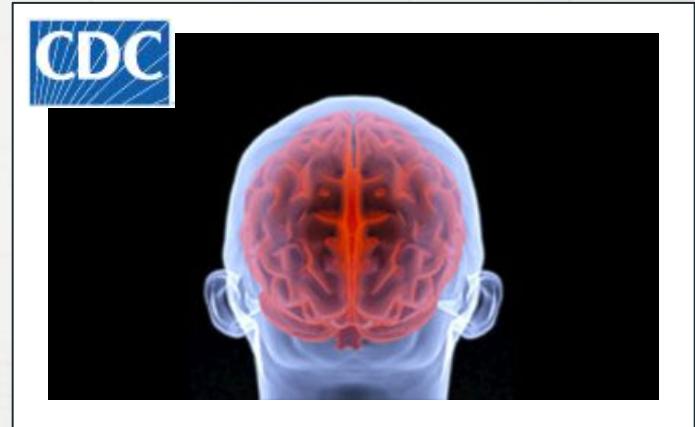
*"Always There, Always Ready"*



# Concussions or Traumatic Brain Injury (TBI) - What are they?



A concussion is a type of traumatic brain injury—or TBI—caused by a bump, blow, or jolt to the head or by a hit to the body that causes the head and brain to move rapidly back and forth... causing the brain to bounce around or twist in the skull, creating chemical changes in the brain and sometimes stretching and damaging brain cells.<sup>3</sup>



# Concussion Severity



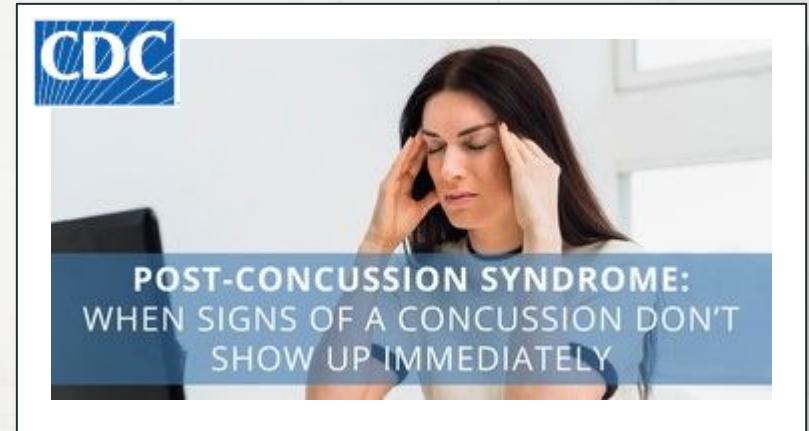
There is evidence of the reduction of impact forces to the brain due to the use of specific headgear or helmets.<sup>5</sup>

MILD BRAIN INJURY	MODERATE BRAIN INJURY	SEVERE BRAIN INJURY	1
<ul style="list-style-type: none"><li>Brief, if any, loss of consciousness</li><li>Vomiting and Dizziness</li><li>Lethargy</li><li>Memory Loss</li></ul>	<ul style="list-style-type: none"><li>Unconsciousness up to 24 hours</li><li>Signs of brain trauma</li><li>Contusions or bleeding</li><li>Signs of injury on neuroimaging</li></ul>	<ul style="list-style-type: none"><li>Unconsciousness exceeding 24 hours (coma)</li><li>No sleep/wake cycle during loss of consciousness (LOC)</li><li>Signs of injury appear on neuroimaging tests</li></ul>	

# Concussion Sign & Symptoms



- Rapid onset of short-lived neurological impairments
- Some cases, symptoms can evolve over a number of minutes to hours
- May or may not involve loss of consciousness



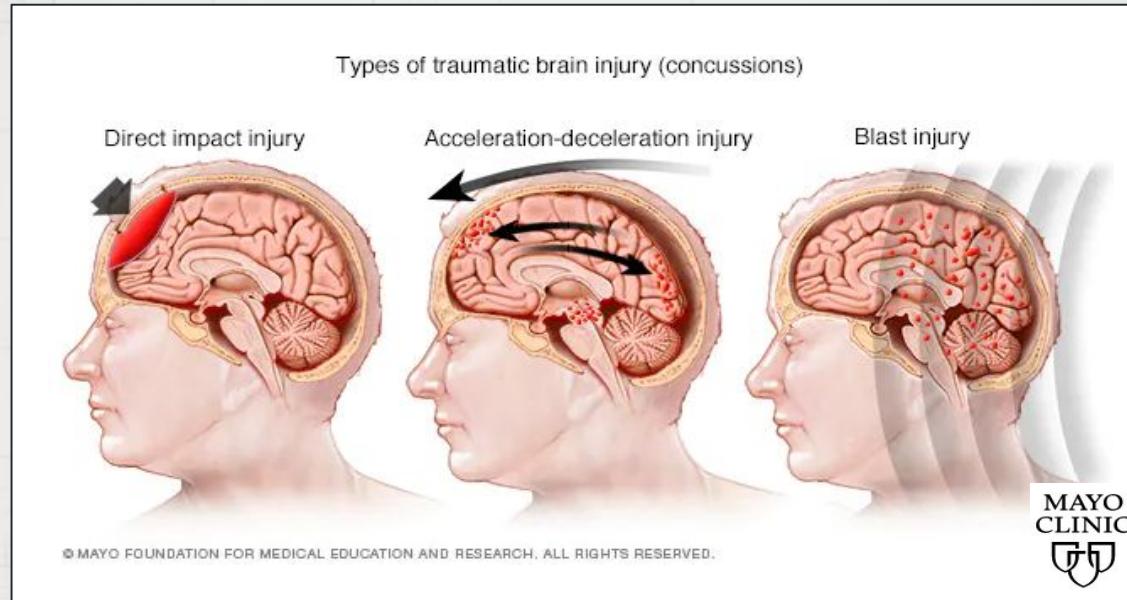
# Concussion Signs & Symptoms



- Somatic (physical) - Cognitive - Emotional -Sleep patterns <sup>1</sup>

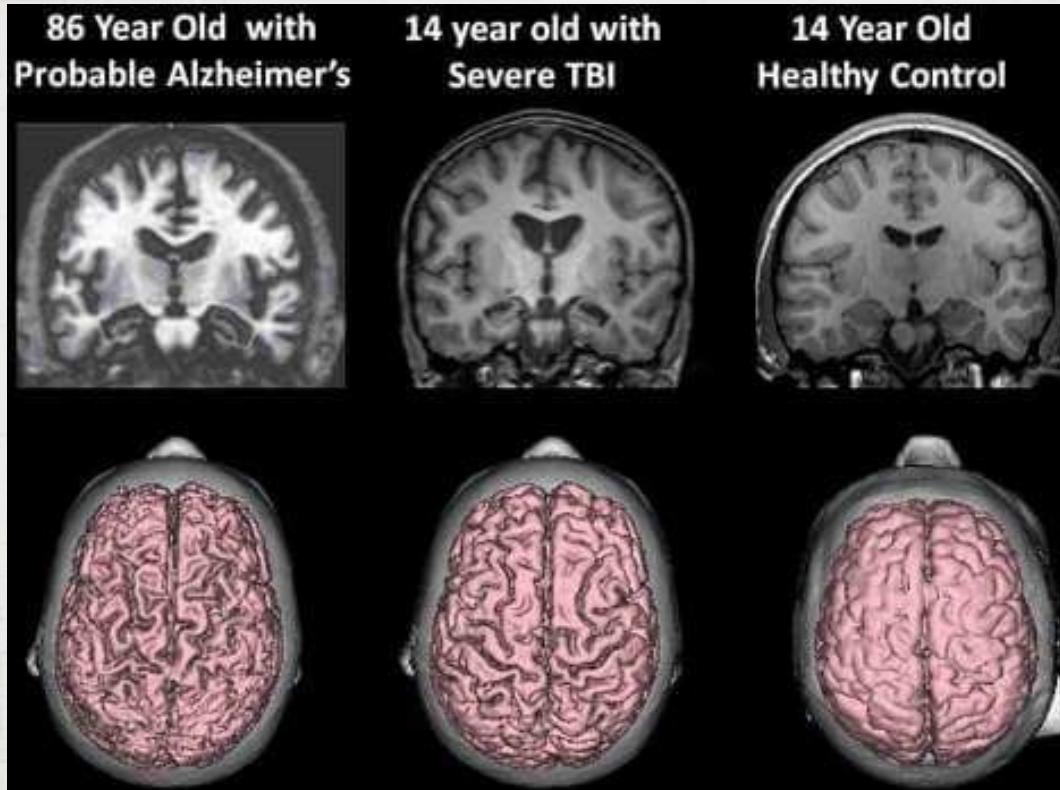
Physical	Behavioral/Emotional	Cognitive/Thinking	Sleep
Headache	Irritability	Feeling "In a Fog"	Drowsiness
Nausea/Vomiting	Depression	Attention Problems	Excessive Sleep
Tinnitus (Ringing in Ears)	Anxiety	Trouble Remembering	Difficulty Falling Asleep
Blurred Vision	Impulsivity	Trouble Finding Words	Altered Sleep Patterns
Sensitivity to Light/Noise	Lack of Initiation/Drive	Difficulty Filtering Noise & Keeping Up With Conversations	Awaking from Sleep Feeling Drained vs. Refreshed
Dizziness/Balance	Impaired Awareness		

# Why be concerned?



TBI resulting from fall in the older adults is associated with declines in physical activity and cognitive function, as well as increasing healthcare cost with increasing hospital usage.<sup>2</sup>

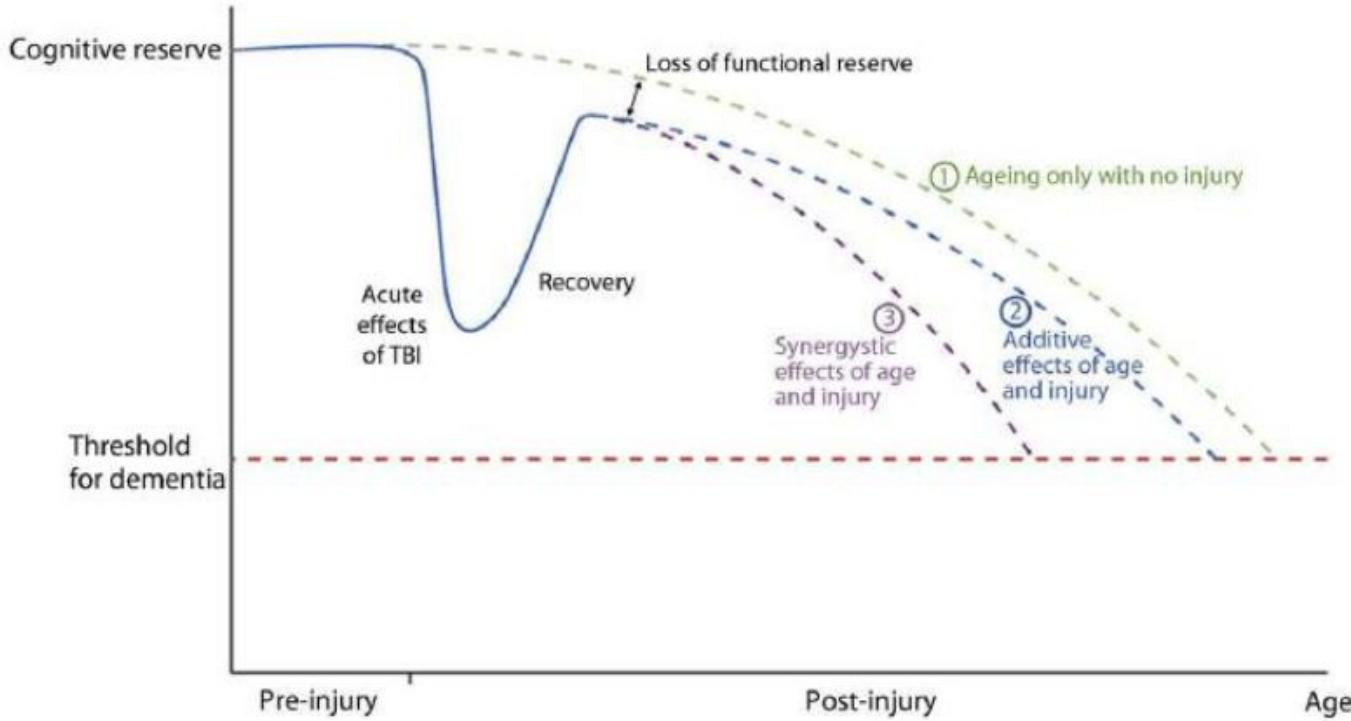
# Why be concerned?



Bigler, Erin D. (2013). Traumatic brain injury, neuroimaging and neurodegeneration. *Frontiers in Human Neuroscience*, 7(395):1-15.



# Why be concerned?





# Why be concerned?

- Head trauma is a leading cause of morbidity and mortality among older patients.<sup>4</sup>
- The brain and spinal cord are *INCAPABLE* of regeneration.<sup>8</sup>
- Compared to younger patients, elderly patients with TBI were much more likely to die or require long term care.<sup>9</sup>

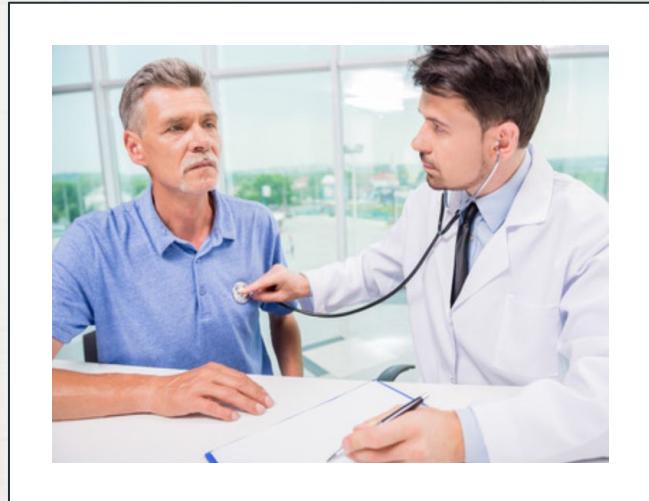




# Why be concerned?

As an older adult:

- Body systems are more fragile and slow to respond/recover <sup>9</sup>
- Concussion symptoms reflect those of pre-existing conditions or medication side effects <sup>1</sup>
- Medications like blood thinners increase risk for bleeding in the brain <sup>10</sup>



# Prevention <sup>5</sup>

- Helmets reduce forces
  - fully intact w/ proper fit, wear, regular usage
- Facemasks
  - facial impact injuries
  - Indirect head trauma
- Pitchers net
- Softer/ reduced-impact balls



# Preventive Care <sup>1</sup>



## Eyesight and Hearing Checks

Going for regular eye and hearing checks. Especially if you experience any changes.



## Nutrition

Having a well balanced diet and reducing alcohol intake.



## Home Safety

Checking for hazards e.g poor lighting, mopping up spills, loose rugs and cables.



## Footcare

Wearing appropriate and nicely fitting shoes. Taking care of your feet.



## Medication Reviews

Getting regular reviews. Especially if you take several different medications or if you experience any changes in symptoms.



## Strength and Balance

Doing strength and balance exercises 2-3 times per week. Follow the super 6 exercises in the up and about booklet



# Concussion Management <sup>3,7</sup>

- Education and baseline cognitive testing
- Removal from activity
- Sideline assessment
- Clinical evaluation
- Cognitive and physical rest, while monitoring symptoms
- Gradual activity integration
- Medical clearance before full return



# Concussion Management



## Sideline Evaluations

- not perfect selection
- best to remove from distractions for thorough evaluation
- follow up with healthcare providers
- recommend serial monitoring
- re-eval after initial rest period (24-72 hrs)



# Concussion Management



**Return to play - after significant rest, rehab, and clinical re-evaluation**

- Rest
  - sleep, no stimulus (reading, TV, music)
- Rehab
  - pregrssive integration of activity
  - first mental, then physical
  - stay below point of symptom onset or incre





# Additional Resources:

- **How Concussions Work**

"What Happens When You Have a Concussion? - Clifford Robbins." TED, TED-Ed, <https://ed.ted.com/lessons/what-happens-when-you-have-a-concussion-clifford-robbins>

- **Concussions Education**

CrashCourse. Brain Injury Association of America, 2021; <https://youtu.be/is7NjipiW4NY>

- **CDC Return to Play Experiences**

Return to Play: Learning from the Experiences of Early Implementers. CDC, [https://www.cdc.gov/headsups/pdfs/policy/RTP\\_Implementation-a.pdf](https://www.cdc.gov/headsups/pdfs/policy/RTP_Implementation-a.pdf)

- **GCU Sports Medicine Policies & Procedures**

"Clearance and Concussion Policies," sections 6 & 7 (Dec. 2017)  
<https://s3.amazonaws.com/sidearm.sites/gculopes.com/documents/2017/10/31/GCU%20Sports%20Medicine%20PP%202017%20September%2026%202017.pdf>



# Additional Resources:

- **SCAT5**

On-field neuropsychological SRC testing tool; <https://scat5.cattonline.com/#/assessment/assessment-choice>

- **Concussions Education**

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4. "What Is a Concussion?" *Centers for Disease Control and Prevention*, Centers for Disease Control and Prevention, 12 Feb. 2019,  
[https://www.cdc.gov/headsup/basics/concussion\\_whatis.html](https://www.cdc.gov/headsup/basics/concussion_whatis.html)



# References - Medical Journals



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<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2987604/>
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7. McCrory P, Meeuwisse W, Dvorak J, et al Consensus statement on concussion in sport—the 5th international conference on concussion in sport held in Berlin, October 2016. *British Journal of Sports Medicine* 2017;51:838-847.  
<https://bjsm.bmj.com/content/51/11/838>
8. Robert C. C., *Return to Play Guidelines After a Head Injury*, Clinics in Sports Medicine, Volume 17, Issue 1, 1998, Pages 45-60, ISSN 0278-5919.  
<https://www.sciencedirect.com/science/article/abs/pii/S0278591905700600?via%3Dihub>
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10. Yee, G., & Jain, A. (2021). Geriatric Head Injury. In *StatPearls*. StatPearls Publishing.  
<https://www.ncbi.nlm.nih.gov/books/NBK553101/>





# Comments & Questions

Thank you!

