

Why It's Not “Just a Concussion”



Connecticut Concussion Task Force

www.connecticutconcussiontaskforce.org

Facts About Concussion

- Concussions are injuries to the brain
- The Centers for Disease Control (CDC) estimate there are 1.6-3.8 million head injuries/year in the U.S.
- Many concussions are unreported because the person does not recognize that he or she has a concussion

Causes of Concussion

All Ages:

- Falls
- Motor vehicle accident
- Being struck by or against something
- Assaults

In Adolescents:

- SPORTS

Mechanisms of Injury

DIRECT

Hit In The Head



INDIRECT

Contact Elsewhere



Concussion

- A Concussion is an injury to the brain
- The brain changes occur at a cellular level and are therefore are not seen on CT or MRI
- These changes can lead to altered brain function as well as symptoms such as headache and dizziness



Signs of Concussion

(will be visible to others)

- Nausea/Vomiting
- Appears dazed or stunned
- Vacant stare
- Confused about recent events
- Appears drowsy
- Loss of consciousness
- Appears confused
- Appears uncoordinated or unsteady
- Mood changes

❖ NOTE: Signs & symptoms of concussion can be delayed.

Top 10 Symptoms of Concussion (the way the person feels)

1. Headache
2. Feeling slowed down
3. Difficulty concentrating
4. Dizziness
5. “Fogginess”
6. Fatigue
7. Blurry or double vision
8. Sensitive to light
9. Memory problems
10. Balance problems

Lovell, Collins et al 2004

“What Is a Concussion?”

- A transient alteration in brain function caused by trauma
- There is no visible injury to the brain

Concussions Affect Brain Function

- Injury to brain cells...
- Results in problems with brain functioning...
- Causing symptoms like headache, dizziness, or confusion



Concussion & Structural Injury



- Concussions are not “bruises” of the brain, and do not result in injury to the structure of the brain.
- A medical provider might order a CT scan or MRI to check for bleeding or other injury in the brain.
- A normal CT or MRI study does not mean someone does not have a concussion.

Treating Concussion

- “The cornerstone of concussion management is physical and cognitive rest until symptoms resolve...”

McCrory P, et al. 2009



Why Rest?

Any activity that increases blood flow to the brain will cause symptoms, and should be avoided!

- No computer use
- No video games
- No text messaging
- No driving
- No spinning carnival rides
- No sports
- No P.E.
- No weightlifting
- No studying, tests, quizzes or class

School Can Make You Worse!

“Activities that require concentration and attention (e.g., scholastic work, video games, text messaging, etc.) may exacerbate symptoms and possibly delay recovery.”



McCrorry P, et al. 2009

Recovery from Concussion

- All concussions are different
- Concussion treatment should be individualized
- Everyone recovers in a different time frame



Adolescents & Recovery From Concussion



- Studies have shown that adolescent and pre-adolescent athletes take longer to recover from concussion than adults.

Lovell MR, et al. 2003

Complications Associated with Concussion

- Post-Concussion Syndrome (PCS)
- Second Impact Syndrome (SIS)



Post-Concussion Syndrome (PCS)

- A group of physical, cognitive, and emotional problems that can persist for weeks, months, or indefinitely after a concussion.

PCS Symptoms

- Headache, physical symptoms
- Depression or mood swings
- Nervousness
- Concentration or attention problems
- Memory problems
- Feeling mentally “foggy”
- Fatigue
- Sleep problems

Don't Ignore Your Symptoms!



- Improper concussion management increases the potential for prolonged PCS symptoms.

PCS & School

- Students who are experiencing Post-Concussion Syndrome will need to modify school activity



Risks of Returning to Play Too Soon

- Someone who is not fully recovered from a concussion is much more likely to sustain another concussion.
- The second concussion often causes worse symptoms that last longer (post-concussion syndrome).



Second Impact Syndrome (SIS)

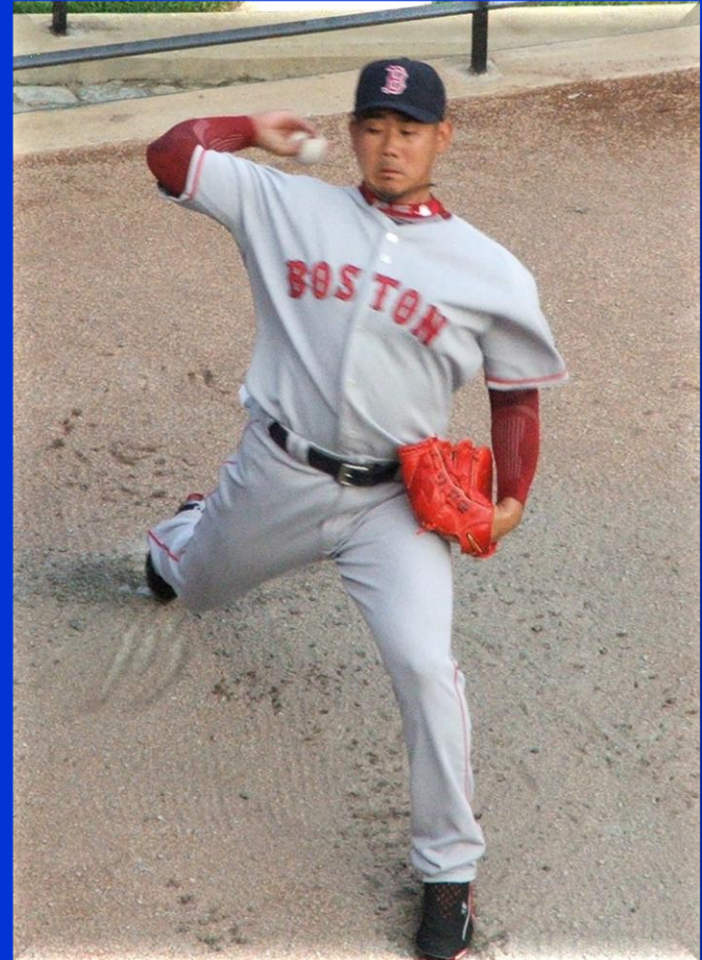
- Athletes who sustain a concussion, and return to play prior to being recovered from the concussion, are also at risk for Second Impact Syndrome (SIS), a rare but life-altering condition

Younger Athletes At Risk!

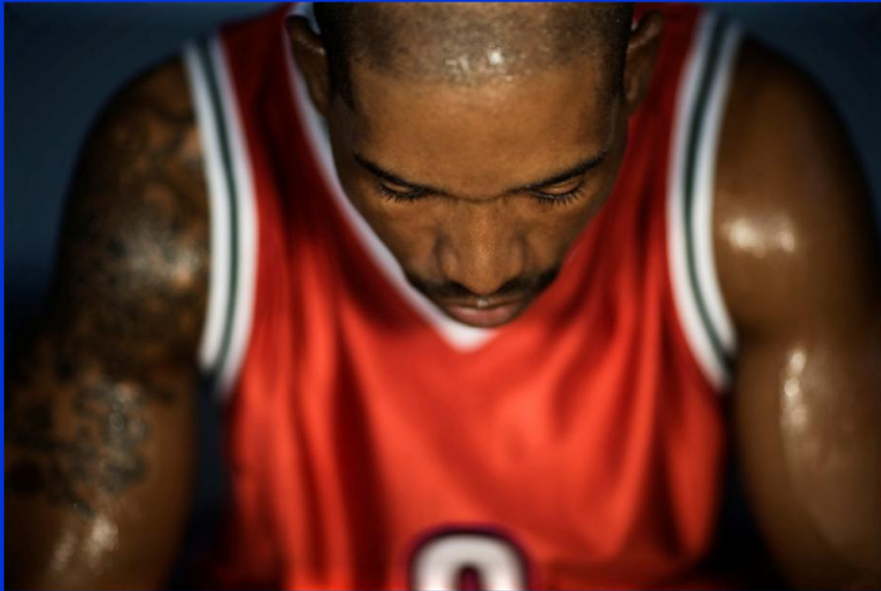
- Second Impact Syndrome usually occurs in children & adolescents, and can result in rapid brain swelling, permanent brain damage or death.

What should a student do if they think they have a concussion?

- Stop activity immediately.
- Tell their athletic trainer, coach, teacher, school nurse, or parent.
- Seek treatment from a qualified medical provider.



What should a student do if they think a friend or teammate has a concussion?



- Try to get him or her to stop activity immediately.
- Tell their athletic trainer, coach, teacher, school nurse, parent or other adult.

When Can a Student Go Back to Play?

- Athletes should **not** return to activity if they still have **any** symptoms of concussion!



Criteria for Return to Sport

1. No symptoms at rest & with everyday activities.
2. No symptoms with exertion (cognitive & physical).
3. Follow a gradual return to play routine under the direction of a qualified medical provider.
4. Neuro-cognitive testing can be a useful tool in demonstrating neuro-cognitive recovery from concussion. *
5. Ask your medical provider for more information.

* McCrory P, et al. 2009

The R's of Concussion Management

- **Recognize** that a concussion has occurred.
- **Remove** the person immediately from activity.
- **Refer** the individual for medical care.
- **Rest** (physical & cognitive) is the treatment for concussion.
- **Return** to activity only after full recovery.

General Tips to Minimize the Risk of Concussion

- Wear seat belts while riding in motor vehicles.
- Never drive while, or ride with, someone who has been drinking alcohol.
- Take appropriate safety precautions.



Wear A Helmet!

- Wear a properly fitted and maintained helmet for the appropriate activity
 - Collision sports (football, hockey, lacrosse)
 - High speed activities (cycling, rollerblading, skiing)
 - Sports with high speed projectiles (baseball, softball)



More Tips...to Play Healthy!

- Learn and utilize proper athletic techniques!
- Stay in good physical condition to minimize fatigue during activity.
- Strengthen neck muscles.
- Get adequate sleep.



A Note About Mouth Guards...

- While mouth guards have not been proven to prevent concussion, wearing a properly fitted mouth guard is still highly recommended!



Resources

Connecticut Concussion Task Force
www.connecticutconcussiontaskforce.org

Centers for Disease Control and Prevention
www.cdc.gov

Brain Injury Association of Connecticut
www.biact.org

U.S. Consumer Product Safety Commission
www.cpsc.gov

Selected References

- McCrory P, Meeuwse W, Johnston K et al. Consensus Statement on Concussion in Sport, 3rd International Conference on Concussion in Sport, Held in Zurich, November 2008. Clin J Sport Med. 2009;19:185-2009.
- Lovell MR, Collins MW, Iverson GL, et al. Recovery from mild concussion in high school athletes. J Neurosurg. 2003;98:296-301.

