

Contact Sports and Concussion



Get your head in the game – keep your head in the game!

Contact sports with concussion potential at UMW



<http://www.youtube.com/watch?v=yIqZDbk3M40>

Safety First



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- Athletes must wear the right protective equipment for sport specific activity; protective equipment should fit properly, be well maintained and be worn consistently and correctly
- All athletes must recognize the signs and symptoms of a concussion

What is a concussion?



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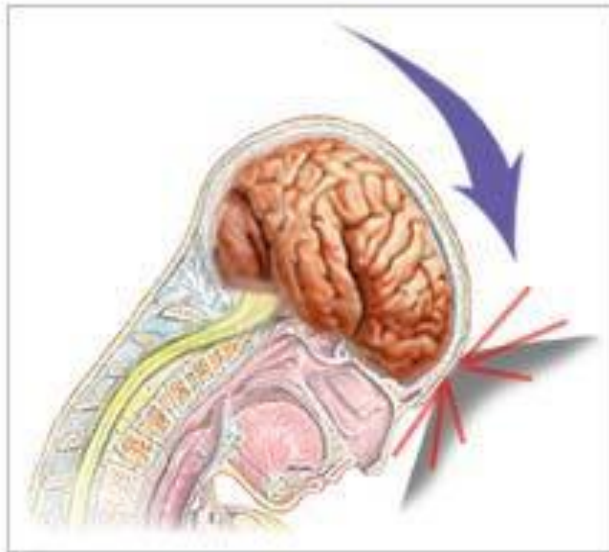
- A concussion is an injury to the brain
- Concussions are serious and characterized by a fast onset of cognitive impairment
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- Concussions can happen in any sport

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- Contact can occur with another player, hitting a hard surface, or a piece of equipment
- Concussions are sometimes referred to as “dings” or “getting your bell rung”

A concussion is a violent jarring or shaking that results in a disturbance of brain function



Types of Concussion

- 2 basic types of concussions
 - Loss of consciousness
 - No loss of consciousness

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 - Loss of consciousness
 - No loss of consciousness
- It is important to remember that you can't see a concussion and some athletes may not experience and/or report concussion symptoms until hours or days after the injury – it is a functional injury

Types of Concussion

- Most people with a concussion will improve quickly and fully. But for some people, signs and symptoms of concussion can last for days, weeks, or longer!

Common signs and symptoms



Common signs and symptoms

- Loss of consciousness



Common signs and symptoms

- Loss of consciousness
- Confusion



Common signs and symptoms

- Loss of consciousness
- Confusion
- Amnesia

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Common signs and symptoms

- Loss of consciousness
- Confusion
- Amnesia
- Balance problems
- Headache
- Visual disturbance

Recognizing a possible concussion



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Signs observed by coach/teammate



<http://www.youtube.com/watch?v=GPRscxQZs8E>

Signs observed by coach/teammate

- Appears dazed or stunned

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Signs observed by coach/teammate

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets instruction
- Is unsure of game, score, or opponent
- Moves clumsily

Signs observed by coach/teammate

- Answers questions slowly



Signs observed by coach/teammate

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- Loses consciousness (no matter how brief)

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Signs reported by athlete



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- These signs will fall into one of four areas:



Signs reported by athlete

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 - Physical



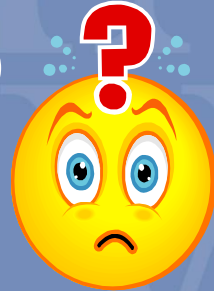
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Signs reported by athlete

- These signs will fall into one of four areas:
 - Physical
 - Emotional
 - Cognitive (Thinking)
 - Sleep



Signs reported by athlete

- The signs may include one or more of the following:

Signs reported by athlete

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Signs reported by athlete

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- Nausea or vomiting
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- Double or blurry vision
- Sensitivity to light

Signs reported by athlete

- Sensitivity to noise



Signs reported by athlete

- Sensitivity to noise
- Feeling sluggish, hazy, foggy, or groggy

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- Confusion

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- Doesn't "feel right" or is "feeling down"

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- 1.365 million are treated and released from a hospital emergency room

Assessment



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 - Diagnostic testing as needed

Assessment Plan

- Preseason ImPACT



Assessment Plan

- Preseason ImPACT
- SCAT2 on field quick assessment

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- Return to play evaluation

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- The test battery consists of a near infinite number of alternate forms by randomly varying the stimulus array for each administration.



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 - Working memory
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 - Reaction time
- ImPACT results are non-medical and are not impacted by current HIPPA/FERPA regulations

SCAT2

Pocket SCAT2



Concussion should be suspected in the presence of **any one or more** of the following: symptoms (such as headache), or physical signs (such as unsteadiness), or impaired brain function (e.g. confusion) or abnormal behaviour.

1. Symptoms

Presence of any of the following signs & symptoms may suggest a concussion.

- Loss of consciousness
- Seizure or convulsion
- Amnesia
- Headache
- "Pressure in head"
- Neck Pain
- Nausea or vomiting
- Dizziness
- Blurred vision
- Balance problems
- Sensitivity to light
- Sensitivity to noise
- Feeling slowed down
- Feeling like "in a fog"
- "Don't feel right"
- Difficulty concentrating
- Difficulty remembering
- Fatigue or low energy
- Confusion
- Drowsiness
- More emotional
- Irritability
- Sadness
- Nervous or anxious

2. Memory function

Failure to answer all questions correctly may suggest a concussion.

"At what venue are we at today?"

"Which half is it now?"

"Who scored last in this game?"

"What team did you play last week / game?"

"Did your team win the last game?"

3. Balance testing

Instructions for tandem stance

*"Now stand heel-to-toe with your **non-dominant** foot in back. Your weight should be evenly distributed across both feet. You should try to maintain stability for 20 seconds with your hands on your hips and your eyes closed. I will be counting the number of times you move out of this position. If you stumble out of this position, open your eyes and return to the start position and continue balancing. I will start timing when you are set and have closed your eyes."*

Observe the athlete for 20 seconds. If they make more than 5 errors (such as lift their hands off their hips; open their eyes; lift their forefoot or heel; step, stumble, or fall; or remain out of the start position for more than 5 seconds) then this may suggest a concussion.

Any athlete with a suspected concussion should be IMMEDIATELY REMOVED FROM PLAY, urgently assessed medically, should not be left alone and should not drive a motor vehicle.

SCAT2

- Pocket SCAT2 app is now available for the iPhone



Assessment – SCAT2

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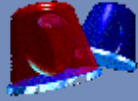
- Athlete's condition will determine the next level of treatment

Assessment Plan

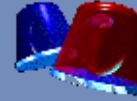
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 - Release from ER with Medical Release Form for Campus Recreation Staff

Assessment Plan

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 - Release from ER with Medical Release Form for Campus Recreation Staff
 - OR Hospitalization/further testing required



ER visit required



Neurological Assessment at MWH

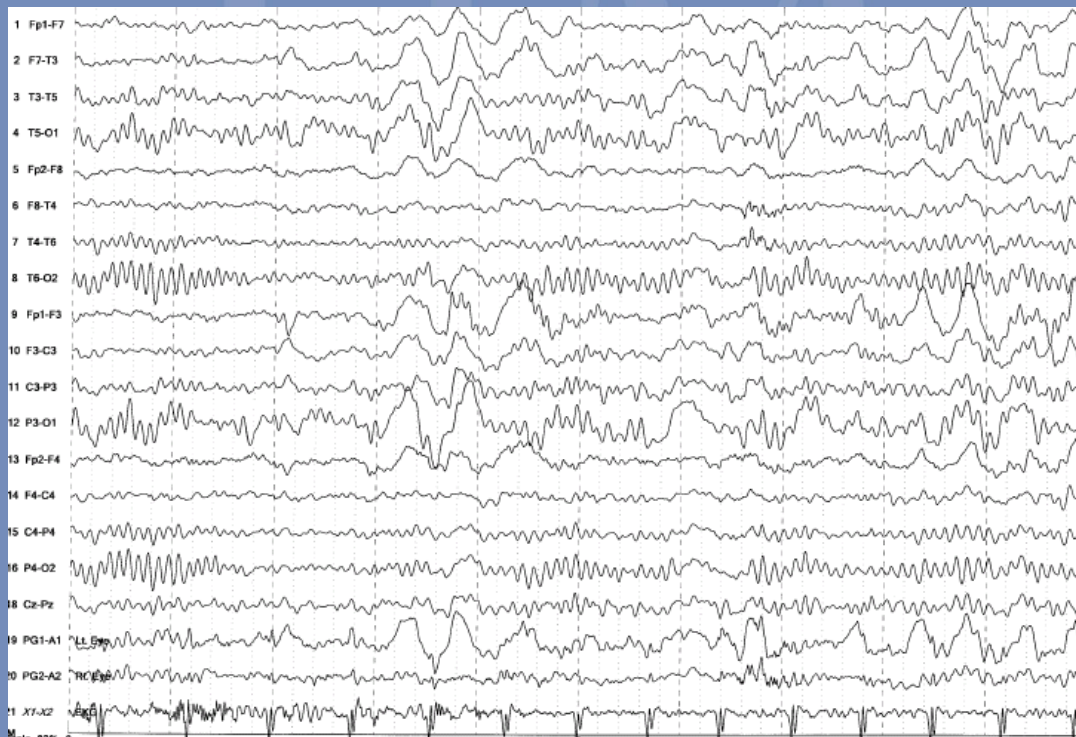
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Neurological Assessment at MWH

- Hospital admission for further observation or treatment is indicated when an athlete has persistent confusion, lethargy, and/or other neurological signs
- Tests available for assessment of mTBI include:
 - X-ray
 - CT Scan
 - MRI
 - Angiogram
 - ICP Monitor
 - EEG

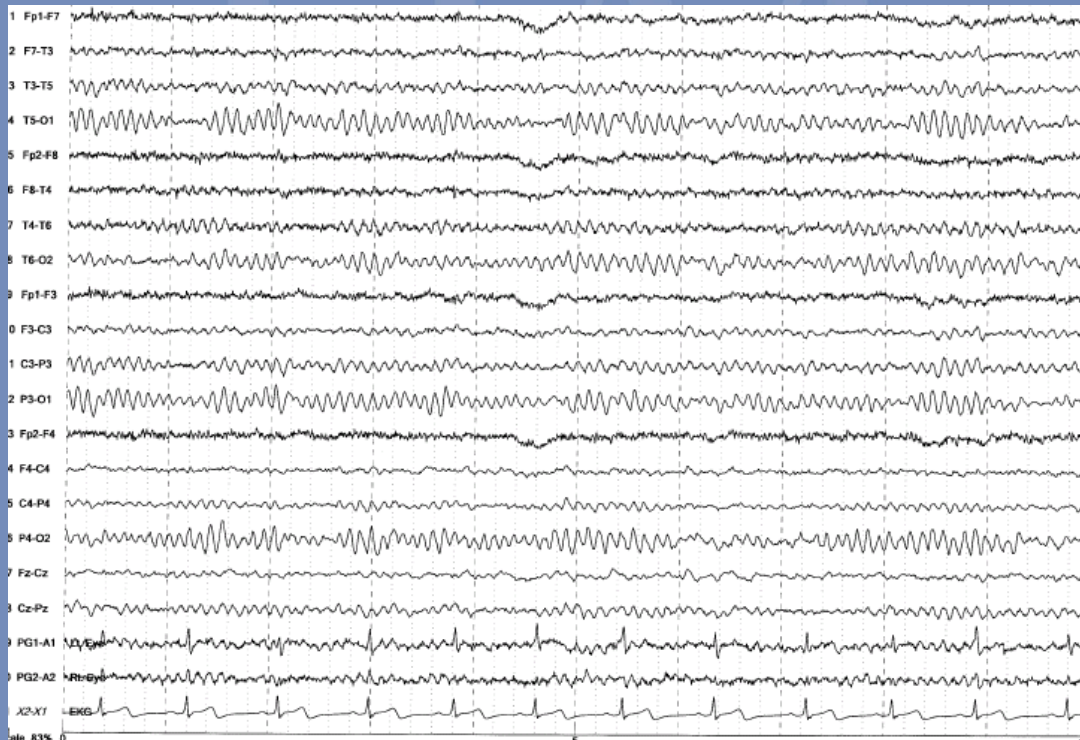
Neurological Assessment at MWH

- EEG from day 1 post injury



Neurological Assessment at MWH

- EEG from day 18 post injury



Assessment Plan

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- 3 basic steps in the return-to-play decision making process:
 1. Is the athlete symptom-free? (may involve ImPACT testing)
 2. Has cognition recovered? (will involve ImPACT testing)
 3. Rehabilitation – guided and graded return to play activity program
- It is important to understand and acknowledge that a qualified physician must supervise the management of a concussion, and determine and coordinate the timing of the athlete's return to play

Rehabilitation



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- This program includes a guided return to exercise program, with gradual increases in exercise duration and intensity
- The program is described in the Return to Play Protocol

Return to Play



Return to Play

- Cognitive and Physical Rest are the Cornerstones of successful concussion treatment.

Return to Play

- What is Cognitive Rest?



Return to Play

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- Limiting activities that require concentration

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 - homework, school work, or job-related work

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Return to Play

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- Limiting activities that require concentration
 - homework, school work, or job-related work
 - phone use, texting, television use, computer use, video games.
- May require changes to the “normal” day

Return to Play

- What is Physical Rest?



Return to Play

- What is Physical Rest?
- Avoiding activities that elevate heart rate or may cause physical contact with another person or equipment

Return to Play Protocol

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 - ✓ Non-contact training drills

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 - ✓ Full contact training after medical clearance has been provided to Campus Recreation Director/Staff

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 - ✓ Full practice/game play

Considerations during recovery



Considerations during recovery

- Second Impact Syndrome (SIS)

Considerations during recovery

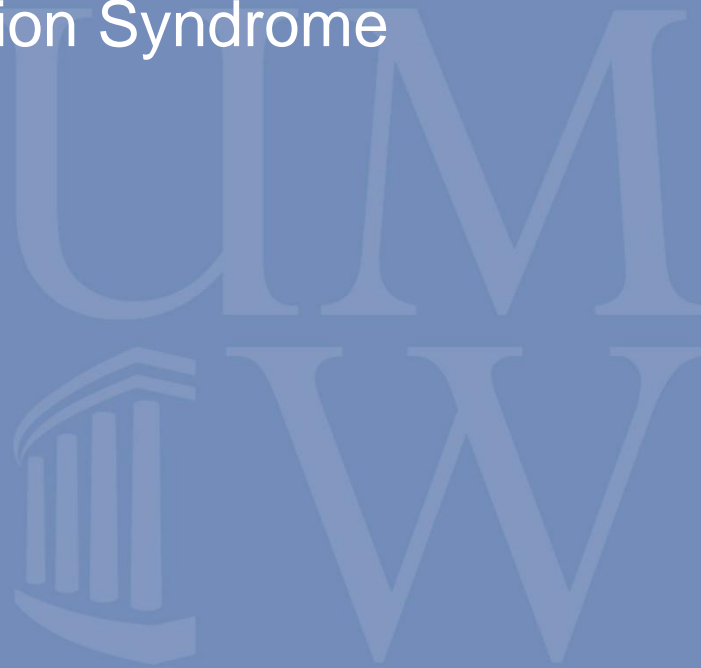
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Considerations during recovery

- Second Impact Syndrome (SIS)
 - Second concussion occurs before the brain has recovered from the first concussion
 - Even if the first concussion is mild, SIS can prove to be catastrophic or fatal

Considerations during recovery

- Post Concussion Syndrome



Considerations during recovery

- Post Concussion Syndrome
 - Long-term symptoms following severe or multiple mTBI

Considerations during recovery

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 - Long-term symptoms following severe or multiple mTBI
 - Complaints of mood and attention deficits are common

Considerations during recovery

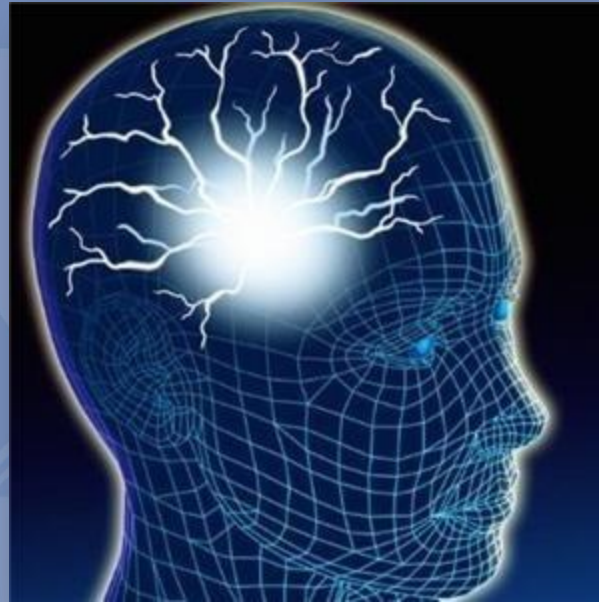
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Considerations during recovery

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 - Changes in personality

Considerations during recovery

- Post Concussion Syndrome
 - Long-term symptoms following severe or multiple mTBI
 - Complaints of mood and attention deficits are common
 - Intellectual dullness
 - Changes in personality
 - Fatigue and headaches



Get your head in the game
keep your head in the game!



Don't be BATMAN!