

# CONCUSSION IN ATHLETICS



## AOSSM SPORTS TIPS

### WHAT IS A CONCUSSION?

- Traumatic induced alteration in mental status that may or may not be accompanied by loss of consciousness (LOC)
- Disturbance of brain function without measurable change in brain anatomy
- Also called Mild Traumatic Brain Injury (MTBI)

- Feeling more emotional
- Numbness or tingling
- Feeling mentally foggy
- Difficulty communicating
- Difficulty concentrating
- Difficulty remembering
- Visual problems (blurry or double vision)

**YOU DO NOT HAVE TO LOSE CONSCIOUSNESS TO HAVE SUSTAINED A CONCUSSION!**

### WHAT ARE THE SIGNS/SYMPTOMS AN ATHLETE HAS SUSTAINED A CONCUSSION?

- Headache
- Nausea
- Vomiting
- Balance problems
- Dizziness
- Fatigue
- Trouble falling asleep
- Sleeping more than usual
- Drowsiness
- Sensitivity to light
- Sensitivity to noise
- Irritability
- Sadness
- Nervousness

### HOW DO TRAINERS AND DOCTORS EVALUATE ATHLETES WHO MAY HAVE SUSTAINED A CONCUSSION?

An initial evaluation should be performed by a trained coach, certified athletic trainer, or the team physician. This “sideline” evaluation should include the following:

- Focused neurological exam
- Focused orientation exam
  - Immediate recall of event
  - Recall of play, opponent, game score, last meal etc.
  - Recall name, birth date, place of birth etc.
  - Immediate short-term memory recall
  - Symptoms list review

### COMMON MISCONCEPTIONS ABOUT CONCUSSIONS

“I didn’t get ‘knocked out’ so I didn’t have a concussion.”

**FALSE:** Significant injury can occur without loss of consciousness

“I just got my ‘Bell Rung,’ I didn’t have a concussion.”

**FALSE:** The most common findings associated with getting your “Bell Rung” are consistent with concussion and may place the athlete at risk of developing Second Impact Syndrome (SIS).

“Once the player ‘feels better,’ he can go back in the game.”

**FALSE:** Experts recommend that no athlete should go back to competition during the same game if the athlete has findings consistent with a concussion.

### WHAT IS SECOND IMPACT SYNDROME?

Second Impact Syndrome is a potentially FATAL injury that occurs when an athlete sustains a second head injury before a previous head injury has completely healed. Unfortunately it is difficult to determine if the brain has healed from the first injury. Even after all symptoms have resolved, healing may not be complete and the brain may still be at increased risk of second impact syndrome. Neurocognitive testing may help doctors determine when it is safe to return to competition.

## WHAT IS NEUROCOGNITIVE TESTING?

Neurocognitive testing is a questionnaire the athlete takes (usually by computer) that tests multiple areas of brain function including memory, problem solving, reaction times, brain processing speeds and post concussion symptoms. It is most valid if the athlete has a pre-injury baseline test on file to compare the post concussion test. This information can be very helpful to the physician in determining return to play. It is not a substitution for an evaluation by a physician.

**IT IS RECOMMENDED THAT ALL ATHLETES WHO SUSTAIN A CONCUSSIVE EPISODE, NO MATTER HOW MINOR, UNDERGO AN EVALUATION BY A MEDICAL PHYSICIAN BEFORE RETURN TO PLAY**

## WHEN SHOULD A CONCUSSED ATHLETE RETURN TO PLAY?

Athletes can return to play after they are completely free of all symptoms of a concussion AND when athletes remain completely free of symptoms during and after physical testing.

It is also recommended that athletes be given another neurocognitive test.

Neurocognitive testing can be a very helpful tool in determining brain function even after all symptoms of concussion have resolved. With a comparison baseline test this evaluation, in conjunction with a physician's examination, may reduce risk of Second Impact Syndrome. Research has shown that youth athletes may take longer than adults athletes for their testing to return to normal.

## WHAT ABOUT MRI AND CT SCANS?

CT scans and MRI are not helpful in the evaluation of Concussion or Mild Traumatic Brain Injury (MTBI). A physician may recommend these tests if there are other findings discovered during the evaluation of the athlete.

## SOURCES

American Orthopaedic Society of Sports Medicine Concussion Workshop Chicago 1997

Collins, Gioia, Langlios 2007

Concussion Management Guidelines

CDC Physician ToolKit

International Conference on Concussion in Sport Vienna 2001, Prague, 2004, Zurich 2008.

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