

CONCUSSION MANAGEMENT

What is a concussion?

A concussion is a type of [traumatic brain injury](#), or TBI, caused by a bump, blow, or jolt to the head that can change the way your brain normally works. Concussions can also occur from a blow to the body that causes the head to move rapidly back and forth. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.

A concussion cannot be seen on a CT scan or on an MRI.

A concussion does not require a loss of consciousness. If an athlete sustains a jolt to the head or body and then experiences signs or symptoms, a concussion has occurred.

Signs and symptoms can be evident in four areas: Physical, Cognitive/Thinking, Emotions/Mood and Energy/Sleep.

SYMPTOMS REPORTED BY ATHLETE

Headache or "pressure" in head
Nausea or vomiting
Balance problems or dizziness
Double or blurry vision
Sensitivity to light
Sensitivity to noise
Feeling sluggish, hazy, foggy, or groggy
Concentration or memory problems
Confusion
Does not "feel right"

SIGNS OBSERVED BY COACHING STAFF

Appears dazed or stunned
Is confused about assignment or position
Forgets sports plays
Is unsure of game, score, or opponent
Moves clumsily
Answers questions slowly
Loses consciousness (even briefly)
Shows behavior or personality changes
Can't recall events prior to hit or fall
Can't recall events after hit or fall

Colorado's Concussion Law (Senate Bill 11-040) requires: annual concussion recognition education to coaches of public, private, middle school, high school, recreational and club leagues (supervising athletes between the ages of 11 to 19 years)

Concussion Assessment:

Know your athletes at "baseline". Know their pre-concussion level of symptoms, know their learning and attentional style, know their balance pre-concussion, know their headache and medical history, know their past concussion history and know their personality.

Sideline Assessment:

If there is a jolt/hit to body or head and there is 1 sign or 1 symptom, assess your athlete in the areas of symptoms, balance and mental status

Sideline Assessment Tools:

SCAT3, PAR mobile phone app, Play it Safe mobile phone app, NATA symptom checklist, Maddocks questions

Colorado's Concussion Law SB 11-040 requires that you: **REMOVE** athlete from play for "**suspicion**" of concussion.

Best practice:

- ✓ Do not return athlete to play on the day of injury.
- ✓ Transport athlete immediately to nearest hospital for loss of consciousness, persistent vomiting, deteriorating mental status.
- ✓ If not transported, keep a close eye on athlete until safely turned over to parent/guardian.
- ✓ Do not allow athlete to sit alone on bus or locker room
- ✓ Do not allow athlete to drive him/herself home after game.
- ✓ Give precise and clear symptom report and details of incident to parent/guardian with recommendations for what to watch for overnight and support parent/guardian being in touch (even by phone) to athlete's PCP.
- ✓ Encourage every family with a concussed athlete to seek out medical evaluation for treatment and clearance of the concussion.
- ✓ Check with your school district on their specific Concussion Evaluation and Notification protocol. It is best practice to notify point person in the school so athlete can also be removed from PE, physical play at recess and can have academic demands lessened in order to promote recovery.

Return to Play:

Colorado Concussion Law SB 11-040 states that an athlete removed from play for signs and symptoms not readily explained by a condition other than concussion cannot return to play until receiving written clearance from a:

- ✓ Doctor of Medicine
- ✓ Doctor of Osteopathic Medicine
- ✓ Licensed Nurse Practitioner
- ✓ Licensed Physician Assistant
- ✓ Licensed Doctor of Psychology with training in neuropsychology or concussion evaluation/management

A doctor with chiropractic training may only clear an athlete who is part of the US Olympic Training Program.

After a concussed athlete has been evaluated and received clearance to return to play from one of the approved health care providers, a registered athletic trainer with specific knowledge of the athlete's condition may manage the athlete's graduated return to play.

Best Practice:

- ✓ An athlete should be symptom-free (or back to pre-concussion functioning) in all four domains before being allowed to start the graduated return to play. This means athlete must be functioning 100% back to pre-concussion level academically and at home before starting back to sport.
- ✓ All athletes should be put through a progressive and graduated return to play protocol.
- ✓ Returning an athlete who is still symptomatic to physical play increases the risk of "Second Impact Syndrome" (SIS). SIS is the phenomenon in which an athlete is still symptomatic from a concussion and sustains a second impact (hit) resulting in potentially serious brain damage and/or death.

Symptoms:

Physical		Cognitive	
Headache	Nausea	Feel in a "fog"	
Blurred Vision	Vomiting	Feel "slowed down"	
Dizziness	Numbness/Tingling	Difficulty remembering	
Poor Balance	Sensitivity to Light	Difficulty concentrating/easily distracted	
Ringing in Ears	Sensitivity to Noise	Slowed speech	
Seeing "stars"	Disorientation	Easily confused	
Vacant Stare/Glassy eyed	Neck Pain		
Emotional		Sleep/Energy	
Inappropriate emotions	Irritability	Fatigue	Drowsiness
Personality changes	Sadness	Excess sleep	
Nervousness/Anxiety	Lack of motivation	Trouble falling asleep	
Feeling more "emotional"		Sleeping less than usual	