

Connecticut Interscholastic Athletic Conference Concussion Management Guidelines

Concussions are a type of traumatic brain injury (TBI) caused by a blow or jolt to the head or body that disrupts the way the brain normally functions. This disruption typically results in a number of signs and symptoms that coaches must recognize. Once recognized, concussions can be treated effectively under the guidance of a health care professional (MD, DO, APRN, PA, ATC) who is experienced in concussion management. All coaches are strongly advised to participate in a concussion education program in order to identify a concussed athlete and ultimately prevent further brain injury, or even death. No event is worth the risk, particularly for children and adolescents whose brains are still developing and, therefore, need to be treated more cautiously.

"When in doubt, sit it out."

A concussion should be suspected if any one or more of the following signs or symptoms (S/S) is present, OR if the coach/evaluator is unsure.

1. Signs of a concussion (what the athlete looks like):

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|---|--------------------------------------|------------------------|
| -Confusion/disorientation/irritability | -Trouble resting/getting comfortable | -Lack of concentration |
| -Slow response/drowsiness | -Incoherent/ slurred speech | -Slow/clumsy movements |
| -Loss of consciousness | -Amnesia/memory problems | -Balance problems |
| -Act silly/combative/aggressive | -Repeatedly ask same questions | -Dazed appearance |
| -Restless/irritable | -Constant attempts to return to play | -Constant motion |
| -Disproportionate/inappropriate reactions | | |

2. Symptoms of a concussion (what the athlete reports)

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|---------------------------------------|---------------------|---------------------------|
| -Headache or dizziness | -Nausea or vomiting | -Blurred or double vision |
| -Oversensitivity to sound/light/touch | -Ringing in ears | -Feeling foggy or groggy |

Currently, it is impossible to predict accurately how long concussions will last. There must be full recovery before someone is allowed to return back to play.

CONCUSSION MANAGEMENT RECOMMENDATIONS

- No athlete should return to play (RTP) on the same day of concussion.
- Any loss of consciousness, vomiting or seizures should be immediately transported to hospital.
- Close observation of athlete should continue following the concussion on the sideline and for a few hours after the injury. If worsening symptoms eg. Headaches, vomiting, lethargy, slurred speech, or unequal pupils they should be transported to hospital.
- Any athlete with signs or symptoms related to concussion should be evaluated by a health professional (MD, DO, APRN, PA, ATC) with experience in evaluating and managing concussions. The athlete must have medical clearance before he or she can resume practice or competition.
- After medical clearance, RTP should follow a step-wise protocol with provisions for delayed RTP based on return of any signs or symptoms¹.

MEDICAL CLEARANCE RTP PROTOCOL (One full day between steps)²

Rehabilitation stage	Functional exercise at each stage of rehabilitation	Objective of each stage
1. No activity	Complete physical and cognitive rest until asymptomatic. School may need to be modified.	Recovery
2. Light aerobic activity	Walking, swimming or stationary cycling keeping intensity <70% of maximal exertion; no resistance training	Increase Heart Rate
3. Sport Specific Exercise	Skating drills in ice hockey, running drills in soccer; no head impact activities	Add Movement
4. Non-contact Training drills	Progression to more complex training drills, eg, passing drills in football and ice hockey; may start progressive resistance training	Exercise, coordination and cognitive load
5. Full Contact Practice	Following medical clearance, participate in normal training activities	Restore confidence and assess functional skills by coaching staff
6. Return to play	Normal game play	

¹ If at any time symptoms should return during the RTP progression the athlete should stop activity that day. If the athlete's symptoms are gone the next day, s/he may resume the RTP progression at the last step completed in which no symptoms were present. If symptoms return and don't resolve, the athlete should be referred back to their medical provider.

² Consensus Statement on Concussion in Sport 3rd International Conf on Concussion in Sport held in Zurich, Nov 2008.

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References:

NFHS. Concussions. 2008 NFHS Sports Medicine Handbook (Third Edition). 2008: 77-82.
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McCrary, Paul MBBS, PhD; Meeuwisse, Willem MD, PhD; Johnston, Karen MD, PhD; Dvorak, Jiri MD; Aubry, Mark MD; Molloy, Mick MB; Cantu, Robert MA, MD. Consensus Statement on Concussion in Sport 3rd International Conference on Concussion in Sport Held in Zurich, November 2008. Clinical Journal of Sport Medicine: May 2009 - Volume 19 - Issue 3 - pp 185-200
http://journals.lww.com/cjsportsmed/Fulltext/2009/05000/Consensus_Statement_on_Concussion_in_Sport_3rd.1.aspx

Heads Up: Concussion in High School Sports http://www.cdc.gov/NCIPC/tbi/Coaches_Tool_Kit.htm

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