Medical Clearance Following a Concussion

After sustaining a concussion, follow-up with a primary care provider, sports medicine physician, or athletic trainer is vital! Youth sports concussions are always a concern as the brain's biology and chemistry are different than that of adults. Improperly managed concussions and/or return to play before a concussion has healed can result in serious, long-term neurological consequences.

Concussion signs and symptoms can vary dramatically between individuals. They can also develop or become worse hours and days after the initial injury. These can be divided into 4 different categories:

Physical	**Thinking/Cognition**	**Social/Emotional**	**Sleep/Fatigue**
Headaches	Short/Long term memory, recall	Mood changes	Sleeping more/less than usual
Blurred vision	Concentration/attention	Lack of motivation	Interrupted sleep
Impaired balance	Multi-tasking	Feeling isolated	Difficulty falling asleep
Ringing in ears	Organization	Anxiety	
Nausea/vomiting		Depression	
Light/noise sensitivity		Impulsiveness	

Urgent cares and emergency rooms are not appropriate places to seek overall concussion care, unless there is an increase in the number or severity of these symptoms above. In these instances an emergency room is best.

The Nebraska Concussion Law states that anyone under the age of 18 must be removed from play if a concussion is suspected, and may not return until (1) the athlete is evaluated by a physician, an athletic trainer, or other licensed health care provider trained in the management of sports related concussions (2) written clearance from these medical professionals is provided stating it is safe to return to practice and competition.

The Return-to-Learn (RTL) process may start right away, and the Return-to-Play (RTP) process may occur simultaneously as symptoms permit. It is not advised to wait until the athlete is completely symptom free prior to starting the RTP, however they must be gone prior to starting Step 4 of this progression.

Graduated Return-To-Learn Progression

At times a concussion may affect the ability to learn at school. After 24 hours, students are encouraged to resume school work. Extended time away from school is not recommended. Upon return, some athletes may need a graduated approach and modifications to their schedule so their symptoms don't get worse.

Mental Activity	Activity at each step	Goal of each step
1. Daily activities that do not result in more than a mild increase in their concussion symptoms	Typical activities during the day (such as reading) while minimizing screen time. Start with 5–15 minutes at a time and increase gradually.	Gradual return to typical activities.
2. School Activities	Homework, reading or other cognitive activities outside of the classroom.	Increase tolerance to cognitive work
3. Return to school part-time	Gradual introduction of schoolwork, starting with partial days or with greater access to rest breaks during the day as needed.	Increase academic activities
4. Return to school full time	Gradually progress school activities until a full day can be tolerated without more than a mild symptom exacerbation.	Return to full academic activities and catch up on missed work.

***If mental activity does not reproduce or increase symptoms, the student may be able to progress back into school activities quickly. Concussion affects every student differently. It's very important for the healthcare provider, parents, teachers, athletic trainer, and coach to communicate and work together to return the student-athlete back to school.

Graduated Return-to-Play Progression:

A healthcare provider's note that says "cleared to participate in all activity with no restrictions" doesn't mean jump back into competition right away – it indicates that the athlete is ready to begin the gradual Return-to-Play (RTP) progression back to activity. The purpose of the RTP progression is to challenge the brain and body gradually, and make sure no concussion signs or symptoms occur with physical exertion. A return of concussion symptoms signals that the brain has not fully healed and the athlete is not ready to resume athletic activity yet. This progression requires a minimum of 24 hours between each step.

Exercise Step	Functional exercise each step	Goal of each step
1. Symptom-limited activity	Daily activities that do not exacerbate symptoms (e.g. walking)	Gradual reintroduction of work/school
2. Aerobic exercise (55%–75% max heart rate)	Stationary cycling, walking, or jogging at a slow to medium pace. May start light resistance training that does not result in more than a minor and brief exacerbation of concussion symptoms.	Increase heart rate
3. Individual sports-specific exercise	Sports-specific training in a controlled environment without other athletes (e.g. running, change of direction and individual training drills), with no risk of head impact.	Add movement, change of direction
Steps 4–6 should not begin until all concussion symptoms have resolved.		
4. Non-contact training drills	Higher intensity exercise, more challenging training drills (e.g. passing drills, multiplayer training). Can integrate into a team environment.	Resume usual intensity of exercise, coordination, and increased thinking
5. Full contact practice	Following medical clearance, participation in normal training activities.	Restore confidence and assess functional skills by coaching staff.
6. Full return to sport	Normal activity with no limitations.	

The staff at Children's Sports Medicine is available to diagnose, treat and manage **SPORTS RELATED CONCUSSIONS** for youth, adolescent and teen athletes. To make an appointment, call **402.955.PLAY (7529).**