



## Concussion Management Program

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A sports concussion management program must be incorporated within each affiliate. All USA Hockey programs should follow this protocol as a minimum standard and also conform to their individual state concussion statutes.

Accepted current medical practice and the law in most states requires that any athlete with a suspected Sports Related Concussion (SRC) is immediately removed from play.

- A Sports Related Concussion is a traumatic brain injury- *there is no such thing as a minor brain injury*.
- A player does not have to be “knocked-out” to have a SRC- *less than 10% of players actually lose consciousness*.
- A SRC can result from a blow to head, neck *or body*.
- SRCs often occur to players who don’t have or just released the puck, from open-ice hits, unanticipated hits and illegal collisions.
- The **youth** hockey player’s brain is *more susceptible* to SRC.
- SRC in a young athlete may be *harder* to diagnosis, takes *longer* to recover, and is *more likely* to have a recurrence, which can be associated with serious long-term effects.
- The strongest predictor of slower recovery from a concussion is the severity of **initial symptoms** *in the first day or 2* after the injury.
- Treatment is individualized and it is impossible to predict when the athlete will be allowed to return to play- *there is no standard timetable*.
- Baseline or pre-season **neuropsychological testing** is not mandatory, but may be helpful for return-to-play decision making when an athlete feels normal.
- The use of helmet-based or other **sensor systems** to diagnose or assess SRC require further research before implementation.

A player with **any symptoms/signs** or a **worrisome mechanism of injury** has a SRC until proven otherwise:

**“When in doubt, sit them out”**

Follow these concussion management steps:

1. Remove immediately from play (training, practice or game)
2. Inform the player's coach/parents or guardians
3. Refer the athlete to a qualified health-care professional (as defined in state statute)
4. Initial treatment requires physical and cognitive rest
5. Begin a graded return to sport and school/work protocol
6. Provide written medical clearance for return to play (the *USA Hockey Return to Play Form* is required)

## **Diagnosis**

Players, coaches, officials, parents and health care providers should be able to recognize the symptoms/signs of a sport related concussion. (See attached *Concussion Recognition Tool 5*)

### **Symptoms:**

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

### **Observable Signs:**

- Lying motionless on the playing surface
- Slow to get up after a direct or indirect hit to the head
- Disorientation or confusion
- Inability or slow to respond appropriately to questions
- Blank or vacant look
- Slow movement or incoordination
- Balance or walking difficulty
- Facial injury after head trauma

## Management Protocol

1. If the player is **unresponsive**- call for help & dial 911
2. If the athlete is **not breathing**: start **CPR**
3. Assume a neck injury *until proven otherwise*
  - ✓ DO NOT move the athlete
  - ✓ DO NOT rush the evaluation
  - ✓ DO NOT have the athlete sit up or skate off until you have determined:
    - no neck pain
    - no pain, numbness or tingling
    - no midline neck tenderness
    - normal muscle strength
    - normal sensation to light touch
4. If the athlete is conscious & responsive without symptoms or signs of a neck injury...
  - help the player off the ice to the locker room
  - perform an evaluation
  - do not leave them alone
5. Evaluate the player in the locker room: **Concussion Recognition Tool 5** or other sideline assessment tools
  - Ask about concussion **symptoms**
  - Observe for concussion **signs**
  - **Memory Assessment**
    - What venue are we at today?
    - What period is it?
    - Who scored last in this game?
    - Did your team win the last game?
    - Who was your opponent in the last game?

→ If a healthcare provider is not available, the player should be safely removed from practice or play and referral to a physician arranged.
6. A player with any symptoms or signs, disorientation, impaired memory, concentration, balance or recall has a SRC and should not be allowed to return to play on the day of injury.
7. The player should not be left alone after the injury, and serial monitoring for deterioration is essential over the initial few hours after injury.

If any of the signs or symptoms listed below develop or worsen: go to the **hospital emergency department** or dial **911**.

- Severe throbbing headache
- Dizziness or loss of coordination
- Ringing in the ears (tinnitus)
- Blurred or double vision
- Unequal pupil size
- No pupil reaction to light
- Nausea and/or vomiting
- Slurred speech
- Convulsions or tremors
- Sleepiness or grogginess
- Clear fluid running from the nose and/or ears
- Numbness or paralysis (partial or complete)
- Difficulty in being aroused

**8.** An athlete who is *symptomatic* after a concussion initially requires *physical* and *cognitive rest*.

- A concussed athlete ***should not*** participate in physical activity, return to school, and play video games or text message if he or she is having symptoms at rest.
- Concussion symptoms & signs *evolve over time*- the severity of the injury and estimated time to return to play are unpredictable.

**9.** A qualified health care provider guides the athlete through **Graduated Return-to-School** and **Graduated Return-to-Sport** strategies.

**10.** Written clearance from a qualified health care provider is required for an athlete to return to play without restriction (training, practice, and competition). Only the **USA Hockey Return to Play Form** is acceptable:

## Graduated Return-to-Sport Strategy

Stage	Aim	Activity	Goal of each step
1	Symptom-limited activity	Daily activities that do not provoke symptoms	Gradual reintroduction of work/school activities
2	Light aerobic exercise	Walking or stationary cycling at slow to medium pace. No resistance training	Increase heart rate
3	Sport-specific exercise	Running or skating drills. No head impact activities	Add movement
4	Non-contact training drills	Harder training drills, eg, passing drills. May start progressive resistance training	Exercise, coordination and increased thinking
5	Full contact practice	Following medical clearance, participate in normal training activities	Restore confidence and assess functional skills by coaching staff
6	Return to sport	Normal game play	

- After a brief period of rest (24–48 hours after injury), patients can be encouraged to become gradually and progressively more active as long as these activities do not bring on or worsen their symptoms.
- There should be at least 24 hours (or longer) for each step of the progression. If any symptoms worsen during exercise, the athlete should go back to the previous step.
- Resistance training should be added only in the later stages (stage 3 or 4 at the earliest).

## Graduated Return-to-School Strategy

Stage	Aim	Activity	Goal of each step
1	Daily activities at home that do not give the child symptoms	Typical activities of the child during the day as long as they do not increase symptoms (eg, reading, texting, screen time). Start with 5–15 min at a time and gradually build up	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. May need to start with a partial school day or with increased breaks during the day	Increase academic activities
4	Return to school full time	Gradually progress school activities until a full day can be tolerated	Return to full academic activities and catch up on missed work

- If symptoms are persistent (more than 10–14 days in adults or more than 1 month in children), the athlete should be referred to a healthcare professional who is an expert in the management of concussion.