

CANADA SOCCER

# CONCUSSION GUIDELINES

PLAYERS' HEALTH AND SAFETY FIRST

CANADA SOCCER SPORTS MEDICINE COMMITTEE



## SUMMARY

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A concussion is a brain injury.

All concussions should be regarded as potentially serious.

Most concussions recover completely with correct management.

Incorrect management of a concussion can lead to further injury.

Concussions should be managed according to current guidelines.

Anyone with any concussion symptoms following an injury must be immediately removed from playing or training and must not return to playing, or training for soccer in the same day.

Concussions are to be diagnosed and managed by health care professionals working within their scope of practice and expertise.

Concussions are managed by physical and brain rest until symptoms resolve.

Return to education or work must take priority over return to playing soccer.

Concussion symptoms must have completely resolved and medical clearance must be received before resuming training for, or playing soccer.

A progressive exercise program that re-introduces an individual to training for, and ultimately playing soccer is recommended following concussion recovery.

The recurrence of concussion symptoms during a progressive exercise program requires removal from training or playing and reassessment by health care professionals.

## CANADA SOCCER CONCUSSION GUIDELINES

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### **THE FINE PRINT**

These guidelines are intended to guide those managing concussion in soccer at all levels. Professional and National level players typically have access to an enhanced level of medical care, which means that their concussion and their return to play can be managed in a more closely monitored way.

These guidelines are based on current evidence and examples of best practice taken from soccer organizations around the world and other sports, including the Football Association, the Scottish FA, World Rugby, and the Canadian Concussion Collaborative. These guidelines have been reviewed and approved by the Canada Soccer Sports Medicine Committee. They are consistent with the current Consensus Statement on Concussion in Sport issued by the Fourth International Conference on Concussion in Sport, Zurich 2012.

While these guidelines aim to reflect 'best practice', it must be recognized that there is a current lack of evidence with respect to their effectiveness in preventing long-term harm. The Canada Soccer Sports Medicine Committee will continue to monitor research and consensus in the area of concussion and update these guidelines accordingly.

### **FURTHER RESOURCES**

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#### **WEBSITES**

Concussion Awareness Training Tool: [www.cattonline.com](http://www.cattonline.com)

Parachute: [www.parachutecanada.org/concussion](http://www.parachutecanada.org/concussion)

Centers for Disease Control and Prevention: [www.cdc.gov/headsup](http://www.cdc.gov/headsup)

Ontario Ministry of Health Concussion Resources: [www.health.gov.on.ca/en/public/programs/concussions/resources.aspx](http://www.health.gov.on.ca/en/public/programs/concussions/resources.aspx)

#### **VIDEOS**

Dr. Mike Evans Health Lab – Concussions: [www.evanshealthlab.com/concussions/](http://www.evanshealthlab.com/concussions/)

## **RESPOND - WE ALL NEED TO PLAY A PART IN THE RECOGNITION AND MANAGEMENT OF CONCUSSION**

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As Canadians, we have a heightened awareness of concussions, related to increased media coverage of this brain injury with its range of outcomes, incidents involving high profile athletes with concussion, and increasing understanding of the consequences of repetitive brain trauma, primarily within professional sports.

### **WHAT IS A "CONCUSSION"?**

Concussion is an injury to the brain resulting in a disturbance of brain function involving thinking and behavior.

### **WHAT CAUSES CONCUSSION?**

Concussion can be caused by a direct blow to the head or an impact to the body causing rapid movement of the head and movement of the brain within the skull.

### **ONSET OF SYMPTOMS**

Symptoms of concussion typically appear immediately, but may evolve within the first 24-48 hours.

### **WHO IS AT RISK?**

All of our sport's participants (players, but also team staff and officials).

Some soccer participants are at increased risk of concussion:

- » Children and adolescents (18 years and under) are more susceptible to brain injury, take longer to recover, and are susceptible to rare dangerous brain complications, which may include death.
- » Female soccer players have higher rates of concussion.
- » Participants with previous concussion are at increased risk of further concussions - which may take longer to recover.

### **WHAT ARE THE DANGERS OF BRAIN INJURY?**

Failure to recognize and report concussive symptoms or returning to activity with ongoing concussion symptoms set the stage for:

1. Cumulative concussive injury
2. 'Second Impact Syndrome'

Second impact syndrome is a rare occurrence. An athlete sustains a brain injury and while still experiencing symptoms (not fully recovered), sustains a second brain injury, which is associated with brain swelling and permanent brain injury or death. Brain swelling may also occur without previous trauma.

Recurrent brain injury is currently implicated in the development of Chronic Traumatic Encephalopathy

Chronic Traumatic Encephalopathy (CTE) is a progressive degenerative brain disease seen in people with a history of brain trauma. For athletes, the brain trauma has been repetitive. Originally described in deceased boxers, it now has been recognized in many sports. Symptoms include difficulty thinking, explosive and aggressive behavior, mood disorder (depression), and movement disorder (parkinsonism).

## **RECOGNIZE - LEARN THE SIGNS AND SYMPTOMS OF A CONCUSSION SO YOU UNDERSTAND WHEN A SOCCER PLAYER MIGHT HAVE A SUSPECTED CONCUSSION.**

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Everyone involved in the game (including side-line staff, coaches, players, parents and guardians of children and adolescents) should be aware of the signs, symptoms and dangers of concussion. If any of the following signs or symptoms are present following an injury the player should be suspected of having concussion and immediately removed from play or training.

*"If in doubt, sit them out."*

*"It is better to miss one game than the whole season."*

### **VISIBLE CLUES OF CONCUSSION – WHAT YOU MAY SEE:**

Any one or more of the following visual clues can indicate a concussion:

- » Dazed, blank or vacant look
- » Lying motionless on ground / slow to get up
- » Loss of consciousness – confirmed or suspected
- » Unsteady on feet or balance problems or falling over or poor coordination
- » Loss of consciousness or responsiveness
- » Confused or not aware of play or events
- » Grabbing, clutching, or shaking of the head
- » Seizure
- » More emotional or irritable than normal for that person
- » Injury event that could have caused a concussion

### **SYMPTOMS OF CONCUSSION - WHAT YOU MAY BE TOLD BY AN INJURED PLAYER:**

The presence of any one or more of the following symptoms may suggest a concussion:

- » Headache
- » Dizziness
- » Mental clouding, confusion, or feeling slowed down
- » Trouble seeing
- » Nausea or vomiting
- » Fatigue
- » Drowsiness or feeling like "in a fog" or difficulty concentrating
- » "Pressure in head"
- » Sensitivity to light or noise

### **QUESTIONS TO ASK AN ADULT OR ADOLESCENT PLAYER:**

Failure to answer any of these questions correctly is an indication of a suspected concussion.

“What field are we at today?”

“Which half is it now?”

“Who scored last in this game?”

“What team did you play last?”

“Did your team win your last game?”

### **QUESTIONS TO ASK CHILDREN (12 YEARS AND UNDER):**

Failure to answer any of these questions correctly is an indication of a suspected concussion.

“Where are we now?”

“Is it before or after (last meal, ie: lunch)?”

“What is your coach’s / teacher’s name?”

## **REMOVE - IF A SOCCER PLAYER HAS A SUSPECTED CONCUSSION HE OR SHE MUST BE REMOVED FROM ACTIVITY IMMEDIATELY.**

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Team-mates, side-line staff, coaches, players or parents and guardians who suspect that a player may have concussion **MUST** work together to ensure that the player is removed from play in a safe manner.

If a neck injury is suspected the player should only be removed by emergency healthcare professionals with appropriate spinal care training. Call 911. Activate your emergency action plan.

More severe forms of brain injury may be mistaken for concussion. If ANY of the following are observed or reported within 48 hours of an injury, then the player should be transported for urgent medical assessment at the nearest hospital (symptoms below). Call 911. Activate your emergency action plan.

- » Severe neck pain
- » Deteriorating consciousness (more drowsy)
- » Increasing confusion or irritability
- » Severe or increasing headache
- » Repeated vomiting
- » Unusual behavior change (persistent irritability in younger children; increased agitation in teens)
- » Seizure
- » Double vision
- » Weakness or tingling / burning in arms or legs

### **ANYONE WITH A SUSPECTED CONCUSSION SHOULD NOT:**

- » be left alone in the first 24 hours
- » consume alcohol in the first 24 hours, and thereafter should avoid alcohol until free of all concussion symptoms
- » drive a motor vehicle and should not return to driving until provided with medical or healthcare professional clearance

Once safely removed from play the player must not be returned to activity that day.

## **REFER - ONCE REMOVED FROM PLAY, THE PLAYER SHOULD BE REFERRED TO A QUALIFIED HEALTHCARE PROFESSIONAL WITH TRAINING IN THE EVALUATION AND MANAGEMENT OF HEAD INJURY AND CONCUSSIONS.**

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Concussion or more severe forms of brain injury are to be diagnosed by health care professionals within their scope of practice and expertise.

In all cases of suspected concussion it is recommended that the player be referred to a medical or healthcare professional for diagnosis and management advice, even if the symptoms resolve.

## **REPORT – COMMUNICATION BETWEEN PLAYERS, PARENTS, TEAM STAFF, AND THEIR HEALTH CARE PROVIDERS IS VITAL FOR THE WELFARE OF THE PLAYER.**

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For children and adolescents with suspected concussion who have not been directly transferred for medical management, coaches must communicate their concerns directly with the parents or guardians.

Players, parents and guardians must disclose the nature of, and status of any active injuries to coaches and team staff.

## **REST AND RECOVER – REST IS THE CORNERSTONE OF CONCUSSION MANAGEMENT.**

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The management of a concussion involves physical and brain rest until symptoms resolve as recommended by your health care provider.

In conjunction with your school and educational professionals and health care provider, recommendations will be made about whether it is appropriate to take time away from school, or whether returning to school should be done in a graded fashion, this is called “return to learn”.

Your health care provider will also make recommendations about whether it is appropriate to take time away from work, or whether returning to work should be done in a graded fashion, this is called “return to work”.

## **RETURN TO SOCCER**

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In order for safe return to soccer following a concussion, the athlete must:

- » be symptom-free, for children and adolescents a further period of up to 10 days of asymptomatic rest may be recommended
- » be off treatments that may mask concussion symptoms (ie headache or sleep medication)
- » be cleared in writing by a qualified healthcare professional trained in evaluating and treating concussions
- » adults: have returned to normal education or work, and students: must have returned to school or full studies
- » have completed a graduated return to play protocol without recurrence of symptoms

If symptoms recur during the graduated return to play protocol, the player must be immediately removed from playing or training and be reassessed by their healthcare practitioner promptly.

A player with an unusual presentation or prolonged recovery or a history of multiple recurrent concussions, should be assessed and managed by a healthcare provider with experience in sports-related concussions working within a multidisciplinary team.

## ENHANCED CARE SETTING

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In some circumstances (such as Professional Clubs or National teams) there may be an enhanced level of medical care available which allows closer supervision of an adult player's care (>18 years of age). In these instances, a shorter time frame for the graduated return to play may be possible, but only under strict supervision by the appropriate medical personnel as part of a structured concussion management program.

## GRADUATED RETURN TO PLAY PROTOCOL

Start Stage 1 ONLY if free of concussive symptoms, off medications for concussive symptoms, back to work and/or school, and cleared by a qualified healthcare professional

Stages 1-4 take a minimum of 24 hours in adults, 48 hours in those aged 18 and under.

	EXERCISE ALLOWED	% MAX HEART RATE	DURATION	OBJECTIVE
<b>REST AND RECOVER</b>	<ul style="list-style-type: none"> <li>» None</li> <li>» "Rest the body, Rest the brain"</li> </ul>	No training	Until symptoms clear	<ul style="list-style-type: none"> <li>» Recovery</li> <li>» Symptom free</li> </ul>
<b>STAGE 1</b> LIGHT EXERCISE	<ul style="list-style-type: none"> <li>» Walking, light jogging, swimming, stationary cycling or equivalent</li> <li>» No football, resistance training, weight lifting, jumping or hard running</li> </ul>	< 70%	< 15 min	<ul style="list-style-type: none"> <li>» Increase heart rate</li> </ul>
<b>STAGE 2</b> SOCCER-SPECIFIC EXERCISE	<ul style="list-style-type: none"> <li>» Simple movement activities ie. running drills</li> <li>» Limit body and head movement</li> <li>» NO head impact activities</li> <li>» NO heading</li> </ul>	< 80%	< 45 min	<ul style="list-style-type: none"> <li>» Add movement</li> </ul>
<b>STAGE 3</b> NON-CONTACT TRAINING	<ul style="list-style-type: none"> <li>» Progression to more complex training activities</li> <li>» with increased intensity,</li> <li>» coordination and attention e.g. passing, change of direction, shooting, small-sided game</li> <li>» May start resistance training</li> <li>» NO head impact activities including NO heading</li> <li>» goalkeeping activities should avoid diving and any risk of the head being hit by a ball</li> </ul>	< 90%	< 60 min	<ul style="list-style-type: none"> <li>» Exercise, coordination and skills/tactics</li> </ul>
<b>STAGE 4</b> FULL CONTACT PRACTICE	<ul style="list-style-type: none"> <li>» Normal training activities ie tackling, heading diving saves</li> </ul>			<ul style="list-style-type: none"> <li>» Restore confidence and assess functional skills by coaching staff</li> </ul>
<b>STAGE 5</b> GAME PLAY	<ul style="list-style-type: none"> <li>» Player rehabilitated</li> </ul>			<ul style="list-style-type: none"> <li>» Return to game play</li> </ul>