



# WATER POLO CANADA'S

CONCUSSION EDUCATION TOOLKIT  
*FOR COACHES, TRAINERS & SAFETY PERSONNEL*

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# INTRODUCTION

Water Polo Canada (WPC) has developed the Concussion Education Toolkit as a turn-key guide that can be used by our stakeholders as they prepare for each water polo season. Safe sport is a crucial element in Canadian sport and WPC considers the areas of concussion prevention and management as important subsections that must be addressed.

This toolkit includes information adapted with permission by Parachute. Parachute is Canada's national charity dedicated to injury prevention. Parachute collaborates with sport organizations, schools, government and health professionals to build a consistent, evidence-based approach to concussion across Canada's amateur sport system.

It also includes information found within WPC's Concussion Protocol, which was developed by the Institut National du sport du Québec (INS Québec) in collaboration with WPC. By focusing on science, innovation and technology, INS Québec represents the "ingenuity behind the performance" by offering cutting-edge solutions driven by a team of experts and partners to push the limits of each of our athletes. INS Québec and its network support more than 3,300 athletes, including more than 550 high-level athletes—mainly members of Canadian teams—and nearly 2,000 next-generation athletes and some 900 coaches. INS Québec provides scientific, medical and professional services. As a member of the Canadian Olympic and Paralympic Sport Institute Network, INS Québec is active across Québec thanks to its network of 8 regional multi-sport training centres, 18 single-sport training centres and its Olympic Park Complex, which is home to 10 high-level training groups. INS Québec receives support from the Ministère de l'Éducation, Sport Canada, Own the Podium, the Canadian Olympic Committee, the Canadian Olympic Foundation, the Canadian Paralympic Committee and the Coaching Association of Canada, in addition to private partners, such as Sports Experts, CISCO, Bell, B2dix and Mondo.

The content of this toolkit will be updated as additional information becomes available.





# PRE-SEASON CONCUSSION EDUCATION FACT SHEET

Water Polo Canada (WPC) has developed the Pre-Season Concussion Education Checklist to identify how Canadian water polo coaches should approach concussion education for themselves and their team(s). The checklist breaks down the resources that should be used by coaches at each stage of their concussion education process. It is highly recommended that coaches complete the checklist tasks in the order they are presented prior to the start of each season.

\*Note: The "Required Resource(s)" can be found within this toolkit and on [WPC's website](#).

PRE-SEASON EDUCATION TASK	REQUIRED RESOURCE(S)	STATUS
Review <b>WPC's concussion education resources</b> to familiarize yourself with concussion prevention, recognition and management.	<ol style="list-style-type: none"> <li>1. Pre-Season Education Checklist</li> <li>2. Pre-Season Concussion Education Fact Sheet</li> <li>3. Pre-Season Concussion Education Team Meeting Guide</li> <li>4. Concussion FAQ Guide</li> <li>5. The Return-to-Sport Strategy</li> <li>6. The Return-to-School/Work Strategy</li> <li>7. Tips to Assist in Preventing Concussions and Other Injuries in Water Polo Guide</li> <li>8. WPC's Concussion Protocol</li> </ol>	<input type="checkbox"/>
Complete the <b>NCCP Making Head Way in Sport</b> e-Learning Module	<a href="#">The Coaching Association of Canada's Locker</a>	<input type="checkbox"/>

PRE-SEASON EDUCATION TASK	REQUIRED RESOURCE(S)	STATUS
Develop a <b>Concussion Action Plan</b> (you can create your own or use the sample template available in the <a href="#">Concussion Action Plan Guide</a> ).	The Concussion Action Plan Guide	<input type="checkbox"/>
Schedule a <b>Pre-Season Concussion Education Team Meeting</b> at the beginning of the water polo season.	Pre-Season Concussion Education Team Meeting Guide	<input type="checkbox"/>
Include the following information in your Pre-Season Concussion Education Team Meeting: <ul style="list-style-type: none"> <li>• The definition of concussion</li> <li>• Possible causes/mechanisms of injury (i.e. how a concussion might occur)</li> <li>• Common signs and symptoms</li> <li>• Steps that can be taken to prevent concussions and other injuries from occurring in water polo.</li> <li>• What to do when a player suffers a suspected concussion or more serious head injury</li> <li>• What measures should be taken to ensure proper medical assessment, Return-to-School and Return-to-Sport strategies.</li> <li>• Return-to-Sport medical clearance requirements.</li> <li>• Your Concussion Action Plan for Practices and Games.</li> <li>• Tips to Prevent Concussions and other injuries for athletes</li> </ul>	<ol style="list-style-type: none"> <li>1. Pre-Season Concussion Education Team Meeting Guide</li> <li>2. Pre-Season Concussion Education Fact Sheet</li> <li>3. Concussion Action Plan Guide</li> <li>4. Tips to Assist in Preventing Concussions and Other Injuries Guide</li> <li>5. Concussion FAQ Guide</li> </ol>	<input type="checkbox"/>



# PRE-SEASON CONCUSSION EDUCATION CHECKLIST

PRE-SEASON EDUCATION TASK	REQUIRED RESOURCE(S)	STATUS
Following the meeting, ask the participants to read the <b>Pre-Season Concussion Education Fact Sheet</b> . As an optional step, you can ask that your players and parents sign the appropriate stakeholder <b>Concussion Code of Conduct</b> to understand their roles and responsibilities.	1. Water Polo Canada's Pre-Season Concussion Education Fact Sheet 2. Concussion Codes of Conduct (Optional)	<input type="checkbox"/>
Explain where the <b>WPC Concussion Education Toolkit</b> or its individual resources are located for public use.	The Concussion tab under the Safe Sport section of <b><u>WPC's website</u></b> .	<input type="checkbox"/>



# PRE-SEASON CONCUSSION EDUCATION TEAM MEETING GUIDE

Although concussions have received increased attention and focus in recent years, it is imperative that the importance of concussion education and awareness is recognized. Ensuring that the proper concussion prevention and management occurs, largely depends on the annual education of all current and future stakeholders (players, parents/caregivers, coaches, officials, trainers and integrated support staff). This guide should be used by coaches to plan, schedule and execute their club's Pre-Season Concussion Education Team Meeting (PSCETM).

## WHO

Individuals who should attend the PSCETM are:

- Players
- Coaches
- Trainers
- Parents/Caregivers of the player(s)
- Team managers
- Additional team medical and support staff

***\*Note: These meetings can be specific to each team, age group or the club as a whole.***

## WHAT

The information that should be covered during the PSCETM is:

- The definition of concussion
- The possible mechanisms of injury (general and water polo specific)
- Common signs and symptoms
- Steps to prevent concussions and other injuries from occurring in sport
- What to do when an athlete has suffered a suspected concussion or more serious head injury
- What measures should be taken to ensure proper medical assessment
- Return-to-School/Work and Return-to-Sport strategies
- Return-to-Sport medical clearance requirements



## WHEN

The PSCETM should be scheduled prior to the start of the season at a time that is convenient for its attendees (e.g. at the start of the season's first practice).

***\*Note: These PSCETMs should occur annually regardless of whether the coach or athletes on the team remain the same.***



## WHERE

The PSCETM can be completed in a variety of venues including on pool deck, a rented classroom, in a park/sport field, or in a virtual meeting online.



## HOW

The WPC Concussion Education Toolkit is a turn-key guide for clubs and club coaches and includes vital concussion education information. Before coaches begin hosting these meetings, clubs should decide whether they will require their players, parents and coaches to sign a Concussion Code of Conduct (located at the conclusion of the [Pre-Season Concussion Education Fact Sheet](#)). It is imperative that all meeting attendees understand the information that was discussed and are aware that more information is available on [WPC's website](#).

# PRE-SEASON CONCUSSION EDUCATION FACT SHEET



## WHAT IS A CONCUSSION?

A concussion is a brain injury that can't be seen on x-rays, CT or MRI scans. It affects the way a player thinks and can cause a variety of symptoms. Continuing to participate in an activity when you may have a concussion increases the risk of more severe, longer-lasting concussion symptoms, and increases the risk of other injury. Anyone with a suspected concussion should be seen by a medical doctor or nurse practitioner as soon as possible.

## WHAT CAUSES A CONCUSSION?



Any blow to the head, face or neck, or somewhere else on the body that causes a sudden jarring of the head may cause a concussion.

Examples include getting hit in the head with a ball or an elbow during a game or practice, slipping on the pool deck, falling hard on the floor in gym class, or experiencing whiplash in a car crash.

## WHEN SHOULD I SUSPECT A CONCUSSION?

A concussion should be suspected in anyone who sustains a significant impact to the head, face, neck, or body and reports any symptoms or demonstrates any visual signs of a concussion. A concussion should also be suspected if a player reports any concussion symptoms to one of their peers, parents/caregivers, teachers, trainers or coaches or if anyone witnesses a player exhibiting any of the visual signs of concussion. Some players will develop symptoms immediately, while others will develop delayed symptoms, beginning 24 to 48 hours after the injury.



## WHAT ARE THE VISUAL SIGNS OF A CONCUSSION?

- Lying motionless in the water or on pool deck
- Slow to react in the water or move back into position after a direct or indirect hit to the head
- Not being able to swim in a straight line
- Disorientation or confusion or inability to respond appropriately to questions
- Blank or vacant stare
- Balance and gait difficulties, poor-co-ordination, stumbling, slow laboured movements.
- Facial injury after head trauma
- Clutching head



## WHAT ARE THE SYMPTOMS OF A CONCUSSION?

A person does not need to be knocked out (lose consciousness) to have had a concussion. Common symptoms include:

- Headaches or head pressure
- Dizziness
- Nausea and vomiting
- Blurred or fuzzy vision
- Sensitivity to light or sound
- Balance problems
- Feeling tired or having no energy
- Not thinking clearly
- Feeling slowed down
- Easily upset or angered
- Sadness
- Nervousness or anxiety
- Feeling more emotional
- Sleeping more or sleeping less
- Having a hard time falling asleep
- Difficulty working on a computer
- Difficulty reading
- Difficulty learning new information





## WHAT SHOULD I DO IF I SUSPECT A CONCUSSION?

If any player is suspected of sustaining a concussion during participation in a water polo game, practice or dryland training they should be immediately removed from the activity. Any player who is suspected of having sustained a concussion must not be allowed to return to the same game, practice or training.

Continuing to play with a possible concussion puts the player at risk of further injury, including Second Impact Syndrome (SIS). SIS is a swelling of the brain that can occur when a player sustains a second head injury before a previous head injury has healed. Although rare, SIS can lead to permanent injury and death.

It is important that ALL players with a suspected concussion undergo medical assessment by a medical doctor or nurse practitioner, as soon as possible. It is also important that ALL players with a suspected concussion receive written medical clearance from a medical doctor or nurse practitioner before returning to sport.

## WHEN CAN THE PLAYER RETURN TO SCHOOL, WORK AND SPORTS?

It is important that all players diagnosed with a concussion follow a step-wise return to school, work and sports-related activities, guided by the following Return-to-School/Work and Return-to-Sport Strategies. It is important that youth and adults return to full-time school activities before progressing to stage 5 and 6 of the Return-to-Sport Strategy.





## RETURN-TO-SCHOOL/WORK STRATEGY

STAGE	AIM	ACTIVITY	GOAL OF EACH STEP
<b>1</b>	Daily activities at home that do not give the player symptoms	Typical activities during the day as long as they do not increase symptoms (i.e. reading, texting, screen time) Start at 5-15 minutes at a time and gradually build up.	Gradual return to typical activities.
<b>2</b>	School or work activities at home.	Homework, reading or other cognitive activities outside of the classroom/workplace.	Increase tolerance to cognitive work
<b>3</b>	Return to school/work 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
<b>4</b>	Return to school/work full-time.	Gradually progress.	Return to full academic activities and catch up on missed school work.

### Water Polo-Specific Return-to-Sport Strategy

A summary of the [Water Polo Return-to-Sport Strategy](#) is located on the page that follows.

**\*Note:** Water Polo Canada's Concussion Education Toolkit includes two detailed Return-to-Sport Strategies (one specific to field players and one specific to goalies), as well as a visual representation of [WPC's Concussion Pathway](#).

An initial period of 24-48 hours of rest is recommended before starting the Water Polo-Specific Return-to-Sport Strategy. If the player experiences new symptoms or worsening symptoms at any stage, they should go back to the previous stage before trying again.



## WATER POLO-SPECIFIC RETURN-TO-SPORT STRATEGY (Field Player & Goalie)

STAGE	AIM	ACTIVITY	GOAL OF EACH STEP
<b>1</b>	Symptom-limiting activity	Daily activities that do not provoke symptoms	Gradual reintroduction of work/school activities
<b>2</b>	Light aerobic activity	<p><b>NO RESISTANCE TRAINING</b></p> <p><b>Examples for Field Players:</b></p> <ul style="list-style-type: none"> <li>• Stationary bike or inclined treadmill for 5 min</li> <li>• Floor stretching routine</li> <li>• Mobility work</li> </ul> <p><b>Examples for Goalies:</b></p> <ul style="list-style-type: none"> <li>• Stationary bike or inclined treadmill for 5 min</li> <li>• Tennis ball throws against neutral coloured wall</li> <li>• Floor stretching routine</li> <li>• Mobility work</li> </ul>	Increase heart rate
<b>3</b>	Sport-specific exercise	<p><b>NO HEAD IMPACT ACTIVITIES</b></p> <p><b>Examples for Field Players:</b></p> <ul style="list-style-type: none"> <li>• Passes while facing a partner</li> <li>• eggbeater with alternate side sliding</li> <li>• shooting at the net without opponents and no goalie.</li> </ul> <p><b>Examples for Goalies:</b></p> <ul style="list-style-type: none"> <li>• Reaction drills with side to side or vertical jumping</li> <li>• Blocking lobbed throws in free space (no net).</li> <li>• 5 min passing with 1 partner at increasing distance</li> </ul>	Add movement

STAGE	AIM	ACTIVITY	GOAL OF EACH STEP
4	Non-contact training drills	<p><b>MAY START PROGRESSIVE RESISTANCE TRAINING. AVOID JUMPING.</b></p> <p><b>Examples for Field Players:</b></p> <ul style="list-style-type: none"> <li>• 5 times 10 sec breath hold with head underwater</li> <li>• 10 x 2 vs. 1 + goalie, receive pass and throw on net</li> <li>• Olympic lifting or exercises where head is below the level of the hips</li> </ul> <p><b>Examples for Goalies:</b></p> <ul style="list-style-type: none"> <li>• 5 times 10 sec breath hold with head underwater</li> <li>• 10 x blocking direct shots</li> <li>• Olympic lifting or exercises where head is below the level of the hips</li> </ul>	Exercise, coordination and increased thinking.
5	Full contact practice	<p><b>FOLLOWING MEDICAL CLEARANCE</b></p> <p><b>Examples for Field Players:</b></p> <ul style="list-style-type: none"> <li>• 5 min passing with 1 partner</li> <li>• 3 vs. 3 simulations in small surface.</li> <li>• Progress to 6 vs. 6 full size playing area</li> <li>• Return to normal resistance loads, olympic lifting and valsalva technique.</li> </ul> <p><b>Examples for Goalies:</b></p> <ul style="list-style-type: none"> <li>• 3 x 1/2 distance eggbeater and jump every 5 seconds, finish freestyle</li> <li>• Practice game situations with 1/2 field</li> <li>• Return to normal resistance loads, olympic lifting and valsalva technique</li> </ul> <p><b>* Continue to monitor heart rate throughout this period. Ensure return to adequate heart rate between longer sets or after very intense drills.</b></p>	Restore confidence and assess functional skills by coaching staff.
6	Return to sport	Normal game play	

## HOW LONG DOES IT TAKE FOR THE PLAYER TO RECOVER?

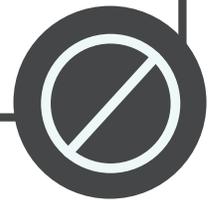


Concussion healing time varies from player to player. While an exact timeline is not possible to provide, most players will make a complete recovery within one to two weeks, while most youth players will recover within one to four weeks. In some cases, it can take weeks or months to heal. If a person has had a concussion before, it may take them longer to heal the next time. Approximately 15 to 30 per cent of patients will experience persistent symptoms (symptoms that last longer than typical) that may require additional medical assessment and management. Remember to always take the time you need to recover, as recommended by your medical doctor or nurse practitioner. Recovering from concussion is a process that takes patience. Going back to activities before you are ready is likely to make your symptoms worse, your recovery may take longer, and returning to active play before full recovery also puts you at higher risk of sustaining another concussion.

## HOW CAN I HELP PREVENT CONCUSSIONS AND THEIR CONSEQUENCES?

Concussion prevention, recognition and management require players to follow the rules and regulations of their sport, respect their opponents, avoid head contact and report suspected concussions.

To learn more about concussions please visit: [WPC's website](#) or [www.parachute.ca/concussion](http://www.parachute.ca/concussion).



## Concussion Codes of Conduct (*Optional*)

**Please note that some provinces and/or territories have their own Codes of Conduct with specific requirements.** The Water Polo Canada Concussion Education Toolkit does not replace any requirements under the law in those regions. The Concussion Education Toolkit was designed to provide you and other coaches, players and parents across Canada with concussion resources that are Water Polo-specific and meet your unique role to support player development while providing a safe participation environment. **If your province or territory has an existing Code of Conduct, this will carry the legal role for players in those areas. Please be sure to always consult with your sport governing body for more information.**

# **CONCUSSION CODE OF CONDUCT**

## **Water Polo Coaches, Trainers & Safety Personnel**

### **I will help players on my team to prevent concussion.**

- I will ensure all players on my team wear the proper equipment and wear correctly.
- I will help players develop their skills and strength so they can play to the best of their ability.
- I will respect the rules of water polo and ensure all players on my team do as well.
- I will respect other coaches, trainers, safety personnel, officials and all those involved with my league and team.
- I will ensure players on my team respect others and play fair and safe.

### **I will take concussions seriously and educate my team to help ensure their health and safety.**

- I understand a concussion is a serious brain injury that can have both short- and long-term effects.
- I understand that any blow to the head, face, or neck, or a blow to the body that causes a sudden jarring of the head may cause a concussion.
- I understand that a player doesn't need to lose consciousness to have had a concussion.
- If I suspect a player may have a concussion, I will stop them from participating in practice or gameplay immediately. I understand that if I think I have a concussion, I should stop coaching, training, or safety person responsibilities/activities immediately.
- I understand continuing to participate in water polo and other physical activity with a suspected concussion increases a player's risk of more severe, longer-lasting symptoms, and increases their risk of other injuries.
- I will make concussion education a priority on my team.
- I will follow and enforce the concussion protocols and policies that have been established by Water Polo Canada, my Province and the National Championship League (NCL).

### **I will create an environment where players on my team feel safe and can always speak up.**

- I will encourage players not to hide any concussion symptoms or continue to participate through the pain.
- I will ensure my players know to tell me, another coach, an official, parent or other adult they trust if they, or a teammate, experience any concussion symptoms after an impact.
- I will lead by example. I will tell a fellow coach, official, team trainer, safety person, or healthcare professional if I am experiencing any concussion symptoms.
- I will create opportunities for players to speak with me about any concerns related to concussion before or after each training session, practice, or game.
- I will support all players on my team to take the time they need to recover.

- I understand and respect that any player with a suspected concussion must be removed from the game or practice immediately and not be permitted to return until they undergo a medical assessment by a doctor and have been medically cleared to return to training, practice, or gameplay.
- I understand players will have to follow the Water Polo Return-to-Sport strategy.
- I will respect my fellow coaches, trainers, safety personnel, parents and medical professionals and any decisions made with regards to the health and safety of my team.

---

Signature of Coach/Trainer/Safety Personnel

---

Date



# TIPS TO PREVENT CONCUSSIONS AND OTHER INJURIES IN WATER POLO GUIDE

## TIPS TO ASSIST IN PREVENTING CONCUSSIONS & OTHER INJURIES IN AND OUT OF THE WATER

Be sure to enforce and integrate these tips for players into practices and games wherever possible. This will help your team build critical skills, respect themselves and others in the pool, and stay safe.

There are a variety of drills you can run to help players learn to keep their head up while playing and improve safe handling of the ball. Some examples include:

**1**

When your athletes are swimming head-up front crawl with the ball, ask them to focus on one point on the other end of the pool. For example, a sign or the lifeguard chair.

**2**

When your athletes are swimming head-up front crawl with the ball, ask them to look up and over the top of the ball.

**3**

To help your players swim head-up front crawl in a straight line and ensure that they are maintaining their ball awareness, you can use the following drill: Ask your players to swim head-up front crawl either the entire length of the pool or only half-way while looking towards the the right or left. Once they have finished, they must complete the same exercise looking the opposite direction.

**4**

Another drill that is useful in maintaining awareness and that the player keeps their head-up while swimming is a swimming, changing direction drill:

- Start with all of the players spread out in the pool facing the coach.
- On each whistle, the coach will point in a direction. Whichever direction he/she points is the direction that the players have to swim.
- The athletes must keep their eyes on the coach at all times so they know which direction to swim.
- If the coach points to the back then they swim water polo backstroke.

*\*Note: This drill can be adapted to include a water polo ball where each time the athlete changes direction, they pick the ball up from underneath. If the coach points to the back then the athlete would swim layout with the ball.*

**TIPS TO TEACH AND ENFORCE ON YOUR TEAM:**

Commit to strong skill and strength development



Understand proper technique and follow the rules of the game



Ensure you are correctly wearing the appropriate equipment (ex. mouthguards, protective/goalie helmets or game caps)



Avoid violent contact with a player if they are in a vulnerable position, such as with their back facing you.



Never hit, strike, kick or head-butt a player from behind.



Never hit, strike, kick or head-butt an opponent's head.



Keep your head up when you have the ball. Don't put yourself in a vulnerable position.



Practice fair play and respect the safety of yourself and everyone in the water



Be aware and stay alert.



Control the ball responsibly.



Communicate with your teammates. If you think a teammate may have a concussion, report symptoms to your coach, team trainer, or safety personnel.



Remove yourself from the water if you experience any concussion symptoms after a hard hit by the ball or contact with another player. Report symptoms to your coach, team trainer or safety personnel.

**TIPS TO HELP PREVENT CONCUSSIONS AMONG PLAYERS ON YOUR TEAM:**

Focus on good technique defensively to decrease the odds of getting hit in the face while blocking.



Ensure that players are matched up with players of equal strength and abilities in drills such as blocking.



If you have a large group of players, have them number off and swim in lines fastest to slowest to avoid swimming into each other.



Remove nets and other hazards during swimming to avoid potential injury.



Establish a team rule where there are to be no shots on net after the coach whistles for the players to stop the drill and/or return to the side of the pool.



When players on your team are passing the ball to their teammates, encourage them to always be aware, keep their head up, and be ready to catch the ball.



For grassroots level water polo programs, use nets that can deform (i.e. inflatable nets) when being struck with the ball to allow some of the energy to be absorbed before potentially ricocheting into the player's face.



Ensure that players do not try to retrieve the ball in the net during a drill. Remind them to wait until there is no one shooting, or take short breaks during the drill for your players to retrieve their balls.



# CONCUSSION ACTION PLAN GUIDE

**Having a Concussion Action Plan will ensure that all those involved with your water polo team know what to do and what their role is when a concussion is suspected in a practice or in a game. The Concussion Action Plan will serve as a step-by-step guide to help your team respond to concussions properly. To make sure concussions are managed safely and effectively, implement an action plan that coaches, trainers, players and their parents/caregivers are all involved in.**

## Steps to create a Concussion Action Plan:

**1. Identify safety personnel** who can assist with managing the health of the team and are knowledgeable about concussions, know the action plan and know what to do when a concussion is suspected. This might include a team trainer, athletic therapist, doctor, designated first aider or another person responsible for ensuring concussion protocol is followed.

***\*Note:** In Ontario, Rowan's Law protocol requires that there is a designated individual responsible for ensuring that concussion protocol is followed.*

**2. Provide players and families with concussion resources** so everyone knows what to look for to keep players safe.

**3. Always have a Concussion Recognition Tool 5 (CRT5)** at practices and games so that you have a list of concussion signs and symptoms available, and information on the first steps to take when a concussion is suspected.

**4. Use the sample practice and game action plan** templates at the end of this document to create a Concussion Action Plan for your water polo team.

## If you suspect a concussion has occurred:

1. Coach removes the player from practice or training session.
2. Coach ensures the player is not left alone. Monitor signs and symptoms using the Concussion Recognition Tool 5 (CRT5) and **DO NOT** administer any medication. The player must not return to the game or other physical activity that day.
3. Coach informs the player's parent/caregiver or emergency contact about the suspected concussion and provides them with all relevant concussion resources and links.
4. Parent/caregiver or emergency contact ensures the player is evaluated by a medical doctor or nurse practitioner as soon as possible.
5. Coaches, trainers and parents/caregiver share the responsibility to communicate with the player to ensure that if they are diagnosed with a concussion, they are following Water Polo Canada's, the Province's and the National Championship League (NCL)'s concussion protocol and policies and a medically-supervised Water Polo Return-to-Sport strategy. Players may only return to full practice and gameplay when they have been cleared by their doctor.



## If you notice any "red flag" symptoms:

"Red flag" symptoms can be signs of a more serious injury. Get medical help immediately if you notice that a player has any of the following symptoms:

- Neck pain or tenderness
- Repeated vomiting
- Growing confusion
- Seizures or convulsions
- Weakness, tingling or burning in their arms or legs
- Increasingly restless, agitated or combative
- Double vision
- Severe or increasing headache
- Deteriorating conscious state or loss of consciousness
- If there is loss of consciousness, initiate the Emergency Action Plan and call an ambulance.

If the player is unconscious or you suspect a neck injury, continue to monitor airway, breathing and circulation (ABCs). Do not attempt to remove any equipment. In this situation, monitoring the athlete's ABCs can be completed by a lifeguard.

## SAMPLE CONCUSSION ACTION PLAN FOR PRACTICES OR TRAINING SESSIONS

**Team Name:** \_\_\_\_\_ **Trainer:** \_\_\_\_\_

**Coach:** \_\_\_\_\_ **Safety Personnel:** \_\_\_\_\_

Start your water polo season by setting your team up for a safe, healthy and successful season. Fill in the below table to create your team’s Concussion Action Plan for Practices and/or Training Sessions.

**Be aware of “red flag” symptoms, which can be signs of a more serious injury. If any are present, initiate the Emergency Action Plan. If a player is unconscious or a neck injury is suspected, do not attempt to move the player or remove equipment unless there is a concern for their breathing and/or you are appropriately trained to do so.**

**If you suspect a concussion has occurred:**

ACTION	PERSONNEL RESPONSIBLE (NAME, TITLE)	EMERGENCY CONTACT NUMBER	STATUS
Coach removes the player from the practice or training session.			<input type="checkbox"/>
Coach ensures the player is not left alone. Monitor signs and symptoms using the <u>CRT5</u> and DO NOT administer any medication. The player must not return to the game or other physical activity that day.			<input type="checkbox"/>
Coach informs the player’s parent/caregiver or emergency contact about the suspected concussion and provides them with all relevant concussion WPC and Parachute resources and links.			<input type="checkbox"/>

ACTION	PERSONNEL RESPONSIBLE (NAME, TITLE)	EMERGENCY CONTACT NUMBER	STATUS
<p>Parent/caregiver ensures the player is evaluated by a medical doctor as soon as possible.</p>			<input type="checkbox"/>
<p>Coaches, trainers and parents share the responsibility to communicate with the player to ensure that if they are diagnosed with a concussion, they are following Water Polo Canada's, the Province's and the National Championship League (NCL)'s concussion protocol and policies and a medically supervised <u>Water Polo Return-to-Sport strategy</u>. <b>Players may only return to full practice and game play when they have been cleared by their doctor.</b></p>			<input type="checkbox"/>

## SAMPLE CONCUSSION ACTION PLAN FOR GAMES

**Team Name:** \_\_\_\_\_ **Trainer:** \_\_\_\_\_

**Coach:** \_\_\_\_\_ **Safety Personnel:** \_\_\_\_\_

Start your water polo season by setting your team up for a safe, healthy and successful season. Fill in the below table to create your team’s Concussion Action Plan for Practices and/or Training Sessions.

**Be aware of “red flag” symptoms, which can be signs of a more serious injury. If any are present, initiate the Emergency Action Plan. If a player is unconscious or a neck injury is suspected, do not attempt to move the player or remove equipment unless there is a concern for their breathing and/or you are appropriately trained to do so.**

STATUS

### If you suspect a concussion has occurred:

ACTION	PERSONNEL RESPONSIBLE (NAME, TITLE)	EMERGENCY CONTACT NUMBER	STATUS
Official stops the game when an injury is suspected.			<input type="checkbox"/>
Coach removes the player from the game.			<input type="checkbox"/>
Coach ensures the player is not left alone. Monitor signs and symptoms using the <u>CRT5</u> and <b>DO NOT</b> administer any medication. The player must not return to the game or other physical activity that day.			<input type="checkbox"/>
Coach informs the player’s parent/caregiver or emergency contact about the suspected concussion and provides them with all relevant concussion WPC and Parachute resources and links.			<input type="checkbox"/>

ACTION	PERSONNEL RESPONSIBLE (NAME, TITLE)	EMERGENCY CONTACT NUMBER	STATUS
<p>Parent/caregiver, chaperone, team manager or coach ensures the player is evaluated by a medical doctor as soon as possible.</p>			<input type="checkbox"/>
<p>Coaches, trainers and parents share the responsibility to communicate with the player to ensure that if they are diagnosed with a concussion, they are following Water Polo Canada's, the Province's and the National Championship League (NCL)'s concussion protocol and policies and a medically supervised <u>Water Polo Return-to-Sport strategy</u>. <b>Players may only return to full practice and game play when they have been cleared by their doctor.</b></p>			<input type="checkbox"/>

STATUS

# RETURN-TO-SPORT STRATEGY

This water polo specific Return-to-Sport Strategy was developed as part of Water Polo Canada's (WPC) Concussion Protocol by the Institut National du sport du Québec (INS Québec) in collaboration with WPC. It ensures that correct activities are completed at the appropriate stages of an athlete's return-to-sport journey and is an important tool for stakeholders.

## **Return-to-Sport Summary:**

### **1 Rest (24 - 48 hours)**

An initial period of 24-48 hours of rest is recommended before starting the water polo specific Return-to-Sport strategy.



**IF THE PLAYER EXPERIENCES NEW OR WORSENING SYMPTOMS AT ANY STAGE, THEY SHOULD GO BACK TO THE PREVIOUS STAGE.**

### **2 Follow the Return-to-School/ Work & Return-to-Sport Strategies**

Review both strategies to understand the correct stage sequencing for a safe, stepwise return to school, work and sports.

### **3 Return to Full Contact Sport Activities**

Once the player has concluded the stages of the Return-to-School/Work strategy and is completing the stages of the Return-to-Sport strategy, a medical doctor or nurse practitioner can assess whether they can return to full contact practice and gameplay activities. If the player is ready to return, a Medical Clearance Letter will be issued. Players cannot return to full contact sport activities until medically cleared by a doctor or nurse practitioner.

The final decision to medically clear an athlete to return to full game activity must be based on the clinical judgment of the medical doctor or nurse practitioner taking into account the athlete's past medical history, clinical history, physical examination findings and the results of other tests and clinical consultations where indicated (i.e. neuropsychological testing, diagnostic imaging).

Prior to returning to full contact practice and game play, each athlete that has been diagnosed with a concussion must provide their coach with a standardized Medical Clearance Letter that specifies that a medical doctor or nurse practitioner has personally evaluated the patient and has cleared the athlete to return to sports. In geographic regions of Canada with limited access to medical doctors (i.e. rural or northern communities), a licensed healthcare professional (such as a nurse) with pre-arranged access to a medical doctor or nurse practitioner can provide this documentation. A copy of the Medical Clearance Letter should also be submitted to sports organization officials that have injury reporting and surveillance programs where applicable.

Athletes who have been provided with a Medical Clearance Letter may return to full sport activities as tolerated. If the athlete experiences any new concussion-like symptoms while returning to play, they should be instructed to stop playing immediately, notify their parents, coaches, trainer or teachers, and undergo follow-up Medical Assessment.

## STAGE 1

### SYMPTOM-LIMITING ACTIVITIES

**ACTIVITIES:** Daily activities that do not provoke symptoms

**GOAL OF THE STAGE:** Gradual reintroduction of work/school activities

## STAGE 2

### LIGHT AEROBIC ACTIVITY\*

#### ACTIVITIES

##### Warm -up:

- Stationary bike or inclined treadmill for 5 min @ 50% HR max.

##### Exercises:

- Stationary bike for 20 min @ 70% HR max in interval sets.
- Floor stretching routine: 1) gluteals; 2) latissimus; 3) quadriceps; 4) hamstrings; 5) adductors; 6) butterfly stretch; 7) happy baby pose; 8) pigeon stretch, etc.
- Foam roller on key areas: hips, back and shoulders
- Mobility work for hip flexion, rotations and extension

#### NO RESISTANCE TRAINING

**GOAL OF THE STAGE:** Increase heart rate

*Typically, these activities are performed at a residence and not during club practices. If a stationary bike or treadmill is not available, a brisk walk in a quiet outdoor environment while wearing sunglasses is recommended.*

## STAGE 3

### SPORT-SPECIFIC EXERCISE

#### ACTIVITIES

##### Warm -up:

- Dryland with the team
- 200m freestyle without turns at the end of the pool
- 3 min eggbeater
- 5 min passes while facing partner

##### Cardiovascular:

- Interval swim sets 3 x 5 x 25m progressive intensity up to 70% alt 25m 50% (750m total)
- 20 sec rest between sets

##### Technical Work:

- 5 min passing with 2 partners 3 x 50m eggbeater with blocking motions.
- 3 x 50m eggbeater with alternate side sliding
- 10 x shooting at the net without opponents and no goalie

##### Cool Down:

- 100m free @ 50% intensity, foam roller and stretching

#### NO HEAD IMPACT ACTIVITIES

**GOAL OF THE STAGE:** Add movement

## STAGE 4

## NON-CONTACT TRAINING DRILLS

### ACTIVITIES

#### Warm -up:

- Dryland with the team (include skipping rope x 3 min)
- 4 x diving into the pool with 50m freestyle
- 50m eggbeater
- 50m breaststroke
- 25m water polo backstroke + 25m eggbeater and vertical jumps
- 5 x 10 sec breath hold with head underwater (alt 10 sec rest)

#### Cardiovascular:

- 5 x catch up 25m head up: 60-70-80-90-100% (30 sec active rest throwing ball between reps)
- 5 x 25m sprints head up (30 sec active rest throwing ball between reps)
- 2 x 25m breaststroke
- 5 x 1/2 pool sprints, spin and receive long pass + simulate post shot (return water polo backstroke easy)

#### Technical Work:

- 3 min passing with 3 other players
- 5 x 10 sec mirror drills with an opponent (alternate 20 sec passive rest/set)
- 10 x 5m sprint with the ball, fake and throw on net with goalie and 1 defender
- 10 x 2 vs. 1 + goalie, receive pass and throw on net
- 3 x 10 blocking shots moderate intensity

#### Cool Down:

- 200m easy + foam roller and stretching

#### Strength Training:

- Keep resistance below 80% 1RM and avoid jumping, Olympic lifting or exercises where head is below the level of the hips (i.e. back extensions on a bench)
- Progressively increase external resistance for multi-joint exercises.

### MAY START PROGRESSIVE RESISTANCE TRAINING

**GOAL OF THE STAGE:** Exercise, coordination and increased thinking

## STAGE 5

### FULL CONTACT PRACTICE FOLLOWING MEDICAL CLEARANCE

#### ACTIVITIES

##### Warm -up:

- Dryland with the team.
- 100m free with turns at the ends of the pool
- 5 x (10m eggbeater + 6 turbo + free to finish pool)
- Alternate 5 x (10m eggbeater + 4 consecutive jumps + free to finish pool)
- 5 min passing with 1 partner

##### Cardiovascular:

- Catch up 25m head up: 60-70-80-90-100% (30 sec rest)
- 5 x all-out sprints with head up
- 2 x 25m breaststroke
- 5 x 1/2 pool sprints, receive pass and finish 1/2 pool easy with the ball
- Rest 1 min
- 5 x 1/2 pool sprint, spin and receive long pass + simulate post shot (return water polo backstroke easy)
- Active rest, passing with leaning as when avoiding a block

##### Technical Work:

- 2 x 5 reps 1 vs. 1 battle to steal ball 5m away
- Passive rest 2 min
- 2 x 5 reps defensive block
- Passive rest 2 min
- 3 vs. 3 simulations in small surface
- Progress to 6 vs. 6 full size playing area

##### Cool Down:

- 200m easy free, foam rolling and stretching

##### Strength Training:

- Return to normal resistance loads, Olympic lifting and valsalva technique.



**THE ATHLETE SHOULD NOT START THIS STAGE UNTIL THEY COMPLETE ALL OF THE THE RETURN-TO-SCHOOL|WORK STRATEGY STAGES!**

**GOAL OF THE STAGE:** Restore confidence and assess functional skills by coaching staff

## STAGE 6

### RETURN-TO-SPORT

**ACTIVITIES:** Normal game play

## STAGE 1

### SYMPTOM-LIMITING ACTIVITIES

**ACTIVITIES:** Daily activities that do not provoke symptoms

**GOAL OF THE STAGE:** Gradual reintroduction of work/school activities

## STAGE 2

### LIGHT AEROBIC ACTIVITY\*

#### ACTIVITIES

##### Warm -up:

- Stationary bike or inclined treadmill for 5 minutes @ 50% HR max.

##### Exercises:

- Stationary bike for 20 minutes @ 70 HR max in interval sets.
- Tennis ball throws against neutral colour wall:
  - 5 right hand throws with right hand catch
  - 5 left hand throws with left hand catch
  - 10 throws with alternate throwing and catching hands
- Floor stretching routine: 1) gluteals; 2) latissimus; 3) quadriceps; 4) hamstrings; 5) adductors; 6) butterfly stretch; 7) happy baby pose; 8) pigeon stretch, etc.
- Foam roller on key areas: hips, back and shoulders
- Mobility work for hip flexion, rotations, extension

#### NO RESISTANCE TRAINING

**GOAL OF THE STAGE:** Increase heart rate

*\* Typically, these activities are performed at a residence and not during club practices. If a stationary bike or treadmill is not available, a brisk walk in a quiet outdoor environment while wearing sunglasses is recommended.*

## STAGE 3

### SPORT-SPECIFIC EXERCISE

#### ACTIVITIES

##### Warm -up:

- Dryland with the team
- 200m freestyle without turns at the end of the pool
- 3 minutes eggbeater
- 5 minutes passes while facing partner

##### Cardiovascular:

- Interval swim sets 3 x 5 x 25m progressive intensity up to 70% alt 25m 50% (750m total)
- 20 sec rest between sets

*💡 Athlete can also be challenged on land with passing and reaction drills with partner.*

## Technical Work (In the pool):

- Circuit training: 3 x (5 sec eggbeater hands up, 6 x lateral lunging alt sides, 10 sec crazy hands, 10 sec flutter kick against the wall)
- 5 min passing with 1 partner at increasing distance.
- 10-20 sec of reaction drills with side to side of vertical jumping
- 10 x blocking lobbed throws in free space (no net)

## Technical Work (Out of the water, tennis ball throws against a wall):

- 5 right hand throws with right hand catch
- 5 left hand throws with left hand catch
- 10 throws with alternate throwing and catching hands

## Cool Down:

- 100m free @ 50% intensity, foam roller and stretching

## **NO HEAD IMPACT ACTIVITIES**

**GOAL OF THE STAGE:** Add movement

## **STAGE 4**

## **NON-CONTACT TRAINING DRILLS**

### **ACTIVITIES**

#### Warm -up:

- Dryland with the team (include skipping rope x 3 min)
- 4 x diving into the pool with 50m freestyle
- 50m eggbeater
- 50m breaststroke
- 25m water polo backstroke + 25m eggbeater and vertical jumps
- 5 x 10 sec hold with head underwater (alt 10 sec rest)

#### Cardiovascular:

- Lunge and jump to the same side 4 x 6
- Lunge and jump to the opposite side 4 x 6
- Jump and lunge to the same side 4 x 6
- Jump and lunge to the opposite side 4 x 6
- Goalie position T-test 3 x 5 x 5 with 30 sec rest between reps and 3 min between sets.

#### Technical Work:

- 5 min passing with 1 partner at increasing distances
- 10 x blocking lobbed shots vs. single attacker
- 10 x top corner blocking (2 on 1 play or single attacker vs. goalie)
- 10 x blocking direct shots from various play positions, left to right then right to left (2 on 1 play or single attacker vs. goalie)
- Reaction drills following ball movement 5 x 10 reps left/right/up



*This is also an opportune period to practice decision making with match video situations and others, volume dependent on visual and cognitive findings at Step 1.*

#### Cool Down:

- 200m easy + foam roller and stretching

## Strength Training:

- Keep resistance below 80% 1RM and avoid jumping, Olympic lifting or exercises where head is below the level of the hips (i.e. back extensions on a bench)
- Progressively increase external resistance for multi-joint exercises.

## **MAY START PROGRESSIVE RESISTANCE TRAINING**

**GOAL OF THE STAGE:** Exercise, coordination and increased thinking

### STAGE 5

## **FULL CONTACT PRACTICE FOLLOWING MEDICAL CLEARANCE**

### **ACTIVITIES**

#### Warm -up:

- Dryland with the team.
- 100m freestyle with regular turns at each end of the pool.
- 3x1/2 distance eggbeater sideways, switch at the end of the lap
- 3x1/2 distance eggbeater and slide every 5 sec., finish freestyle
- 3x1/2 distance eggbeater and jump every 5 sec., finish freestyle
- 5 min passing with partner face to face

#### Cardiovascular:

- Lunge and jump to the same side 4x6
- Lunge and jump to the opposite side 4x6
- Jump and lunge to the same side 4x6
- Jump and lunge to the opposite side 4x6
- Circuit training: 3x(5 sec eggbeater hands up, 6x lateral lunging alt sides, 10 sec crazy hands, 10 sec flutter kick against the wall).



**THE ATHLETE SHOULD NOT START THIS STAGE UNTIL THEY COMPLETE ALL OF THE THE RETURN-TO-SCHOOL|WORK STRATEGY STAGES!**



Continue to monitor heart rate throughout this period. Ensure return to adequate heart rate between longer sets or after very intense drills.

#### Technical Work:

- 5 min passing with 1 partner at increasing distances
- Practice game situations with 1/2 field of play (positions 1-2-3-6).
- 2x10 blocking lobbed shots random sides
- 2x10 blocking straight top corner shots random sides
- 2x10 blocking skip shots random sides
- 15x blocking 2 on 1 situation, full net to cover.

#### Cool Down:

- 200m easy free, foam rolling and stretching

#### Strength Training:

- Return to normal resistance loads, Olympic lifting and valsalva technique.

**GOAL OF THE STAGE:** Restore confidence and assess functional skills by coaching staff

### STAGE 6

## **RETURN-TO-SPORT**

**ACTIVITIES:** Normal game play



# RETURN-TO-SCHOOL/ WORK STRATEGY

The following is an outline of the Return-to-School Strategy that should be used to help student-athletes, parents/caregivers and teachers to collaborate in allowing the athlete to make a gradual return to school activities. Depending on the severity and type of the symptoms present student-athletes will progress through the following stages at different rates. If the student-athlete experiences new symptoms or worsening symptoms at any stage, they should go back to the previous stage. Athletes should also be encouraged to ask their school if they have a school-specific Return-to-Learn Program in place to help student-athletes make a gradual return to school.

## REST (24 - 48 HOURS)

### DAILY ACTIVITIES AT HOME

Typical activities during the day as long as they do not increase symptoms (i.e. reading, texting, screen time). Start with 5-15 minutes at a time and gradually build up.

1

#### GOAL OF THE STAGE:

Gradual return to typical activities

### SCHOOL ACTIVITIES

Homework, reading or other cognitive activities outside of the classroom.

2

#### GOAL OF THE STAGE:

Increase tolerance to cognitive work

### RETURN-TO-SCHOOL/ WORK PART-TIME

Gradual introduction of schoolwork. May need to start with a partial school day or with increased breaks during the day.

3

#### GOAL OF THE STAGE:

Increase Academic Activities

## RETURN-TO-SCHOOL/ WORK FULL-TIME

Gradually progress, reduce modifications or adaptations until the student can handle a full day and full workload with no modifications or adaptations.

### GOAL OF THE STAGE:

Return to full academic activities and catch-up on missed school work.

## WHAT IS NEXT?

### STAGES #5 & #6 OF THE WATER POLO SPECIFIC RETURN-TO-SPORT STRATEGY

**\*Note:** It is important that youth and adult student-athletes return to full-time school/work activities before progressing to stages 5 & 6 of the water polo specific Return-to-Sport Strategy!

**A SIGNED MEDICAL CLEARANCE LETTER IS REQUIRED PRIOR TO THE ATHLETE ENTERING STAGE 5 OF THE RETURN-TO-SPORT STRATEGY!!!**

**\*Note:** These steps can also be used as a Return-to-Work Strategy\*\* for those water polo athletes that train or compete in the Active for Life stages (i.e. Major League Water Polo, Masters water polo, adult Provincial League or club adult water polo program) or for coaches, officials and trainers.

\*\*A more tailored and detailed Return-to-Work strategy is available for stakeholders on Parachute's website in both of Canada's official languages ([English](#) and [French](#)).

A visual representation of the WPC Concussion Pathway can be seen in Appendix A.

# CONCUSSION FAQ GUIDE

This guide provides a list of Frequently Asked Questions (FAQs) on a variety of topics that have not been explained in Water Polo Canada's (WPC) other concussion education resources or important information that WPC would like to emphasize for our members. These questions have been subdivided into smaller sections for ease. It is recommended that this guide be reviewed by coaches prior to the Pre-Season Concussion Education Team Meeting and referred to when necessary.

## 1 WHO IS RESPONSIBLE FOR RECOGNIZING A SUSPECTED CONCUSSION?

Although the formal diagnosis of concussion should be made following a medical assessment, all sport stakeholders including athletes, parents, teachers, coaches, teachers, officials, and licensed healthcare professionals are responsible for the recognition and reporting of athletes who may demonstrate visual signs of a head injury or who report concussion-related symptoms. This is particularly important because many sport and recreation venues will not have access to on-site licensed healthcare professionals.

A concussion should be suspected:

- In any athlete who sustains a significant impact to the head, face, neck, or body and demonstrates ANY of the visual signs of suspected concussion or reports ANY symptoms of a suspected concussion as detailed in the Concussion Recognition Tool 5 (CRT5), a copy of which can be found in Appendix B.
- If a player reports ANY concussion symptoms to one of their peers, parents, teachers, or coaches or if anyone witnesses an athlete exhibiting any of the visual signs of concussion.

In some cases, an athlete may demonstrate signs or symptoms of a more severe head or spine injury including convulsions, worsening headaches, vomiting or neck pain. If an athlete demonstrates any of the 'Red Flags' indicated by the CRT5, a more severe head or spine injury should be suspected, and Emergency Medical Assessment should be pursued. The Emergency Medical Assessment is located within WPC's Concussion Protocol.

GENERAL

## 2

### CAN A COACH DIAGNOSE A CONCUSSION?

No, a coach is not qualified to diagnose a concussion. In addition to nurse practitioners, medical doctors that are qualified to evaluate patients with a suspected concussion include:

- Pediatricians;
- Family medicine physicians;
- Sport medicine physicians;
- Emergency department physicians;
- Internal medicine physicians;
- Rehabilitation physicians (physiatrists);
- Neurologists; and
- Neurosurgeons

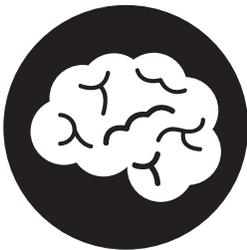


In geographic regions of Canada with limited access to medical doctors (i.e. rural or northern communities), a licensed healthcare professional (i.e. nurse) with pre-arranged access to a medical doctor or nurse practitioner can facilitate this role.

**\*Note:** In Québec, nurse practitioners cannot make a clinical diagnosis. Diagnosis must be made by a medical doctor.

## 3

### HOW ARE CONCUSSIONS TREATED?



Athletes diagnosed with a concussion should be provided with education about the signs and symptoms of concussion, strategies about how to manage their symptoms, the risks of returning to sport without medical clearance and recommendations regarding gradual return to school and sport activities. Athletes diagnosed with a concussion are to be managed according to their Return-to-School/Work and Sport-Specific-Return-to-Sport Strategy. When available, athletes should be encouraged to work with the team athletic therapist or physiotherapist to optimize progression through their Sport-Specific Return-to-Sport Strategy.

## 4 WHAT SHOULD I DO IF I SUSPECT A CONCUSSION?

### AS A PLAYER

If you as a player received a blow to the head, face, neck or elsewhere on your body or are experiencing any of the concussion symptoms you should stop practicing or playing and immediately notify your coach, trainer, teacher or parent/caregiver.

### AS A COACH

If you suspect an athlete may have suffered a concussion during a game or practice, remove the athlete from play and consult your [Concussion Action Plan](#) for next steps.

### AS A PARENT/CAREGIVER

If you suspect a concussion in your child or another athlete notify a coach, teacher or their parent/caregiver immediately.

If your child is demonstrating visual signs of a concussion or experiencing concussion symptoms, suspect a concussion and have your child assessed by a medical doctor or nurse practitioner.

### AS A TEAMMATE

If you see one of your teammates receive a blow to the head, face, neck or elsewhere on their body, if they are acting peculiarly, showing visual signs of a concussion as outlined in the [WPC Pre-Season Concussion Education Fact Sheet](#), or if they inform you that they are experiencing one of the symptoms commonly associated with a concussion you should inform your coach or trainer immediately.

### AS AN OFFICIAL

If an athlete receives a blow to the head, face, neck or elsewhere on their body and is exhibiting any of the visual signs associated with concussions during a game, a referee can stop the game for a period of 3 minutes. During this time the coaches are able to access the injured athlete. This rule is located under WP 26.3 of the FINA water polo rules 2019-2020 which states that, "If accident, injury or illness, other than bleeding, occurs, a referee may at the referee's discretion suspend the game for not more than three minutes, in which case the referee shall instruct the timekeeper as to when the stoppage period is to commence." (p.28)

In addition, the referee cannot allow an injured athlete to re-enter the field of play as explained under WP 26.5 of the FINA water polo rules 2019-2020 which states that, "Except in the circumstances of WP 26.2 (bleeding), the player shall not be allowed to take further part in the game if a substitute has entered." (p.28)

## 5 WHEN SHOULD THE ATHLETE SEE A DOCTOR?



If an athlete loses consciousness during a practice or game or exhibits any of the other “Red flag” symptoms they should be transported to a hospital immediately.

- Neck pain or tenderness
- Repeated vomiting
- Growing confusion
- Seizures or convulsions
- Weakness, tingling or burning in their arms or legs
- Increasingly restless, agitated or combative
- Double vision
- Severe or increasing headache
- Deteriorating conscious state or loss of consciousness
- If there is loss of consciousness, initiate the Emergency Action Plan and call an ambulance.

***\*Note:** If the player is unconscious or you suspect a neck injury, continue to monitor airway, breathing and circulation. Do not attempt to remove any equipment.*

If the athlete does not exhibit any “Red Flag” symptoms during the practice or game, their parents/caregivers should be notified and the athlete should be closely monitored until their parents/caregivers arrive. If the athlete experiences constant or worsening concussion symptoms, they should make an appointment with their medical doctor or nurse practitioner.

## 6 WHAT TYPE OF INFORMATION SHOULD BE PROVIDED TO THE DOCTOR?

WPC has created a Personal Concussion Record for Players sheet for our registrants to use during their Return-to-School/Work and Return-to-Sport journey. The information included on this sheet will be useful in providing an overview of the athlete’s concussion and concussion history, which doctors may find useful. However, it is not a legal medical document and as such should be used solely as a tool for athletes and parents/caregivers to use and refer to throughout the Return-to-School/Work and Return-to-Sport period and in the future. Using the Personal Concussion Record for Players is highly recommended and a simple method to ensure that the same information is provided to the athlete’s doctor, coaches, teachers and other support staff.

## 7

## HOW LONG DOES IT TAKE FOR A CONCUSSION TO HEAL?

Most athletes who sustain a concussion while participating in sport will make a complete recovery and be able to return to full school and sport activities within 1-4 weeks of injury. However, approximately 15-30% of individuals will experience symptoms that persist beyond this time frame.

If available, individuals who experience persistent post-concussion symptoms (>4 weeks for youth athletes, >2 weeks for adult athletes) may benefit from referral to a medically supervised multidisciplinary concussion clinic that has access to professionals with licensed training in traumatic brain injury that may include experts in sport medicine, neuropsychology, physiotherapy, occupational therapy, neurology, neurosurgery, rehabilitation medicine as well as optometry and kinesiology.

Referral to a multidisciplinary clinic for assessment should be made on an individualized basis at the discretion of an athlete's medical doctor or nurse practitioner. If access to a multidisciplinary concussion clinic is not available, a referral to a medical doctor with clinical training and experience in concussion (e.g. a sport medicine physician, neurologist, or rehabilitation medicine physician) should be considered for the purposes of developing an individualized treatment plan. Depending on the clinical presentation of the individual, this treatment plan may involve a variety of health care professionals with areas of expertise that address the specific needs of the athlete based on the assessment findings.

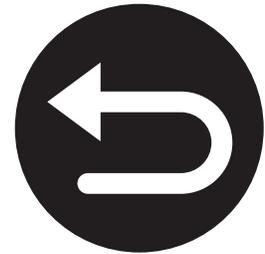
**\*Note:** For those registrants interested in locating a medical professional who possesses experience within the area of concussions, you may find the following website to be helpful.

8

## WHAT HAPPENS WHEN AN ATHLETE RETURNS TOO QUICKLY TO SPORT, SCHOOL OR WORK?

It is important that athletes, coaches and officials take the necessary time to heal when they have been diagnosed with a concussion. Concussions affect each individual differently and there can be severe consequences to those individuals who return too quickly to sport, school or work when they have a concussion. Going back to activities before you are ready is likely to make your symptoms worse, your recovery may take longer, and returning to active play before full recovery also puts you at higher risk of sustaining another concussion.

There is also the possibility, although minimal, that an athlete who returns too quickly to sport can be diagnosed with Second Impact Syndrome (SIS). SIS is a swelling of the brain that can occur when a player sustains a second head injury before a previous head injury has healed. Although rare, SIS can lead to permanent injury and death.



9

## CAN A CONCUSSION BE CLASSIFIED AS SEVERE OR MILD?



No, concussions cannot be classified as severe or mild. There is no recognized system for classifying concussions. The full extent of the consequences of a concussion are difficult to predict at the outset and may change over time. Each concussion should be taken seriously and anyone who sustains a concussion should carefully follow step-wise return-to-school/work and return-to-sport strategies to support a safe and healthy recovery.

## 10 HOW CAN TEAMMATES HELP THEIR TEAMMATE WHO IS SUFFERING FROM A CONCUSSION FEEL INCLUDED?



Players who are suffering from a concussion may find it difficult, at times, to feel included on their sport team. It is important that the player's teammates are aware of this and endeavor to increase the player's inclusion in team activities while respecting the restrictions that accompany their stage of concussion recovery. One method of increasing feelings of inclusion would be for the player's teammates to spend time with or communicate with the injured player. However, large gatherings may cause the symptoms of the player suffering from a concussion to worsen due to the amount of noise and the high level of concentration required. Therefore, individual support from teammates is preferred.

Teammates may also support the player by demonstrating empathy and understanding that, even though you can't see it, a concussion is a brain injury, which takes adequate time to recover safely. Often, players may want to return to sport before they are ready or fully recovered. Teammates should encourage the concussed player to take the time they need to recover and be there to support them through their recovery process.

## 11 SHOULD AN ATHLETE TAKE MEDICATION TO HELP WITH THEIR SYMPTOMS IF THEY MAY HAVE A SUSPECTED CONCUSSION (I.E. ACETAMINOPHEN FOR A HEADACHE)?

Players removed from play due to a suspected concussion should not ingest or be given any type of medication, unless it is essential (e.g. insulin for diabetes). Their doctor will provide further guidance on medication use during recovery.



**1**

## **WHY ARE PRE-SEASON CONCUSSION EDUCATION MEETINGS IMPORTANT?**

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Despite recent increased attention focusing on concussion, there is a continued need to improve concussion education and awareness. Optimizing the prevention and management of concussion depends highly on annual education of all stakeholders (athletes, parents, coaches, officials, teachers, trainers and integrated support staff) on current evidence-informed approaches that can prevent concussion and more serious forms of head injury and help identify and manage an athlete with a suspected concussion. The Pre-Season Concussion Education Meetings are extremely important in ensuring that water polo clubs across Canada are aligned in the WPC safe sport pillar of concussion prevention and management.

**2**

## **IF AN ATHLETE WEARS A MOUTHGUARD AND/OR A GOALIE PRACTICE HELMET, CAN THEY STILL RECEIVE A CONCUSSION?**

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Mouthguards and helmets do not prevent concussions. Currently, there is limited research into mechanisms of concussion in water polo, and as such, there is no proof to support the notion that specific equipment worn by water polo players can prevent a concussion. The evidence on whether mouthguards can reduce the risk of concussion is inconclusive. Wearing proper equipment is important for other reasons: mouthguards can help protect the teeth from direct impact, and goalie practice helmets may help protect the skull or prevent other head injuries. But, a player can still receive a concussion while wearing a mouthguard and/or goalie practice helmet, as a very rapid movement of the head with or without physical contact is often sufficient to cause a concussion.

## 3

### WHAT SHOULD STAKEHOLDERS, PARTICULARLY COACHES, ATHLETES AND PARENTS/CAREGIVERS, DO DURING THE SEASON TO HELP PREVENT AND MANAGE CONCUSSIONS?

#### PLAYERS

- Use the [tips to prevent concussions and other injuries](#) sheet to ensure that you and your teammates are practicing awareness and safety in all practices and games.
- If you or your teammate are experiencing concussion symptoms, notify a coach, teacher or parent/caregiver immediately.
- Ensure that prior to returning to full contact practice and game, you provide a signed Medical Clearance Letter to your coach.
- Follow the proper stage sequencing of the [Return-to-School/Work](#) and [Return-to-Sport strategies](#) and identify whether you are experiencing any new or worsening symptoms throughout or following each stage.

#### PARENTS/GUARDIANS

- If you suspect a concussion in your child or another player notify a coach, teacher or their parent/caregiver immediately.
- Ensure that your child is following the proper stage sequencing of the [Return-to-School/Work](#) and [Return-to-Sport strategies](#).
- Be aware of your child's team's/club's [Concussion Action Plan](#)

#### COACHES

- Use the [tips to prevent concussions and other injuries](#) sheet to help plan safe practices for your team. Ensure that you are aware of your Concussion Action Plan during practices and games and if there are any differences based on pool facilities.
- If you suspect an athlete may have suffered a concussion during a game or practice, remove the athlete from play and consult your Concussion Action Plan for next steps.
- Create an emergency contact sheet with parent contact information for each athlete on your team in the event you need to contact them.
- Ensure that you have the [CRT5](#) in an easily accessible location for when you need to reference the information.
- Ensure that any athlete diagnosed with a concussion is following the proper [Return-to-Sport](#) sequencing.
- Ensure that prior to an athlete returning to full contact practice and games that you receive a signed Medical Clearance Letter from the athlete.

**1**

## WHAT IS WPC DOING TO PREVENT AND MANAGE CONCUSSIONS?

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Safe sport is a crucial element within Canadian sport and WPC recognizes the importance of providing our members with the proper education tools, resources, policies and protocols to address this area. Concussion prevention and management is one of WPC's safe sport pillars and as such, WPC has established the Concussion Expert Advisory Committee to provide support and guidance to WPC within this area. The Institut National du sport du Québec (INS Québec) in collaboration with WPC has developed WPC's Concussion Protocol which is based on the latest evidence, developed with concussion experts and supported by Sport Canada. WPC is committed to promoting concussion awareness, prevention and management. The organization has and will continue to work diligently within the safe sport category of concussions moving forward. This Concussion Education Toolkit is the first step to ensuring a safer, more conscientious sport environment for our stakeholders.

**2**

## IS THE NCL IMPLEMENTING ANY SPECIALIZED CONCUSSION PROCEDURES?

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WPC's focus for the 2020-2021 season is to provide our members with crucial concussion education resources as a means of developing their concussion awareness, prevention and management techniques. Education is a vital element in concussion prevention and management. In order for the National Championship League (NCL) to be successful, it is imperative that our members understand their responsibilities in relation to the area of concussions within safe sport. In addition, WPC requires all NCL coaches to complete the NCCP Making Head Way in Sport e-module prior to coaching any NCL games.



1

## HOW IS ROWAN'S LAW BEING ADDRESSED FOR ONTARIO RESIDENTS?

In Ontario, Rowan's Law is a mandatory legislation that sport organizations must adhere to and it addresses the prevention and management of concussions. As a result of this legislation, Ontario Water Polo (OWP) requires that each water polo registrant who resides in Ontario and is under the age of 26 to sign their Concussion Code of Conduct and provide annual verification that the Government of Ontario concussion awareness resources have been reviewed. In addition, coaches, officials and trainers of teams, which include athletes who are under the age of 26, must also complete these tasks.

For more information about Rowan's Law, please visit the following website: [Ontario.ca/concussions](https://Ontario.ca/concussions)



PROVINCIAL  
SPECIFICATIONS

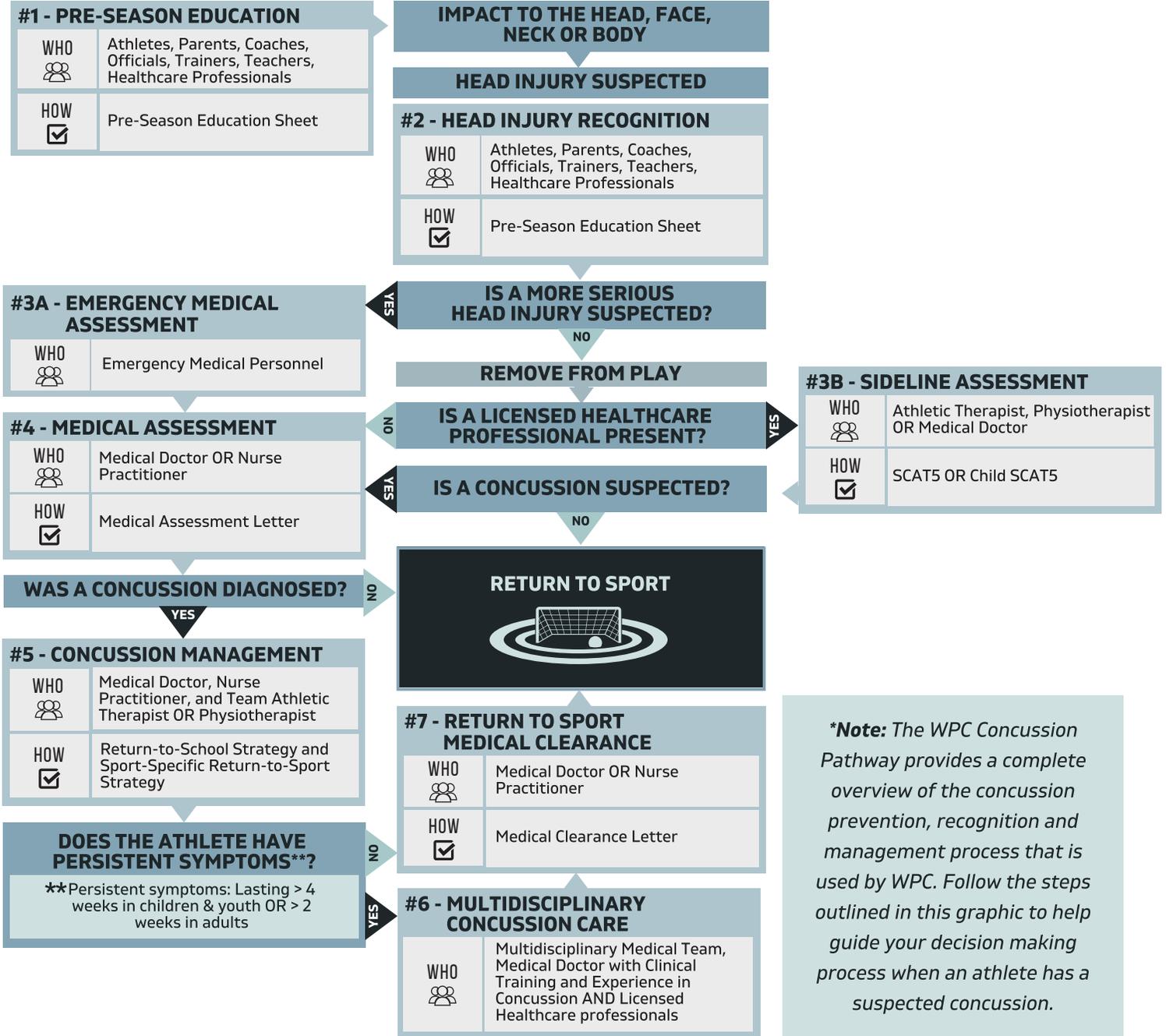


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# APPENDIX A - WPC CONCUSSION PATHWAY



# APPENDIX B - CONCUSSION RECOGNITION TOOL

BJSM Online First, published on April 26, 2017 as 10.1136/bjsports-2017-097508CRT5

To download a clean version of the SCAT tools please visit the journal online (<http://dx.doi.org/10.1136/bjsports-2017-097508CRT5>)

Br J Sports Med: first published as 10.1136/bjsports-2017-097508CRT5 on 26 April 2017. Downloaded from <http://bjsm.bmj.com/> on October 28, 2021 by guest. Protected by copyright.

## CONCUSSION RECOGNITION TOOL 5<sup>®</sup>

To help identify concussion in children, adolescents and adults

Supported by

**RECOGNISE & REMOVE**

Head impacts can be associated with serious and potentially fatal brain injuries. The Concussion Recognition Tool 5 (CRT5) is to be used for the identification of suspected concussion. It is not designed to diagnose concussion.

**STEP 1: RED FLAGS — CALL AN AMBULANCE**

If there is concern after an injury including whether ANY of the following signs are observed or complaints are reported then the player should be safely and immediately removed from play/game/activity. If no licensed healthcare professional is available, call an ambulance for urgent medical assessment:

- Neck pain or tenderness
- Double vision
- Weakness or tingling/burning in arms or legs
- Severe or increasing headache
- Seizure or convulsion
- Loss of consciousness
- Deteriorating conscious state
- Vomiting
- Increasingly restless, agitated or combative

**Remember:**

- In all cases, the basic principles of first aid (danger, response, airway, breathing, circulation) should be followed.
- Assessment for a spinal cord injury is critical.
- Do not attempt to move the player (other than required for airway support) unless trained to do so.
- Do not remove a helmet or any other equipment unless trained to do so for safety.

### STEP 3: SYMPTOMS

<ul style="list-style-type: none"> <li>• Headache</li> <li>• "Pressure in head"</li> <li>• Balance problems</li> <li>• Nausea or vomiting</li> <li>• Drowsiness</li> <li>• Dizziness</li> </ul>	<ul style="list-style-type: none"> <li>• Blurred vision</li> <li>• Sensitivity to light</li> <li>• Sensitivity to noise</li> <li>• Fatigue or low energy</li> <li>• "Don't feel right"</li> </ul>	<ul style="list-style-type: none"> <li>• More emotional</li> <li>• More irritable</li> <li>• Sadness</li> <li>• Nervous or anxious</li> <li>• Neck Pain</li> <li>• Feeling like "In a fog"</li> </ul>
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### STEP 4: MEMORY ASSESSMENT

(IN ATHLETES OLDER THAN 12 YEARS)

Failure to answer any of these questions (modified appropriately for each sport) correctly may suggest a concussion:

- "What venue are we at today?"
- "Which half is it now?"
- "Who scored last in this game?"
- "What team did you play last week/game?"
- "Did your team win the last game?"

**Athletes with suspected concussion should:**

- Not be left alone initially (at least for the first 1-2 hours).
- Not drink alcohol.
- Not use recreational/ prescription drugs.
- Not be sent home by themselves. They need to be with a responsible adult.
- Not drive a motor vehicle until cleared to do so by a healthcare professional.

The CRT5 may be freely copied in its current form for distribution to individuals, teams, groups and organisations. Any revision and any reproduction in a digital form requires approval by the Concussion in Sport Group. It should not be altered in any way, rebranded or sold for commercial gain.

**ANY ATHLETE WITH A SUSPECTED CONCUSSION SHOULD BE IMMEDIATELY REMOVED FROM PRACTICE OR PLAY AND SHOULD NOT RETURN TO ACTIVITY UNTIL ASSESSED MEDICALLY, EVEN IF THE SYMPTOMS RESOLVE**

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