

PRE-SEASON CONCUSSION EDUCATION FACT SHEET



WHAT IS A CONCUSSION?

A concussion is a brain injury that cannot 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. In addition, continued participation while suffering from a concussion increases the risk of other injury and 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 motor vehicle collision.



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 anyone who reports one or more symptoms of a suspected concussion or demonstrates one or more observable signs of a suspected 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?

Visual signs of a concussion may include:

- 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
- Unresponsive
- Unsteady on feet, balance problems, poor coordination, wobbly
- Facial injury
- Clutching head



WHAT ARE THE SYMPTOMS OF A CONCUSSION?

A person does not need to 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 lacking energy
- Not thinking clearly
- Feeling slowed down
- Don't feel right
- Sadness
- Nervousness or anxiety
- Feeling more emotional, easily upset or angered
- Sleeping more or sleeping less
- Having a hard time falling asleep
- Difficulty concentrating
- Difficulty remembering
- Feeling like in a fog



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 game or practice and undergo medical assessment as soon as possible. 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 activities with risk or impact of falls.**



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

It is important that all players diagnosed with a concussion follow a stepwise return to school, work and sports-related activities, guided by the following Return-to-School/Work and Return-to-Sport Strategies. Note that these strategies begin at the same time, can happen concurrently and the first step of both is the same. It is important that players return to full-time school activities, if applicable, and provide a medical clearance letter before progressing to step 4 of Return-to-Sport.



RETURN-TO-SCHOOL/WORK STRATEGY

The Return-to-School Strategy should be used to help students make a gradual return to school activities. Progression through the steps will look different for each student. It is common for symptoms to worsen mildly and briefly with activity. If the student's symptoms worsen more than this, pause and adapt activities as needed.

STAGE	ACTIVITY	DESCRIPTION	GOAL OF EACH STEP
1	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.
2	School or work activities at home.	Homework, reading or other cognitive activities outside of the classroom/workplace.	Increase tolerance to cognitive work
3	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
4	Return to school/work full-time.	Gradually progress.	Return to full academic activities and catch up on missed schoolwork.

Water Polo-Specific Return-to-Sport Strategy

An outline of the Water Polo Return-to-Sport Strategy is located on the pages that follow. This Strategy should be used to help participants, parents/caregivers, coaches/trainers, teachers, and medical professionals to partner in allowing the player to make a gradual return to sport activities. The player should spend a minimum of 24 hours at each step before progressing to the next. It is common for symptoms to worsen **mildly and briefly** with activity and this is acceptable through steps 1 to 3. If the player's symptoms worsen more than this, they should stop the activity and try resuming the next day at the same step. It is important that players return to full-time school activities, if applicable, and provide their coach with a Medical Clearance Letter before progressing to step 4.

***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.



WATER POLO SPECIFIC RETURN-TO-SPORT STRATEGY (FIELD PLAYER & GOALIE)

STAGE	ACTIVITY	DESCRIPTION	GOAL OF EACH STEP
1	Activities of daily living and relative rest (first 24-28 hours)	Typical activities at home (e.g. preparing meals, social interactions, light walking). Minimize screen time.	Gradual reintroduction of work/school activities
2	2A: Light effort aerobic exercise 2B: Moderate effort aerobic exercise	Walking or stationary cycling at slow to medium pace. May begin light resistance training. Gradually increase intensity of aerobic activities, such as stationary cycling and walking at a brisk pace. Examples for Field Players: <ul style="list-style-type: none">• Stationary bike or inclined treadmill for 5 min• Floor stretching routine• Mobility work Examples for Goalies: <ul style="list-style-type: none">• Stationary bike or inclined treadmill for 5 min• Tennis ball throws against neutral coloured wall• Floor stretching routine• Mobility work	Increase heart rate
3	Individual sport-specific activities, without risk of inadvertent head impact	Add sport-specific activities. Perform activities individually and under supervision.	Increase the intensity of aerobic activities and introduce low-risk sport-specific movements.

STAGE	ACTIVITY	DESCRIPTION	GOAL OF EACH STEP
		<p>Examples for Field Players:</p> <ul style="list-style-type: none"> • 5 min passes while facing a partner • 3x 50m eggbeater with alternate side sliding • Shooting at the net without opponents and no goalie. <p>Examples for Goalies:</p> <ul style="list-style-type: none"> • 10-20 sec reaction drills with side to side or vertical jumping • 10x blocking lobbed throws in free space (no net). • 5 min passing with 1 partner at increasing distance 	

4 MEDICAL CLEARANCE

<p>5</p>	<p>Return to all non-competitive activities, full-contact practice and physical education activities</p>	<p>Progress to higher-risk activities including typical training activities, full-contact sport practices and physical education class activities. Do not participate in competitive gameplay.</p>	<p>Return to activities that have a risk of falling or body contact, restore confidence and assess functional skills by coaching staff.</p>
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STAGE	ACTIVITY	DESCRIPTION	GOAL OF EACH STEP
		<p>Examples for Field Players:</p> <ul style="list-style-type: none"> • 5 min passing with 1 partner 3 vs. 3 simulations in small surface Progress to 6 vs. 6 full size playing area Return to normal resistance loads, Olympic lifting and Valsalva technique. <p>Examples for Goalies:</p> <ul style="list-style-type: none"> • 3 x 1/2 distance eggbeater and jump every 5 seconds, finish freestyle • Practice game situations with 1/2 field • Return to normal resistance loads, Olympic lifting and Valsalva technique. <div style="background-color: #333; color: #fff; padding: 5px; border-radius: 5px;"> <p>* <i>Continue to monitor heart rate throughout this period. Ensure return to adequate heart rate between longer sets or after very intense drills.</i></p> </div>	
6	Return to sport	Unrestricted game play and physical activity	

Table adapted from: Patricios, Schneider et al., 2023; Reed, Zemek et al., 2023



HOW LONG DOES IT TAKE FOR THE PLAYER TO RECOVER?

Concussion recovery time varies from player to player. While an exact timeline is not possible to provide, most players will make a complete recovery within 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 percent of patients will experience persisting symptoms (> four weeks) which 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 a concussion is a process that takes patience.



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.

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 PLAYERS

I will do my best to protect myself and others from concussion.

- I will wear the proper water polo equipment and wear it correctly.
- I will develop my skills and body strength so that I can play to the best of my abilities.
- I will respect the rules of water polo and of my club.
- I will respect myself and my opponents.
- I will not fight or attempt to injure anyone on purpose.
- I will not hit or push another player from behind or hit their head.
- I will not hit, push, kick or use any type of force towards another player if they are in a vulnerable position.
- I will play safe, smart and fair.

I will take concussions and concussion education seriously.

- I understand a concussion is a serious brain injury that can have both short- and long-term effects.
- I understand that I do not need to lose consciousness to have had a concussion.
- I understand that any blow to the head, face, or neck, or a blow to the body which causes a sudden jarring of the head may cause a concussion.
- I understand if I think I might have a concussion I should stop playing or practicing immediately.
- I understand continuing to play or practice with a suspected concussion increases my risk of more severe, longer lasting concussion symptoms, as well as increases my risk of other injury.
- I will follow and respect the concussion protocol and policies of my water polo league.

I will not play through the pain. I will speak up for myself and others.

- I will not hide my symptoms. I will tell my coach, trainer, safety person, parent, caregiver, or other person I trust if I think I might have a concussion and/or experience any signs and symptoms of concussion following an impact.
- If another player tells me about concussion symptoms, or I notice they might have a concussion, I will tell a coach, official, team trainer, safety person, parent or another person I trust so they can help.
- I understand that letting all my coaches and teachers know about any diagnosed concussions will help them support my recovery.
- I understand if I show any signs or symptoms of concussion, I will be removed from practice or gameplay and cannot return until I am assessed by a doctor.

I will not return to water polo or other physical activity until I am ready and fully recovered.

- I understand I will not be able to return to practice or gameplay following an impact where I experience any signs and symptoms of concussion.
- I understand I will have to be cleared by a doctor, preferably one with experience in concussion management, prior to returning to water polo and other physical activity.
- I understand I will have to follow the Water Polo Return-to-Sport strategy when returning to Water Polo and other physical activity.
- I will respect my coaches, trainers, team safety personnel, parents and medical professionals and any decisions made with regards to my health and safety.

Signature of Player

Signature of Parent/Guardian
(if under the age of majority)

Date

CONCUSSION CODE OF CONDUCT PARENTS AND CAREGIVERS

I will help my child prevent concussion.

- I will ensure my child wears the proper water polo equipment and wears it correctly.
- I will help my child 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 my child does as well.
- I will respect my child's coaches, trainers, safety personnel, officials and all those involved with the league and team.
- I will ensure my child respects other players and plays fair and safe.

I will be aware of signs and symptoms of a concussion in my child and take concussions seriously.

- 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 my child doesn't need to lose consciousness to have had a concussion.
- If I suspect my child may have a concussion, I will ensure they stop participating in practice or gameplay immediately.
- I understand that continuing to participate in water polo and other physical activity with a suspected concussion increases my child's risk of more severe, longer-lasting symptoms, and increases their risk of other serious injuries.
- I will be aware of and follow the concussion protocol and policies of my child's water polo league.

I will ensure my child feels comfortable speaking up if they experience any signs or symptoms of a concussion.

- I will encourage my child not to play or practice through the pain or hide any concussion symptoms.
- I will ensure my child knows to tell me, their coach, their trainer, safety person, an official, or other adult they trust if they experience any concussion symptoms after an impact.
- I will ensure my child tells their coaches and teachers about any diagnosed concussions so they can support my child's recovery.

I will support my child's recovery and ensure they do not return to Water Polo or other physical activity until they are fully recovered.

- I understand and respect that if my child shows any signs or symptoms of concussion, they will be removed from practice or gameplay and cannot return until they are assessed by a doctor and are medically cleared to return.
- I understand my child has to follow the Water Polo Return-to-Sport strategy and I will help them do so.
- I understand my child will have to be cleared by a doctor before returning to water polo or other physical activity after a concussion.
- I will respect my child's coaches, trainers and medical professionals and any decisions made with regards to the health an safety of my child.

Signature of Parent/Guardian

Name of Player

Date

CONCUSSION CODE OF CONDUCT

COACHES, TRAINERS AND SAFETY PERSONNEL

I will help players on my team to prevent concussions.

- I will ensure all players on my team wear the proper equipment and wear it 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 that 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, 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 a concussion.
- If I suspect a player may have a concussion, I will remove 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, long-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 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