Pre-Season Concussion Education Resource

Effective date: June 2024

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 an individual thinks and can cause a variety of symptoms.

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 falling on the ice, colliding with the boards or another skater/person on the ice, landing awkwardly from a jump, tripping, etc.

When should I suspect a concussion?

A concussion should be suspected in an individual who sustains a significant impact to the head, face, neck, or body and:

- demonstrates *ANY* observable signs of a suspected concussion, OR
- reports *ANY* symptoms of suspected concussion.

A concussion should also be suspected if an individual reports ANY concussion symptoms to one of their peers, parents, teachers, or coaches or if anyone witnesses an individual who demonstrates ANY of the observable signs of concussion.

Some individuals will develop symptoms immediately while others will develop delayed symptoms (up to 48 hours after the injury).

What are the observable signs of a suspected concussion?

Signs of a concussion may include:

- Lying motionless on the ice surface
- Slow to get up after a direct or indirect hit to the head
- Disorientation or confusion, or inability to respond appropriately to questions
- Unresponsive
- Unsteady on feet, balance problems, poor co-ordination, wobbly
- Blank or vacant stare
- Facial injury

What are the symptoms of a suspected concussion?

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

Physical Changes

- Headache
- Pressure in the head
- Balance problems
- Dizziness or disorientation
- Nausea or vomiting
- Blurred vision
- Sensitivity to light or sound
- Ringing in the ears
- Feeling tired or low energy
- Drowsiness
- "Don't feel right"
- Neck pain

Changes in Emotions

- Easily upset or angered
- Feeling more emotional
- Sadness
- Nervous or anxious

Changes in Thinking / Cognitive

- Not thinking clearly
- Problems concentrating / focusing
- Difficulty remembering
- Feeling slowed down/delayed response to questions
- Feeling like "in a fog"

Sleep-related changes

- Sleeping more or sleeping less
- Having a hard time falling asleep

What should I do if I suspect a concussion?

In **ALL c**ases of suspected concussion, the individual should be immediately removed from skating/off-ice training or coaching. Any individual who is suspected of having sustained a concussion **MUST NOT** return to skating, off-ice training, or coaching activities that day, even if they say they are feeling better and/or the symptoms resolve themselves.

It is important that ALL individuals with a suspected concussion undergo a medical assessment by a licensed health care professional (medical doctor/physician or nurse practitioner) with experience in concussion management, as soon as possible. It is also important that ALL individuals with a suspected concussion receive written medical clearance from a medical doctor or nurse practitioner before returning to any kind of sport / physical activities.

When can the individual report to learn/school/coaching and sports?

It is important that all individuals diagnosed with a concussion follow a stepwise return to learn/school/coaching and sports-related / physical activities that includes the following Return-to-Learn/School/Coaching and Skate Canada Sport-Specific Return-to-Sport Strategies. It is important that individuals return to full-time learn/school/coach activities before progressing to step 4 of the Skate Canada Sport Specific Return-to-Sport Strategy.

Return-to-Learn/School/Coaching Strategy: Graduated Approach

Step	Aim	Activity	Goal of each step
1	Activities of daily living and relative rest at home for the individual	• Typical activities during the day (i.e. reading, social interactions, light walking) that do not result in more than a mild and brief worsening of symptoms • Start at 5-15 minutes at a time and gradually build up. • Minimize screen time	Gradual reintroduction of typical activities
After a maximum of 24 to 48 hours following an injury, progress to step 2			
2	Learn/School/Coaching activities with encouragement to return to learning/school /coaching (as tolerated)	Learn/School: • Homework, reading or other cognitive activities at school or at home Coaching: • Reading or other cognitive activities off the ice Learn/School/Coach: • Take breaks and adapt activities if they result in more than a mild and brief worsening of symptoms • Gradually resume screen time, as tolerated	Increase tolerance to cognitive work
If the individual can tolerate learn/school/coaching activities, progress to step 3			
3	Return to Learn/School /Coaching part-time or full time with accommodations (as needed)	Learn/School: • Gradually reintroduce schoolwork • Build tolerance to the classroom and school environment. Partial learn/school day with increased breaks during the day and other accommodations may be required Coaching: • Gradual return to work – may need to start with a partial workday and should remain off the ice Learn/School/Coach:	Increase academic/coaching activities

		• Gradually reduce accommodations related to the concussion and increase workload	
If the individual can tolerate learn/school/coaching activities part-time, progress to step 4			
4	Return to Learn/School/Coaching full-time	Learn/School: • Gradually progress learn/school activities to full days, without accommodations related to the concussion Coaching: • Gradual progress coaching activities, first remaining off the ice, then progressing to on ice Learn/School/Coaching • For return to sport, progression should start from step 2 to 6 of the Skate Canada *Sport-Specific Return -to-Sport Strategy* for coaches as tolerated	Return to full learn/school academic activities and catch up on missed schoolwork Return to full coaching activities
Return to learn/school/coaching complete			

Source: Updated from the Canadian Olympic and Paralympic Sport Institute Network – High Performance Sport-Related Concussion Guidelines 2023 and Parachute Concussion Protocol Template, aligned to the Canadian Guidelines on Concussion in Sport, 2nd edition - 2024

Skate Canada Sport-Specific Return-to-Sport Strategy: Graduated Approach

Skate Canada Sport Specific Return-to-Sport Strategy for SINGLES: Graduated Approach

Step	Aim	Activity	Goal of each step
1	Symptom-limiting activities of daily living and relative rest (first 24-48 hours)	• Typical activities at home (e.g., preparing meals, social interactions, light walking) that do not result in more than mild and brief worsening of symptoms • Minimize screen time	Gradual re-introduction of typical activities
After a maximum of 24 to 48 hours after injury, progress to step 2			
2	Aerobic exercise 2A – **Light** effort aerobic exercise	**Cardio-vascular testing if available to establish the basic heart rate (HR), where the symptoms appear** • Start with light intensity aerobic exercise, such as stationary cycling and walking at a slow to medium pace for 15-20 minutes at sub-symptom threshold intensity that does not result in more than mild and brief worsening symptoms • Exercise up to approximately 55% of maximum heart rate (max HR) • No resistance training • Take breaks and modify activities as needed	Increase heart rate
	2B – **Moderate** effort aerobic exercise	• Gradually increase tolerance and intensity of aerobic activities, such as stationary cycling and walking at a brisk pace • Exercise up to approximately 70% of maximum heart rate (max HR) • No resistance training • Take breaks	
If the individual can tolerate moderate aerobic exercise, progress to step 3			
3	Individual sport-specific exercise / activities, without risk of inadvertent head impact **Note**: if sport-specific training	• Add sport-specific training away from the team environment (e.g., running or skating drills away from the team environment). No activities at risk of head impact. See activities outlined below • Perform activities individually and under supervision of a coach or parent/guardian	Increase the intensity of aerobic activities and introduce low-risk sport-specific movements No jumps, no spinning

	involves any risk of inadvertent head impact, medical clearance should occur at step 3	• Progress to where the individual is free of concussion-related symptoms, even when exercising **Off-ice warm-up**: • Sub-maximal with agility exercises **On-Ice intervals:** • Stroking, then turns (no twizzles) • 5 x 3 minutes program parts without jumps or spins at 60-70% maximum heart rate (max HR) (around 140), and rest until back to 50-55% maximum heart rate (max HR) (around 80-100) **Off-ice training (gym):** • Under 80% of 1 maximal repetition (MR) • No jumps, avoid exercises with head below hips • Core, proprioception, stabilization & flexibility exercises	Try to plan ice session with less skaters on the ice
Medical clearance – If the individual has completed return to school/learn/coach (if applicable) and has been medically cleared, progress to step 4			
4	Non-contact training drills	• Progress to exercises with no body contact at higher intensity, including more challenging activities as outlined below **Warm up:** • Off-ice double jumps without symptoms (start with 5-10 repetitions) • Agility with intervals, 8 x 30 seconds **On-Ice training:** 1- Full programs with single jumps; no spins; 80-90% maximum heart rate (max HR) (165-180) Rest until back to 50-55% maximum heart rate (max HR) (around 80-100) Single and double jumps outside programs No spins	Resume usual intensity of exercise, coordination, and activity-related cognitive skills (increased thinking) Avoid repetitive falls Avoid session with a lot of skaters

		If tolerated: 2- Complete programs with single and double jumps, but no spins Mastered triple jumps outside programs No spins If tolerated: 3- Add more difficult triple jumps 4- No spins **Off ice training (gym):** • No more than 80% of 1 MR (maximal resistance); • Add exercises with external resistance that do not result in more than mild and brief exacerbation* of concussion symptoms • Avoid jumps in training if jumps being done during same day on-ice training	
If the individual can tolerate usual intensity of activities with no return of symptoms, progress to step 5			
5	Return to all non-competitive activities, full-contact practice	• Progress to higher-risk activities including typical training activities, as outlined below • Do not participate in competitive gameplay **Warm-up** Same as previous to injury **On-ice training:** 1. Complete/full programs with all jumps but no spins Spins outside programs If tolerated: 2. Progress to full programs	Return to activities that have a risk of falling or body contact Restore confidence and assess functional skills by coaching staff

		Off-ice training (gym): • Pre-injury strength & conditioning • Limit jumping depending on how much was done on ice	
If the individual can tolerate non-competitive, high-risk activities, progress to step 6			
6	Return to sport	Normal training, no restrictions	
Return to sport is complete			

Source: Updated from the Canadian Olympic and Paralympic Sport Institute Network – High Performance Sport-Related Concussion Guidelines 2023 and Parachute Concussion Protocol Template, aligned to the Canadian Guidelines on Concussion in Sport, 2nd edition - 2024

Skate Canada Sport-Specific Return-to-Sport Strategy for PAIRS/DANCE/SYNCHRONIZED SKATING: Graduated Approach

Step	Aim	Activity	Goal of each step
1	Symptom-limiting activities of daily living and relative rest (first 24-48 hours)	• Typical activities at home (e.g., preparing meals, social interactions, light walking) that do not result in more mild and brief worsening symptoms • Minimize screen time	Gradual re-introduction of typical activities
After a maximum of 24 to 48 hours after injury, progress to step 2			
2	Aerobic exercise 2A - **Light** effort aerobic exercise	**Cardio-vascular testing if available to establish the basic HR where the symptoms appear** Start with light intensity aerobic exercise, such as stationary cycling and walking at a slow to medium pace walking for 15-20 minutes at sub-symptom threshold intensity that does not result in more than mild and brief worsening symptoms Exercise up to approximately 55% maximum heart rate (max HR) • No resistance training • Take breaks and modify activities as needed	Increase heart rate
	2B – **Moderate** effort aerobic exercise	• Gradually increase tolerance and intensity of aerobic activities, such as stationary cycling and walking at a brisk pace • Exercise up to approximately 70% of maximum heart rate (max HR) • No resistance training • Take breaks	
If the athlete can tolerate moderate aerobic exercise, progress to step 3			
3	Individual sport-specific exercise / activities, without risk of inadvertent head impact	• Add sport-specific training away from the team environment (e.g., running or skating drills away from the team environment). No activities at risk of head impact. See activities outlined below • Perform activities individually and under supervision of a coach or parent/guardian	Increase the intensity of aerobic activities and introduce low-risk sport -specific movements

	Note: if sport-specific training involves any risk of inadvertent head impact, medical clearance should occur at step 3	• Progress to where the individual is free of concussion-related symptoms, even when exercising **Off-ice warm-up**: • Sub-maximal with agility exercises. **On-Ice intervals:** • Stroking, then turns (no twizzles, no lifts) • 5 x 3 minutes program parts without jumps, lifts, or spins at 60-70% maximum heart rate (max HR) (around 140), and rest until back to 50-55% maximum heart rate (max HR) (around 80-100) **Off-ice training (gym):** • Under 80% of 1 maximal repetition (MR) • No jumps or lifts, avoid exercises with head below hips • Core, proprioception, stabilization & flexibility exercises	No jumps, no lifts, no spinning Try to plan ice session with less skaters on the ice
Medical clearance – If the individual has completed return to school/learn/coach (if applicable) and has been medically cleared, progress to step 4			
4	Non-contact training drills and activities	• Progress to exercises with no body contact at higher intensity, including more challenging activities as outlined below **Warm up:** • Off-ice double jumps without symptoms (start with 5-10 repetitions) • Agility with intervals, 8 x 30 seconds • Off-ice lifts **On-Ice training:** 1- Full programs with single jumps (including side by side jumps); no spins; 80-90% maximum heart rate (max HR) (165-180)	Resume usual intensity of exercise, coordination, and activity related to cognitive skills (increased thinking) Avoid repetitive falls Avoid session with a lot of skaters

		Rest until back to 50-55% maximum heart rate (max HR) (around 80-100) Single and double jumps outside programs Lifts outside of program No throw jumps No Death Spiral No spins If tolerated 2- Complete programs with single and double jumps (including side by side) and lifts, but no spins Mastered triple jumps and throw jumps outside programs No spins No Death Spirals If tolerated: 3- Complete programs with lifts, triple side by side and double throws, no spin Death spirals and triple throws outside programs No spins **Off ice training (gym):** • No more than 80% of 1 MR (maximal resistance) • Add exercises with external resistance that do not result in more than mild and brief exacerbation* of concussion symptoms • Avoid jumps in training if jumps being done during same day on-ice training	
If the individual can tolerate usual intensity of activities with no return of symptoms, progress to step 5			
5	Return to all non-competitive activities, full contact practice	• Progress to higher-risk activities, including typical training activities, full contact sport practices, as outlined below • Do not participate in competitive gameplay	Return to activities that have a risk of falling or body contract

		Warm-up • Same as previous to injury **On-ice training:** 1. Complete/full programs with all jumps, throws and death spirals, but no spins Spins outside programs If tolerated: 2. Progress to full programs **Off-ice training (gym):** • Pre-injury Strength & Conditioning • Limit jumping depending on how much was done on ice	Restore confidence and assess functional skills by coaching staff
If the individual can tolerate non-competitive, high-risk activities, progress to step 6			
6	Return to sport	Normal game play, no restrictions	
Return to sport is complete			

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Skate Canada Sport-Specific Return-to-Sport Strategy <u>for COACHES</u>: Graduated Approach

Step	Aim	Activity	Goal of each step
1	Symptom-limiting activities of daily living and relative rest (first 24-48 hours)	Typical activities at home (e.g., preparing meals, social interactions, light walking) that do not result in more than mild and brief worsening of symptoms	Gradual re-introduction of typical activities
After a maximum of 24 to 48 hours after injury, progress to step 2			
2	Aerobic exercise 2a - **Light** effort aerobic exercise	**Cardio-vascular testing if available to establish the basic heart rate (HR), where the symptoms appear**. Start with light intensity aerobic exercise, such as stationary cycling and walking at a slow to medium pace walking without symptoms for 15-20 minutes at sub-symptom threshold intensity that does not result in more than mild and brief worsening symptoms • No resistance training • Take breaks and modify activities as needed	Increase heart rate
	2b – **Moderate** effort aerobic exercise	• Gradually increase tolerance and intensity of aerobic activities, such as stationary cycling and walking at a brisk pace • Exercise up to approximately 70% of maximum heart rate (max HR) • No resistance training • Take breaks	
If the individual can tolerate moderate aerobic exercise, progress to step 3			
3	Individual sport-specific exercise/activities, without risk of inadvertent head impact **<u>Note</u>**: if sport-specific training	• Add sport-specific training away from the team environment (e.g., running or skating drills away from the team environment). No activities at risk of head impact. See activities outlined below.	Increase the intensity of aerobic activities and introduce low-risk sport -specific movements No jumps, no spinning

	involves any risk of inadvertent head impact, medical clearance should occur at step 3	• Perform activities individually and under supervision from a coach or parent/guardian • Progress to where the individual is free of concussion-related symptoms, even when exercising **On-Ice intervals:** • Stroking, then turns (no twizzles) • 5 x 3 minutes at 60-70% maximum heart rate (max HR) (around 140), and rest until back to 50-55% maximum heart rate (max HR) (around 80-100) **Off-ice training (gym):** • Under 80% of 1 maximal repetition (MR) • No exercises with head below hips • Core, proprioception, stabilization & flexibility exercises	
Medical clearance – If the individual has completed return to school/learn/coach (if applicable) and has been medically cleared, progress to step 4			
4	Non-contact training drills and activities	• Progress to exercises with no body contact at higher intensity, including more challenging activities as outlined below **On-Ice intervals:** • Stroking then turns; 80-90% maximum heart rate (max HR) (165-180) • Rest until back to 50-55% maximum heart rate (max HR) (around 80-100) • Single and double jumps • No spins If tolerated: • Mastered triple jumps outside programs • No spins	Resume usual intensity of exercise, coordination, and activity related to cognitive skills (increased thinking) Avoid repetitive falls

		If tolerated: • Add more difficult triple jumps **Off ice training (gym):** • No more than 80% of 1 MR (maximal resistance); • Add exercises with external resistance that do not result in more than mild and brief exacerbation* of concussion symptoms	
If the individual can tolerate usual intensity of activities with no return of symptoms, progress to step 5			
5	Return to all non-competitive activities, full contact practice	• Progress to higher-risk activities, full contact sport practices, as outlined below • Do not participate in competitive gameplay **Warm-up** • Same as previous to injury **On-ice training:** • Jumps • Reintroduce spins If tolerated: • Progress to full coaching session physically **Off-ice training (gym):** • Pre-injury Strength & Conditioning • Limit jumping depending on how much was done on ice	Return to activities that have a risk of falling or body contact Restore confidence
If the individual can tolerate non-competitive, high-risk activities, progress to step 6			
6	Return to sport	Normal training, no restrictions	
Return to sport is complete			

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How long will it take to recover?

Most individuals who sustain a concussion will make a complete recovery within four (4) weeks. Approximately 15-30% of patients will experience persistent symptoms (>4 weeks) that may require additional medical assessment and management.

How can I help prevent concussions and their consequences?

Concussion prevention, recognition and management require individuals to follow the rules and regulations of their sport, respect other skaters, coaches and trainers, avoid head contact, and report suspected concussions.

ADDITIONAL INFORMATION:

TO LEARN MORE ABOUT CONCUSSIONS PLEASE VISIT:
Parachute Canada: **www.parachutecanada.org/concussion**

Pre-Season Concussion Education Resource

Acknowledgement Sheet

Note that all individuals and their parent or legal guardian (if the individual is a minor under the age of majority in their province/territory) must review the Pre-Education Resource and sign this Acknowledgement Sheet within 60 days of registration.

The following signatures certify that the individual and their parent or legal guardian (if the individual is a minor under the age of majority in their province/territory) have reviewed the above information related to a concussion.

By signing here, I acknowledge that I have fully reviewed the Pre-Season Concussion Education Resource.

_____	_____	_____
Printed name of individual	Signature of individual	Date
_____	_____	_____
Printed name of parent/guardian (if a minor under the age of majority in their province / territory)	Signature of parent/guardian	Date

The signed Acknowledgement Sheet is to be collected and kept at the club or skating school level.