SKATE CANADA CONCUSSION PROTOCOL

***Effective date**: June 25, 2024*

Skate Canada has developed the **Skate Canada Concussion Protocol**[1] to help guide the management of individuals who may have a suspected concussion as a result of participation in **Skate Canada** activities.

Purpose

This protocol covers the recognition, medical diagnosis, and management of **SKATE CANADA REGISTRANTS AND MEMBERS** who may sustain a suspected concussion during a sport activity. It aims to ensure that individuals with a suspected concussion receive timely and appropriate care and proper management to allow them to return back to their sport safely. This protocol may not address every possible clinical scenario that can occur during sport-related activities but includes critical elements based on the latest evidence and current expert consensus.

Who should use this protocol?

This protocol is intended for use by all individuals who have a role interacting with skaters/athletes inside and outside the context of school and non-school based organized sports activity, including athletes, parents/guardians, coaches, officials, event volunteers, teachers, trainers, and licensed healthcare professionals.

For a summary of the **Skate Canada Concussion Protocol** please refer to the **Skate Canada Sport Concussion Pathway**.

1. Pre-Season Education

Skate Canada recognizes the increased awareness of concussions and believes that prevention of concussions is paramount to protecting the health and safety of all individuals, including he continued need for concussion education and awareness. Optimizing the prevention and management of concussion depends highly on annual education of all sport stakeholders (athletes, parents/guardians, coaches, officials, event volunteers, teachers, trainers, and licensed healthcare professionals) on current evidence-informed approaches that can prevent concussion and more serious forms of head injury and help identify and manage an individual with a suspected concussion.

Concussion education should include information on:

[1] *Adapted from: Parachute. (2024). Canadian Guideline on Concussion in Sport, 2nd edition*www.parachutecanada.org/guideline

- the definition of concussion,
- possible mechanisms of injury,
- common signs and symptoms,
- steps that can be taken to prevent concussions and other injuries from occurring in sport,
- what to do when an individual has suffered a suspected concussion or more serious head injury,
- what measures should be taken to ensure proper medical assessment, including Return-to-School and Return-to-Sport Strategies, and
- Return-to-Sport medical clearance requirements.

All parents/guardians, coaches and skaters/athletes should receive and review the *Pre-season Concussion Education Resource sheet, including signing the required Pre-season Concussion Education Resource – Acknowledgement Sheet** from their club / skating school prior to the first practice of the season.

In addition to reviewing information on concussion, it is also important that all participants in the sport community have a clear understanding of the **Skate Canada Concussion Protocol.** For example, this can be accomplished through pre-season in-person orientation sessions for skaters/athletes, parents/guardians, and other participants in the sport community by a Skate Canada Professional Coach, club board member or a skating school administrator.

*Note: The *Pre-season Concussion Education Resource – Acknowledgement Sheet* is to be collected and retained by the club/skating school.

- **Who:** Skaters/athletes, parents/guardians, coaches, officials, event volunteers, trainers, and licensed healthcare professionals
- **How**: *Pre-season Concussion Education Resource* and *Pre-season Concussion Education Acknowledgement Sheet*

2. Head Injury Recognition

Although the formal diagnosis of concussion should be made following a medical assessment, all participants in the sport community, including skaters/athletes, parents/guardians, coaches, volunteers, officials, and licensed healthcare professionals, are responsible for the recognition and reporting of individuals 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.

Suspected concussion

A concussion should be suspected if an individual sustains an impact to the head, face, neck, or body and:

- **demonstrates one or more observable signs** of a suspected concussion, as detailed in the ***Skate Canada Concussion Recognition Tool 6***

  OR

- **reports *one or more* symptoms** of a suspected concussion, as detailed in the ***Skate Canada Concussion Recognition Tool 6*.**

This includes cases where the impact wasn't witnessed, but anyone witnesses the individual exhibiting one or more observable signs of suspected concussion or the individual reports one or more observable signs of suspected concussion or the individual reports on or more symptoms of suspected concussion to one of their peers, parents/guardians, coaches, officials, event volunteers, or teachers.

In all cases of suspected concussion, the individual should be removed from the activity (skating, training, coaching) immediately and undergo medical assessment as soon as possible.

Delayed signs and symptoms
If an individual is removed from the activity (skating, training, coaching) following an impact for cautionary reasons, but there is no observable signs or symptoms of a suspected concussion, then the individual can return to sport but should be monitored for delayed symptoms up to 48 hours.

Red flag symptoms
In some cases, an individual may demonstrate signs or symptoms that potentially indicate a more severe head or spine injury, including loss of consciousness, convulsions, worsening headaches, repeated vomiting, or neck pain (see a detailed list in the ***Skate Canada Concussion Recognition Tool 6***).

If an individual demonstrates any of the red flags, indicated in the ***Skate Canada Concussion Recognition Tool 6****,* a more severe head or spine injury should be suspected, and an Emergency Medical Assessment should be pursued.

- **Who**: Skaters/athletes, parents/guardians, coaches, officials, event volunteers, trainers, and licensed healthcare professionals
- **How:** Skate Canada Concussion Recognition Tool 6

For additional information, refer to:
- Sport Concussion Recognition Tool[2]

3. Onsite Medical Assessment

Depending on the suspected severity of the injury, an initial assessment may be completed by emergency medical professionals or by an on-site licensed healthcare professional where available.

In cases where any red flags are present , an Emergency Medical Assessment by emergency medical professionals should take place ***(see 3a below)***.

[2] Parachute

If a more severe injury is not suspected, the individual should undergo a Sideline Medical Assessment (onsite) or Medical Assessment (in a medical clinic), depending on if there is a licensed healthcare professional present onsite or not, ***(see 3b below)***.

3a. Emergency Medical Assessment

If an individual is suspected of sustaining a more severe head or spine injury during a skating lesson, practice, off-ice training, or competition, an ambulance should be called immediately to transfer the individual to the nearest emergency department for further Medical Assessment.

Coaches, parents/guardians, event volunteers, trainers, , and officials should not make any effort to remove equipment or move the individual and the individual should not be left alone until the one-site medical team (if present) and/or an ambulance has arrived, . After the emergency medical services staff has completed the Emergency Medical Assessment, the individual should be transferred to the nearest hospital for Medical Assessment.

In the case of a youth (under 18 years of age), the individual's parents or legal guardian should be contacted immediately to inform them of the individual's injury. For adult individual's (over 18 years of age), their emergency contact person should be contacted if one has been provided.

- **Who**: Emergency medical professionals

3b. Sideline Medical Assessment

If an individual is suspected of sustaining a concussion and there is no concern for a more serious head or spine injury, the individual should be immediately removed from the ice.

Scenario 1: If a licensed healthcare professional is present

The individual should be taken to a quiet area and undergo Sideline Medical Assessment using the Sport Concussion Assessment Tool 6 (SCAT6) or the Child SCAT6.

The SCAT6 and Child SCAT6 are clinical tools that should only be used by a licensed healthcare professional that has experience using these tools. These tools can be used as part of the overall clinical assessment and screening for concussion. It is important to note that the results of SCAT6 and Child SCAT6 testing can be normal in the setting of acute concussion and that signs and symptoms may evolve over time. As such, these tools can be used by licensed healthcare professionals to document initial neurological symptoms and neurological status but should not be used to make sideline return-to-sport decisions in youth. Any individual who is suspected of having sustained a concussion MUST NOT-return to skate/train/coach and must be referred for Medical Assessment.

If an individual is removed from skating/training/coaching following a significant impact and has undergone an assessment by a physician or nurse practitioner with experience in concussion management, but there are NO visual signs of a concussion and the individual reports NO concussion symptoms then with the

approval of the physician or nurse practitioner with experience in concussion management, the individual can return to skate/train/coach but should be monitored for delayed symptoms.

In the case of Skate Canada events where experienced certified athletic therapists, physiotherapists, and/or medical doctors are providing medical coverage, these licensed medical/healthcare professionals may make the determination that a concussion has not occurred based on the results of the Sideline Medical Assessment. In these cases, the athlete may be returned to skate/train without a *Medical Clearance Letter,* but this should be clearly communicated to the coaching staff. Athletes that have been cleared to return to skate/train should be monitored for delayed symptoms. If the athlete develops any delayed symptoms the athlete should be removed from skating/training and undergo medical assessment by a medical doctor or nurse practitioner with experience in concussion management.

- **Who**: Licensed healthcare professionals (e.g., Athletic therapists, physiotherapists, medical doctor, nurse practitioners)
- **How**: Sport Concussion Assessment Tool 6 (SCAT6) [3]
  Child Sport Concussion Assessment Tool 6 (Child SCAT6) [4]

Scenario 2: If there is no licensed healthcare professional present

The individual should be referred immediately for medical assessment by a medical doctor or nurse practitioner with experience in concussion management, and the individual must not return to skate/train/coach until they receive medical clearance.

4. Medical Assessment

The medical assessment is responsible for determining whether the individual has a diagnosed concussion or not. In order to provide comprehensive evaluation of individuals with a suspected concussion, the medical assessment must

- rule out more serious forms of traumatic brain and spine injuries
- rule out medical and neurological conditions that can present with concussion-like symptoms, and
- make the differential diagnosis of concussion based on findings of the clinical history and physical examination and the evidence-based use of adjunctive tests as indicated (e.g., CT scan, imaging).

Licensed healthcare providers in Canada with experience in concussion management are nurse practitioners and medical doctors[5]. Medical doctors that are qualified to evaluate patients with a suspected concussion include pediatricians; family medicine physicians, sports medicine

[3] Parachute

[4] Parachute

[5] Medical doctors and nurse practitioners are the only healthcare professionals in Canada with licensed training and expertise to meet these needs; therefore all athletes with a suspected concussion should undergo evaluation by one of these professionals.

physicians, emergency department physicians, internal medicine physicians, physiatrists (rehabilitation physicians); neurologists; and neurosurgeons.

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 with experience in concussion management, can facilitate this role.

Scope of practice for licensed healthcare professionals can vary by province and territory. Of note:

- In Manitoba, physician assistants can diagnose concussion
- In Quebec, nurse practitioners cannot diagnose concussion. The role of physiotherapists in the assessment and management of concussion is specified. Learn more

Individuals who are determined to have not sustained a concussion must be provided with **a *Medical Assessment Letter*** indicating a concussion has not been diagnosed. The individual can return to skating/training/coaching activities without restriction.

Individuals diagnosed with a concussion should be provided with a ***Medical Assessment Letter*** indicating a concussion has been diagnosed. The individual must follow a gradual return to activities, including school and sport (skating, training, coaching). See 5. Concussion Management.

When an individual has been diagnosed with a concussion, it is important that the individual's parent/legal guardian is informed. All individuals diagnosed with a concussion must be provided with a standardized ***Medical Assessment Letter*** that notifies the individual and their parents/legal guardians/spouse that they have been diagnosed with a concussion and may not return to any activities with a risk of concussion until medically cleared to do so by a medical doctor or nurse practitioner with experience in concussion management. Because the *Medical Assessment Letter* contains personal health information, it is the responsibility of the individual or their parent/legal guardian to provide this documentation to the individual's coaches, skating club board of directors or skating school administrators.

- **Who**: Medical doctor, nurse practitioner, nurse, all with experience in concussion management

- **How:** Medical Assessment Letter

5. Concussion Management

Individuals diagnosed with a concussion should be provided with education about the signs and symptoms of concussion, strategies about how to manage their signs and symptoms, the risks of returning to sport without medical clearance and recommendations regarding a gradual return to school and sport activities.

Individuals diagnosed with a concussion are to be managed according to their *Return-to-Learn/School/Coaching Strategy* (if applicable) and *Skate Canada's Return-to Sport Strategy*

UNDER THE SUPERVISION of a medical doctor or nurse practitioner with experience in concussion management. When available, individuals should be encouraged to work with the team athletic therapist or physiotherapist to optimize progression through the *Skate Canada Return-to-Sport Strategy.* Once the individual has completed th*e Skate Canada Return-to-Sport Strategy* and are deemed to be clinically recovered from their concussion, the medical doctor or nurse practitioner with experience in concussion management can consider the individual for a return to full sports activities and issue a ***Medical Clearance Letter***.

The stepwise progressions for *Return-to-Learn/School/Coaching Strategy* and the *Skate Canada Return-to-Sport Strategies* are outlined below. As indicated in step 1 of *the Skate Canada Return-to-Sport Strategy*, reintroduction of daily, school, and work activities using the *Return-to-School/Learn/Coaching Strategy* **MUST PRECEDE** return to sport participation.

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

The following is an outline of the *Return-to-Learn/School/Coaching Strategy* that should be used to help student-athletes/coaches, parents, and teachers to collaborate in allowing the individual to make a gradual return to school activities. Every concussion is unique and, depending on the severity and type of symptoms present, progression through the following steps will look different for each individual. This tool is a recommendation and does not replace medical advice.

Medical clearance is not required to return to learn/school/coaching, except for full participation in learn/school/coaching – based sport and physical activity. Return to sport and physical activity should be guided by the Return to Sport Strategy.

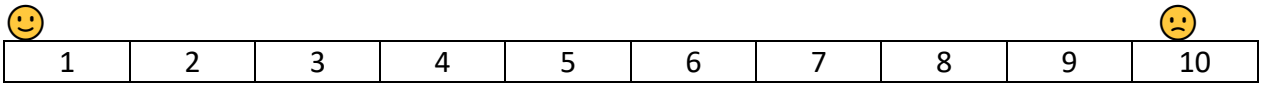
Individuals do not need to be symptom-free to return to learn/school and complete absence from school is of more than one week is not recommended. It is common for an individual's symptoms to worsen slightly with increasing mental activity. This is acceptable as they progress through steps, so long as the symptom exacerbation is:

- **mild**: symptoms worsen by only one to two points on a zero-to-10 scale, and
- **brief**: systems settle back down to pre-activity levels within an hour.

If the individual's symptoms worsen more than this, they should pause and adapt activities as needed.

The individual should also be encouraged to ask their school if they have a school-specific Return-to-Learn Program in place to help them make a gradual return to school.

Scale 0-10 for describing symptom severity



Feels great
No symptoms

Worst
I have
ever

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: • Gradually reduce accommodations related to the concussion and increase workload	Increase academic/coaching activities
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	Return to full learn/school academic activities and catch up on missed schoolwork Return to full coaching activities

		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 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

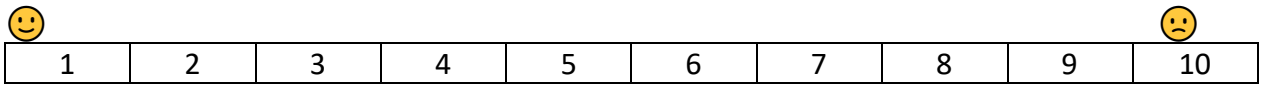
The following is an outline of the *Skate Canada Sport-Specific Return-to-Sport Strategy* that should be used to help skaters/athletes, coaches, trainers, and medical professionals' to partner in allowing the individual to make a gradual return to sport activities. This tool is a guideline and should not replace medical advice; with direction from a healthcare professional, timelines and activities may vary.

An initial period of 24-48 hours of rest is recommended before starting the *Skate Canada Sport-Specific Return-to-Sport Strategy.* The individual should spend a minimum duration of 24 hours without symptom increases at each step before progressing to the next one. It is common for an individual's symptoms to worsen slightly with increased activity at each step. This is acceptable as they progress through steps 1 to 3 of the return-to-sport, so long as the symptom is:

- **mild**: symptoms worsen by only one to two points on a zero-to-10 scale, and
- brief: systems settle back down to pre-activity levels within an hour.

If the individual experiences more than mild and brief symptom exacerbation, the individual should stop the activity (skating, training, coaching) and try resuming the next day at the same step.

Scale 0-10 for describing symptom severity



1	2	3	4	5	6	7	8	9	10

Feels great
No symptoms

Worst
I have
ever

Before progressing to step 4 of the *Skate Canada Sport-Specific Return-to-Sport Strategy*, individuals must:

- successfully complete all steps of the **RETURN-TO FULL-TIME LEARN/SCHOOL/COACHING ACTIVITIES, AND**
- provide their coach, skating club board of directors or skating school administrators with a written *Medical Clearance Letter* prior to returning to full contact sport activities indicating that they have been medically cleared to return to activities with risk of falling or contact.

If the individual experiences new, worsening, and/or any concussion-related symptoms after medical clearing, specifically in steps 4 to 6, they should return to step 3 to establish full resolution of symptoms with exertion before engaging in at-risk activities. Medical clearance will be required again before progressing to step 4.

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 involves any risk of	• 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

	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 30sec. **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 **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 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 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 Note: if sport-specific training involves any risk of inadvertent head	• 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 lifts, no spinning

	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	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 Restore confidence and assess functional skills by coaching staff

		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	
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			

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 COACHES: 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 Note: if sport-specific training involves any risk	• 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 from a coach or parent/guardian	Increase the intensity of aerobic activities and introduce low-risk sport -specific movements No jumps, no spinning

	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 **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 If tolerated: • Add more difficult triple jumps **Off ice training (gym):** • No more than 80% of 1 MR (maximal resistance)	Resume usual intensity of exercise, coordination, and activity related to cognitive skills (increased thinking) Avoid repetitive falls

		• 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			

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

- **Who**: Medical doctor, nurse practitioner, licensed healthcare professionals, and team athletic therapist or physiotherapist (where available)
- **How**: *Return-to-Learn/School/Coaching Strategy, Skate Canada-Specific Return-to Sport Strategy, Medical Assessment Letter*

6. Interdisciplinary Concussion Care

Most individuals 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 four (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 (longer than four (4) weeks) may benefit from referral to a physician-supervised specialized interdisciplinary concussion care clinic for assessment and care that addresses the person's individual specific symptoms and needs.

Care of persisting symptoms should follow the management recommendations in Canada's clinical practice guidelines:

- Pediatric guidelines (children and youth under 18)
- Adult guidelines (18 and older)

- **Who**: Interdisciplinary concussion care medical team, medical doctor with licensed training and expertise in concussion / traumatic brain injury, e.g. a sports medicine physician, neurologist, neurosurgeon, or rehabilitation medicine physician), nurse practitioner, licensed healthcare professionals

7. Return-to-Sport

Individuals who have been determined to have not sustained a concussion and those that have been diagnosed with a concussion and have successfully completed the *Skate Canada Sport-Specific Return-to-Sport Strategy* can be considered for return to full sports activities without restrictions (see 4. Medical Assessment).

Individuals who have been diagnosed with a concussion can be considered for medical clearance to return to skating/training/coaching once they have successfully completed

- All steps of the Return to learn/school/coach strategy (is applicable), and
- Steps one (1) to three (3) of the Skate Canada Sport-specific-Return to Sport Strategy

The final decision to medically clear an individual to return to skating/training/coaching activities should be based on the clinical judgment of the medical doctor or nurse practitioner with experience in concussion management taking into account the individual'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).

To progress to steps four (4) of return to sport, the individual that has been diagnosed with a concussion must provide their coach, club board of directors or skating school administrators with a standardized ***Medical Clearance Letter*** that specifies that a medical doctor or nurse practitioner with experience in concussion management has personally evaluated the individual and has cleared them to return to skate/train/coach. 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 with experience in concussion management can provide this documentation.

It is also important for the individual to provide this information to their coach, club, board of directors or skating school administrators who are responsible for injury reporting and concussion surveillance, where applicable.

Individuals who have been provided with a ***Medical Clearance Letter*** may progress through steps 4, 5, and 6 of the Skate Canada Sport Specific Return to Sport Strategy for skate/train/coach activities to gradually return to full, unrestricted sport activities. If the individual experiences any new concussion-like symptoms during these steps , they should be instructed to stop immediately and return to step 3 to establish the full resolution of symptoms. A follow-up ***Medical Assessment*** and a ***Medical Clearance*** is required again before progressing to step 4. This information should be provided to their parent, coach, volunteer, or official, as appropriate..

In the event that the individual sustains a new suspected concussion, the **Skate Canada Concussion Protocol** should be followed once again, as already outlined in this document.

- **Who**: Medical doctor, nurse practitioner
- **How:** Medical Clearance Letter