



PMRC Pre-Season Concussion Education Sheet for Athletes and Parents

WHAT IS A CONCUSSION?

A concussion is a brain injury that can't be seen on xrays, CT or MRI scans. It affects the way and athlete 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 may cause a sudden jarring of the head may cause a concussion.

WHEN SHOULD I SUSPECT A CONCUSSION?

A concussion should be suspected in any athlete 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 be suspected if an athlete 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. Some athletes will develop symptoms immediately while others will develop delayed symptoms (beginning up to 24-48hrs after the injury).

WHAT ARE THE SYMPTOMS OF A CONCUSSION?

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

WHAT ARE THE VISUAL SIGNS OF A CONCUSSION?

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| Lying motionless on the playing surface | Blank or vacant stare |
| Slow to get up after a direct or indirect blow to the head | Balance, gait difficulties, motor incoordination, stumbling, slow labored movements |
| Disorientation or confusion or inability to respond appropriately to questions | Facial injury after head trauma Clutching head |

WHAT SHOULD I DO IF I SUSPECT A CONCUSSION?

If any athlete is suspected of sustaining a concussion during training or racing (or any sporting activity) they should be immediately removed from play. Any athlete who is suspected of having sustained a concussion during training or racing must not be allowed to continue skiing until assessed by a medical doctor or nurse practitioner.

It is important that ALL athletes with a suspected concussion undergo a medical assessment by a medical doctor or nurse practitioner as soon as possible. Athletes with a suspected concussion will not be permitted to return to racing or training with PMRC until their coaches receive written medical clearance (see Medical Assessment for Concussion form) from a medical doctor or nurse practitioner. Initial medical clearance may be obtained from either the race doctor or covering PMRC medical team if a concussion has been ruled out on the day of injury.

If concussion is ruled out by a medical doctor or nurse practitioner after leaving the hill, that medical professional must provide written medical clearance.

If the athlete is diagnosed with a concussion, a graduated return to school and racing is to be followed under the supervision of their medical provider (see below). When appropriate, the medical doctor or nurse practitioner must complete the Return to Play form and it must be given to the athlete's coach before they will be allowed to resume formal training.

WHEN CAN THE ATHLETE RETURN TO SCHOOL AND SPORTS?

It is important that all athletes diagnosed with a concussion follow a step-wise return to school and sports-related activities that includes the following Return to School and Return to Sport Strategies. It is important that youth and adult student athletes return to full-time school activities before progressing to stage 5 and 6 of the Return to Sport Strategy.

Return to School Strategy

| Stage | Aim | Activity | Goal |
|-------|--|--|--------------------------------------|
| 1 | Daily activities at home that do not give the athlete symptoms | Typical activities during the day as long as they do not increase symptoms (ie. reading, texting, screen time). Start at 5-15 minutes at a time and build up gradually | Gradual return to typical activities |
| 2 | School Activities | Homework, reading or other cognitive activities outside of the classroom | Increase tolerance to cognitive work |

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|---|----------------------------|---|---|
| 3 | Return to school 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 full-time | Gradually progress as tolerated | Return to full academic activities and catch up on missed school work |

Alpine Skiing Sport Specific Return to Sport Strategy

| Stage | Aim | Activity | Goal |
|-------|-----------------------------|--|---|
| 1 | Symptom limiting activity | Daily activities that do not provoke symptoms | Gradual re-introduction of work/school activities |
| 2 | Light aerobic activity | Walking or stationary cycling at a slow to medium pace. No resistance training <i>-Light intensity jogging or stationary bike for 15-20 minutes at sub-symptom threshold intensity</i> | Increase heart rate |
| 3 | Sport Specific Exercise | Running/dryland drills. No head impact activities <i>- Moderate intensity jogging for 30-60 minutes at sub-symptom threshold intensity</i> <i>- Low intensity free skiing max 60 minutes on snow time</i> <i>- No head impact</i> | Add movement |
| 4 | Non-contact training drills | Harder training drills, i.e. introduction of on-hill drills and easy gate training (stubbies, no hitting gates) up to a half day of training total <i>- May start progressive resistance training</i> <i>Participation in higher intensity running and dryland drills</i> <i>Low-contact on hill training(either independent or with coaches)</i> | Exercise, coordination and increased thinking |
| 5 | Full contact practice | Requires written medical clearance to be provided to coaches. <i>- Participation in full training without activity restriction</i> | Restore confidence and assess functional skills by coaching staff |
| 6 | Return to Sport | Return to competition/race day | |

HOW LONG WILL IT TAKE AN ATHLETE TO RECOVER?

Most youth athletes (<19) will recover within 1-4 weeks. Adults should recover within 1-2 weeks. Approximately 15-30% of athletes will experience persistent concussion symptoms (>4 weeks for youth, > 2 weeks for adults) that may require additional medical assessment and management.

HOW CAN I HELP PREVENT CONCUSSIONS AND THEIR CONSEQUENCES?

Concussion prevention, recognition and management require athletes to follow the rules and regulations of their sport, respect their opponents, avoid head contact and report suspected concussion. Current evidence does not support the use of baseline concussion testing in youth or adult recreational athletes; it is not necessary, required or an accepted standard of care for the appropriate management of sports related concussion, especially in youth athletes.

TO LEARN MORE ABOUT SPORTS RELATED CONCUSSION PLEASE VISIT:

Parachute Canada: www.parachutecanada.org/concussion

Alpine Canada Concussion Protocol : https://ltad.alpinecanada.org/uploads/documents/2017-2018_Concussion_Policy-PTSOCclub.pdf

SIGNATURES : The following signatures certify that the athlete and his/her parent or legal guardian have reviewed the above information related to concussion.

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|---------------------------------|------------------------------|-------|
| _____ | _____ | _____ |
| Printed name of athlete | Signature of athlete | Date |
| _____ | _____ | _____ |
| Printed name of parent/guardian | Signature of parent/guardian | Date |

RESOURCES USED TO DEVELOP THE PMRC CONCUSSION PROTOCOL

1. Canadian Guideline on Concussion in Sport - Parachute Canada
2. ACA 2017-2018 Concussion Protocol - Alpine Canada
3. McCorry et al (2017). Consensus statement on concussion in sport - the 5th International Conference on concussion in sport held in Berlin, October 2016. BJSM, 51(11), 838-847
4. Harmon KG, Clugston JR, Dec K, et al. American Medical Society for Sports medicine position statement on concussion in sport. BJSM 2019;53:213-225