

CONCUSSION INFORMATION SHEET

WHAT IS A CONCUSSION?

- A concussion is a form of traumatic brain injury caused by abnormal forces transferred to the brain causing impaired brain functioning
- Concussions can occur in people of all ages, can occur in any sport, and can occur during practices or games
- Concussions do not require direct contact to the head or a loss of consciousness (blacking out)

WHAT ARE THE SYMPTOMS OF CONCUSSION?

The symptoms of concussion may vary from patient to patient. Some patients may experience symptoms immediately following a collision or may not experience symptoms for hours or days after the traumatic event. Many symptoms of concussion are subtle and may not be recognized by some patients. Children in particular may not be able to describe the symptoms they are experiencing. Common concussion symptoms include:

- Headaches or head pressure
- Dizziness
- Nausea
- Blurred vision
- Sensitivity to light or sound
- Feeling off balance
- Ringing in the ears
- Seeing “stars”
- Confusion
- Fogginess of feeling “out of it”
- Irritability or easily angered
- Difficulty concentrating
- Feeling detached or “not right”
- Difficulty remembering
- Fatigue or tiredness
- Difficulty watching TV
- Difficulty working on a computer
- Neck pain or stiffness
- Feeling anxious
- Feeling sad or depressed

HOW LONG WILL IT TAKE TO RECOVER FROM MY CONCUSSION?

Recovery from a concussion varies from patient to patient. In most adults, symptoms will resolve in 1-2 weeks. Patients that may take longer than 2 weeks to recover include children and adolescents, females, and patients with previous concussions, or a history of migraine headache, learning disabilities, or attention-deficit disorder.

WHAT TYPES OF ACTIVITIES MAY WORSEN MY CONCUSSION SYMPTOMS?

In order to recover from a concussion, patients require adequate amounts of physical and mental rest. Because every concussion is different, activities that worsen concussion symptoms often vary among patients. Physical activities that may worsen concussion symptoms include walking long distances, running, lifting heavy objects and playing with siblings or classmates. Mental activities that may worsen symptoms include talking or texting on the phone, working on a computer, watching TV, reading or schoolwork. Certain environments may also exacerbate concussion symptoms including malls, grocery stores, sports arenas as well as school hallways, cafeterias, or gymnasiums. During recovery from a concussion it is important to modify daily activities in order to minimize concussion symptoms.

WHO SHOULD I TELL AFTER BEING DIAGNOSED WITH A CONCUSSION?

Although it is important to protect your personal health information, it is also important that certain people know about your concussion so they can help monitor your health and make appropriate accommodations to help you recover as soon as possible. In addition to telling your parents and/or spouse/partner it is important to inform teachers, coaches, and bosses that your participation in school, sports, and work may be temporarily limited in order to minimize concussion symptoms. It is important for children and adolescents to partner with parents, teachers, and coaches to allow a gradual return to full school and sports participation.

WHAT CAN I DO TO HELP RECOVER FROM MY CONCUSSION?

Since a concussion is a form of traumatic brain injury it is important that you modify your lifestyle and activities to promote brain recovery. This includes:

- Getting adequate amounts of physical and mental rest
- Getting adequate amounts of sleep
- Getting adequate nutrition and not skipping meals
- Keeping yourself well hydrated
- Avoiding activities that exacerbate concussion symptoms
- Avoiding situations that can be stressful
- Strictly avoiding alcohol and recreational drugs
- Strictly avoiding situations that can put you at risk of future head injuries or concussions

AFTER MY CONCUSSION, AM I AT RISK OF FUTURE CONCUSSIONS?

The vast majority of patients who suffer a single concussion recover completely and go on to live normal lives. Patients that have suffered even one concussion however, are at risk of suffering further concussions that may occur with less force and may require longer periods of time to recover. Multiple concussions can be a risk factor for deterioration in school performance, depression, and anxiety so it is important to avoid concussions and report them immediately when they do happen. Patients who return to contact sports before they have recovered from a concussion are at risk of severe traumatic brain injury that can result in long-term disability and potentially death.

WHEN CAN I RETURN TO SPORTS OR GYM CLASS?

International expert guidelines¹ suggest that all athletes with a concussion progress through a graduated Return To Play (RTP) protocol designed to expose patients to increasing levels of physical activity while monitoring their concussion symptoms. Using this RTP protocol, patients should be asymptomatic for 24 hours at each stage before progressing to the next stage. If a patient develops post-concussion symptoms at one stage, they are instructed to drop down to the previous stage and try to progress again after a full 24-hour rest period has passed. The graduated RTP protocol is outlined below:

Rehabilitation Stage	Functional exercise at each rehabilitation level	Objective at each stage
1. No activity	Symptom limited physical and mental rest	Recovery
2. Light aerobic activity	Walking, swimming or stationary bike keeping intensity <70% maximum permitted heart rate	Increase HR
3. Sport-specific exercise	Skating drills in hockey, running drills in soccer. No head impact activities	Add movement
4. Non-contact training drills	Progression to more complex training drills, eg passing drills in football and ice hockey	Exercise, coordination and mental load
5. Full-contact practice	Following medical clearance participate in normal training activities	Restore confidence and assess functional skills by coaching staff
6. Return to Play	Normal game play	

¹McCroly et al. Consensus statement on concussion in sport: the 4th international conference on concussion in sport held in Zurich, November 2012. (2013) Br J Sports Med 47:250-258.

Once you have advanced through stage 4 of the graduated RTP protocol, a concussion physician will medically clear you for return to full-contact sports participation. If you experience any recurrent symptoms once returned to play, you should immediately notify your parents, partner, coaches, and teachers, and seek medical attention from your concussion physician.

WHAT ARE THE MANAGEMENT GOALS OF THE PAN AM CONCUSSION PROGRAM?

The primary management goal of the Pan Am Concussion Program is to help guide you through an individualized rehabilitation program leading to full recovery of traumatic brain injury. While experts agree that there is currently no treatment for concussion, there are management options that can help treat the symptoms of concussion and post-concussion syndrome. Utilizing experts in physiotherapy, vestibular physiotherapy, and exercise science our multi-disciplinary team will devise a rehabilitation program that targets your specific symptoms. Because our program also shares strong collaborative relationships with medical specialists affiliated with the University of Manitoba, we can also put you in touch with experts in headache neurology, neuro-ophthalmology, pediatric psychiatry, and neurosurgery if needed.

HOW CAN I PREVENT FUTURE SPORTS CONCUSSIONS?

In order to prevent sport concussions, athletes should wear proper equipment (helmets), practice good sportsmanship, and respect other athletes at all times. For more information, visit Hockey Canada at <http://www.hockeycanada.ca/en-ca/Hockey-Programs/Safety/Concussions.aspx> or Parachute Canada at <http://www.parachutecanada.org/injury-topics/topic/C9>.