



UEA University of
East Anglia

Health Sciences



Concussion guidance return to sport / work

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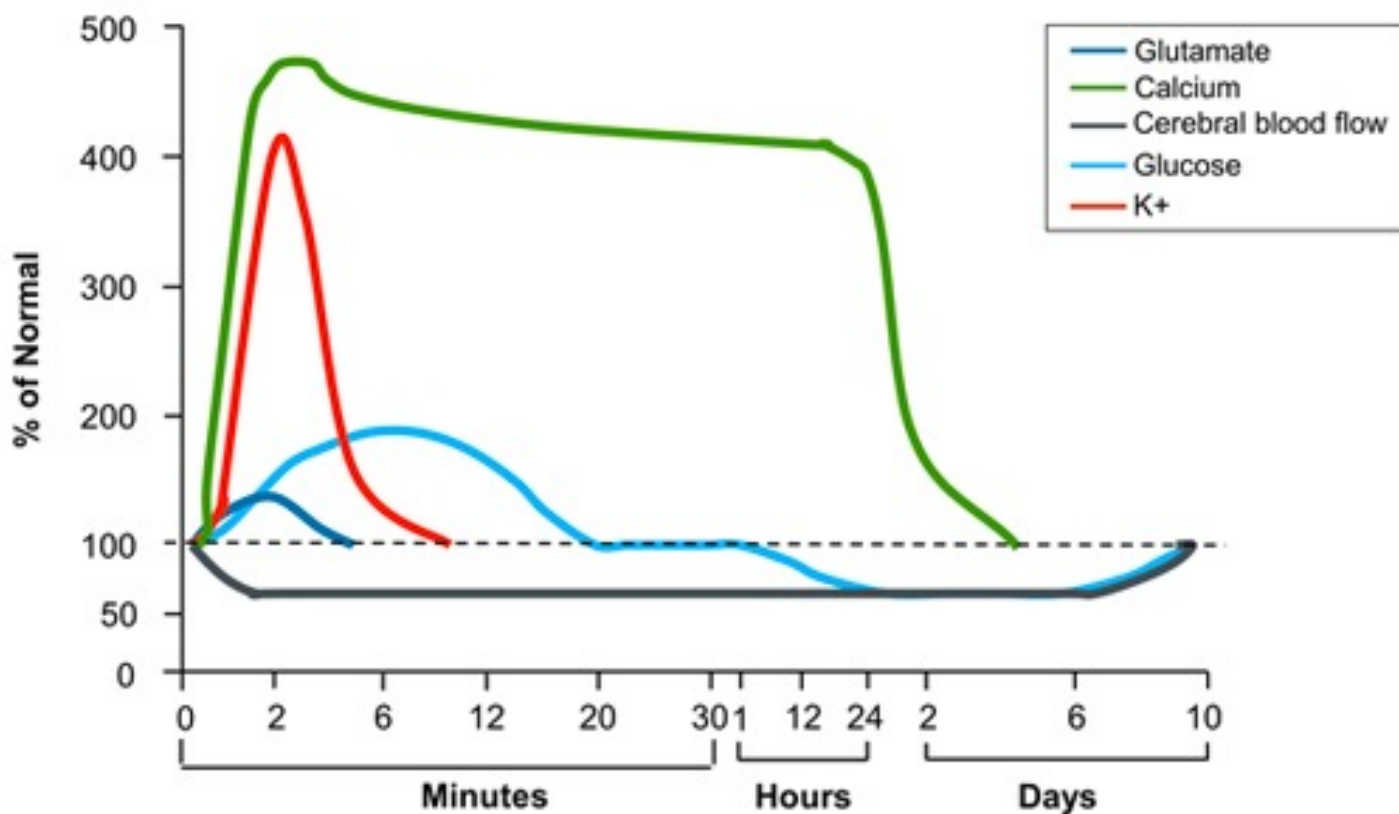


drmichaeljgrey

70-80% resolve in 7-14 days



Neurometabolic Cascade Following Cerebral Concussion/mTBI



From Giza CC, et al.^[10]

Concussion Can Kill – Report by Chris Bryant MP
Cross party call for a Parliamentary inquiry into concussion
in sport



George Smith, Australian flanker, continued playing after passing PSCA test despite clearly suffering from concussion in a game against the British & Irish Lions in 2013. (Source: Mail on Sunday)



Lord Addington (Liberal Democrat)
Chris Bryant MP (Labour, Rhondda)
John Glen MP (Conservative, Salisbury)
Baroness Grey-Thompson (Crossbencher)
Chris Heaton-Harris MP (Conservative, Daventry)

Committees

[UK Parliament](#) > [Business](#) > [Committees](#) > [Digital, Culture, Media and Sport Committee](#) > [Concussion in sport](#) > [Inquiry](#)

DCMS Committee to consider links between sport and long-term brain injury

3 March 2021



Witnesses

Tuesday 9 March, virtual meeting

At 10.00am

- Professor Willie Stewart, Consultant
- Professor Craig Ritchie, Centre for

At 11.00am

- Richard Oakley, Head of Research
- Peter McCabe, Chief Executive
- Dr Michael Grey, Reader in Re

Witnesses

Tuesday 23 March

From 10am

Panel 1

- Monica Petrosino, former Team GB ice hockey
- Eleanor Furneaux, former Team GB skeleton bobsleigh

At approx. 10.30am

Panel 2

- Dawn Astle, Jeff Astle Foundation
- Chris Sutton, former professional footballer
- Professor John Fairclough, Progressive
- Kyran Bracken, former professional rugby player

At approx. 11.15am

Panel 3

- Dr Charlotte Cowie, Chief Medical Officer
- Professor Mike Loosemore, Chief Medical Officer
- Dr Éanna Falvey, Chief Medical Officer, Rugby
- Bill Sweeney, Chief Executive Officer, Rugby

Witnesses

Tuesday 18 May

Panel one, 10am

- Professor Alistair Burns CBE, National Clinical Director for Dementia and Older People's Mental Health, NHS England

Panel two, 10.45am

- Dr Niall Elliott, Head of Sports Medicine, sportscotland
- Dr Rod Jaques, Director of Medical Services, English Institute of Sport
- Sally Munday, Chief Executive, UK Sport
- Phil Smith, Director of Sport, Sport England

Panel three, 11.30am

- Tim Hollingsworth OBE, Chief Executive, Sport England
- Stewart Harris, Chief Executive, sportscotland

Reports, special reports and government responses

[View all reports and responses >](#)

Third Report - Concussion in sport

Inquiry ▶ Concussion in sport

Published 22 July 2021

HC 46  Report

[Get File](#) ▼

Response to this report

Government Response to DCMS Select Committee Report on Concussion in Sport

Published 10 December 2021

 Government Response

[Get File](#) ▼

Areas to address:

The Government believes that basic information about head injuries and the initial action to take should be, at a minimum, consistent across all sports. It should be regularly and consistently updated, easily accessible and easy to understand, regardless of the sporting activity being undertaken and irrespective of age and gender, whether it is at an amateur or professional level, or where it is being played.

Action to be taken:

3. The Government agrees with the Select Committee and will commission a set of shared protocols around concussion in sport. We will build upon the existing work undertaken across the different nations of the UK with stakeholders to aim to **develop a single set of shared guidelines across the whole of the UK.**



Peter Robinson



Photo: Chris Kilpatrick

Ben Robinson
1997-2011



UK Government

IF IN DOUBT, SIT THEM OUT

UK Concussion Guidelines for
Non-Elite (Grassroots) Sport

April 2023

IF IN DOUBT, SIT THEM OUT

CLICK A SECTION TITLE TO NAVIGATE

Contents

- 3 Introduction
- 5 What is concussion?
- 7 What causes concussion?
- 7 What can be the consequences?
- 7 Initial assessment
- 8 Red flags
- 9 Onset of symptoms
- 9 How to recognise concussion
- 10 Visible clues or signs
- 10 Symptoms of concussion
- 11 Immediate management
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- 13 What's your role?
- 15 Concussion recovery
- 16 Recovery times

CONTENTS

SIGNS OF A CONCUSSION



Loss of
Consciousness



Disorientation



Incoherent
Speech



Confusion



Memory Loss



Dazed or
Vacant Stare

SYMPTOMS OF A CONCUSSION



Headache
or Dizziness



Difficulty
Concentrating



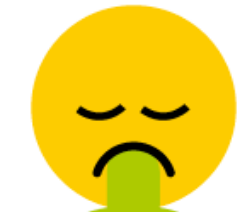
Sensitivity
to Light



Ringing in
the Ears



Fatigue



Vomiting

GRADUATED RETURN TO EDUCATION/WORK & SPORT SUMMARY

(See full table below for detail)

Stage 1	Relative Rest for 24–48 hours <ul style="list-style-type: none">• Minimise screen time• Gentle exercise*
Stage 2	Gradually introduce daily activities <ul style="list-style-type: none">• Activities away from school/work (introduce TV, increase reading, games etc)*• Exercise –light physical activity (e.g. short walks) *
Stage 3	Increase tolerance for mental & exercise activities <ul style="list-style-type: none">• Increase study/work-related activities with rest periods*• Increase intensity of exercise*
Stage 4	Return to study/work and sport training <ul style="list-style-type: none">• Part-time return to education/work*• Start training activities without risk of head impact*
Stage 5	Return to normal work/education and full training <ul style="list-style-type: none">• Full work/education• If symptom-free at rest for 14 days consider full training
Stage 6	Return to sports competition (NOT before day 21) as long as symptom free at rest for 14 days and during the pre-competition training of Stage 5

*rest until the following day if this activity more than mildly increases symptoms.

SYMPTOMS OF A CONCUSSION



Headache or Dizziness



Difficulty Concentrating



Sensitivity to Light



Ringing in the Ears



Fatigue



Vomiting

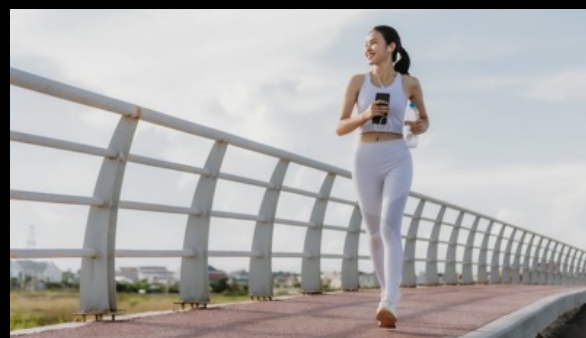
Stage 1	Relative rest period (24-48 hours)	Take it easy for the first 24-48 hours after a suspected concussion. It is best to minimise any activity to 10 to 15-minute slots. You may walk, read and do some easy daily activities provided that your concussion symptoms are no more than mildly increased. Phone or computer screen time should be kept to the absolute minimum to help recovery.
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Stage 2	Return to normal daily activities outside of school or work.	<ul style="list-style-type: none">• Increase mental activities through easy reading, limited television, games, and limited phone and computer use.• Gradually introduce school and work activities at home.• Advancing the volume of mental activities can occur as long as they do not increase symptoms more than mildly.
	Physical Activity (e.g. week 1)	<ul style="list-style-type: none">• After the initial 24–48 hours of relative rest, gradually increase light physical activity.• Increase daily activities like moving around the house, simple chores and short walks. Briefly rest if these activities more than mildly increase symptoms.



<p>Stage 3</p>	<p>Increasing tolerance for thinking activities</p>	<ul style="list-style-type: none"> • Once normal level of daily activities can be tolerated then explore adding in some home-based school or work-related activity, such as homework, longer periods of reading or paperwork in 20 to 30-minute blocks with a brief rest after each block. • Discuss with school or employer about returning part-time, time for rest or breaks, or doing limited hours each week from home
	<p>Light aerobic exercise (e.g. weeks 1 or 2)</p>	<ul style="list-style-type: none"> • Walking or stationary cycling for 10–15 minutes. Start at an intensity where able to easily speak in short sentences. The duration and the intensity of the exercise can gradually be increased according to tolerance. • If symptoms more than mildly increase, or new symptoms appear, stop and briefly rest. Resume at a reduced level of exercise intensity until able to tolerate it without more than mild symptom exacerbation. • Brisk walks and low intensity, body weight resistance training are fine but no high intensity exercise or added weight resistance training.



Stage 4	Return to study and work	<ul style="list-style-type: none">• May need to consider a part-time return to school or reduced activities in the workplace (e.g. half-days, breaks, avoiding hard physical work, avoiding complicated study).
	Non-contact training (e.g. during week 2)	<ul style="list-style-type: none">• Start training activities in chosen sport once not experiencing symptoms at rest from the recent concussion. It is important to avoid any training activities involving head impacts or where there may be a risk of head injury. Now increase the intensity of exercise and resistance training.



Stage 5	Return to full academic or work-related activity	<ul style="list-style-type: none">• Return to full activity and catch up on any missed work.
	Unrestricted training activities (not before week 3)	<ul style="list-style-type: none">• When free of symptoms at rest from the recent concussion for 14 days can consider commencing training activities involving head impacts or where there may be a risk of head injury.



Stage 6	Return to competition	This stage should not be reached before day 21* (at the earliest) <u>and</u> only if no symptoms at rest have been experienced from the recent concussion in the preceding 14 days <u>and</u> now symptom free during pre-competition training. * The day of the concussion is Day 0 (see example below).
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If symptoms continue beyond 28 days – remain out of sport and medical advice should be sought from a GP (which may in turn require specialist referral and review)





Return to Play: Elite Athletes

Return-to-learn

Return-to-Play

Initial Rest Period

Step 1- Symptom Limiting Activity

Daily activities that do not provoke symptoms. Start at 5-15 minutes at a time and gradually build up doing typical daily activities as long as they do not increase symptoms

Step 2- School Activities-Outside the Classroom

Mental effort in 30-45 min sessions (progressing up to 60 min as tolerated)
Homework, reading, or other cognitive activities

When the athlete can maintain a mental effort/perform cognitive work 2-3 times a day for a period of 60 min without symptoms, he/she can move on to step 3

Step 2-Light Aerobic Activity

Bike or jogging (total 20 min):
3 min warm up at 40-50% max HR,
15 min at 70% max HR,
2 min cool down at 40-50% max HR

Step 3A- Return to School Part-Time (Light Workload)

Gradual re-introduction of school
Up to 120 min of cognitive activity at a time
No music or physical education/sport classes
No exams

When the athlete can maintain a cognitive effort/perform cognitive tasks for 120 min a day for 1-2 days without symptoms, he/she can move on to step 3B

Step 3B- Return to School Part-Time (Moderate Workload)

Up to 4-5 hrs of cognitive activity per day (with breaks)
No music or physical education/sport classes
No exams

When the athlete can maintain a cognitive effort/perform cognitive tasks for 4-5 hrs a day for 2-4 days without symptoms, he/she can move on to step 4

Step 3- Sport Specific Exercises

AM: Aerobic Exercise

-Bike (total 20 min): 3 min warm up at 40-50% max HR, 15 min at 70% max HR, 2 min cool down at 40-50% max HR

PM: Technical Drills

-60 minutes duration including breaks between exercises
-Throughout the practice the athlete takes 5-minutes of rest after each 5 minutes of training
-Drills:

- Low intensity static Uchi-komi, 2 x 5 minutes
- Low intensity moving Uchi-komi, 2 x 5 minutes
- Low intensity Ne-waza Uchi-komi 2 x 5 minutes (no Sankaku control or any kind of chokes)



Step 4A- Return to School Full-Time (Nearly Normal Workload)

Near Normal cognitive activities
Begin routine schoolwork as tolerated

Homework up to 60 min per day

Minimal learning accommodations

No Physical education/sports classes
No Standardized tests/exams

When the athlete can tolerate full-time academic load, he/she can move on to step 4B

Step 4B- Return to School Full-Time (Full Workload)

Resume normal cognitive activities/full school curriculum load/ routine schoolwork

No learning accommodation
Catch up on missed schoolwork

Step 4- Non-Contact Training Drills

AM: Gym Training (weights):

Warm up on the bike or jog: 40-50% max HR
-Intensity of session: maximum 60% 1RM or 80% of 6RM

-No jumps, power cleans or jerks, exercises where head is lower than the waist (ie: back extension), or Valsalva maneuver

PM: Judo Training (NO RANDORIS)

-90 minutes duration including breaks between exercises

- Judo warm-up with the team *15 minutes

**Do not perform rolling, break falls, somersaults or partner carrying exercises

- Ne-waza Uchi-komi *no resistance: 5-10 minutes *light resistance: 5 minutes

1-minute break after each 5 minutes and a 5-minute break after the whole exercise

- Inline Uchi-komi *5 minutes, 2-minute break
- Moving Uchi-komi--lifting partner *2 x 5 minutes, 2-minute break
- Static speed Uchi-komi *5 x 10 seconds

15-second break between each set and a 2-minute break after the whole exercise

- Lifting static power Uchi-komi *5 x 10 seconds

15-second break between each set and 2-minute break after the whole exercise

- Kumikata sequences--grip and move the partner *2 x 5 minutes --alternating 30 seconds with the partner

2-minute break between each set

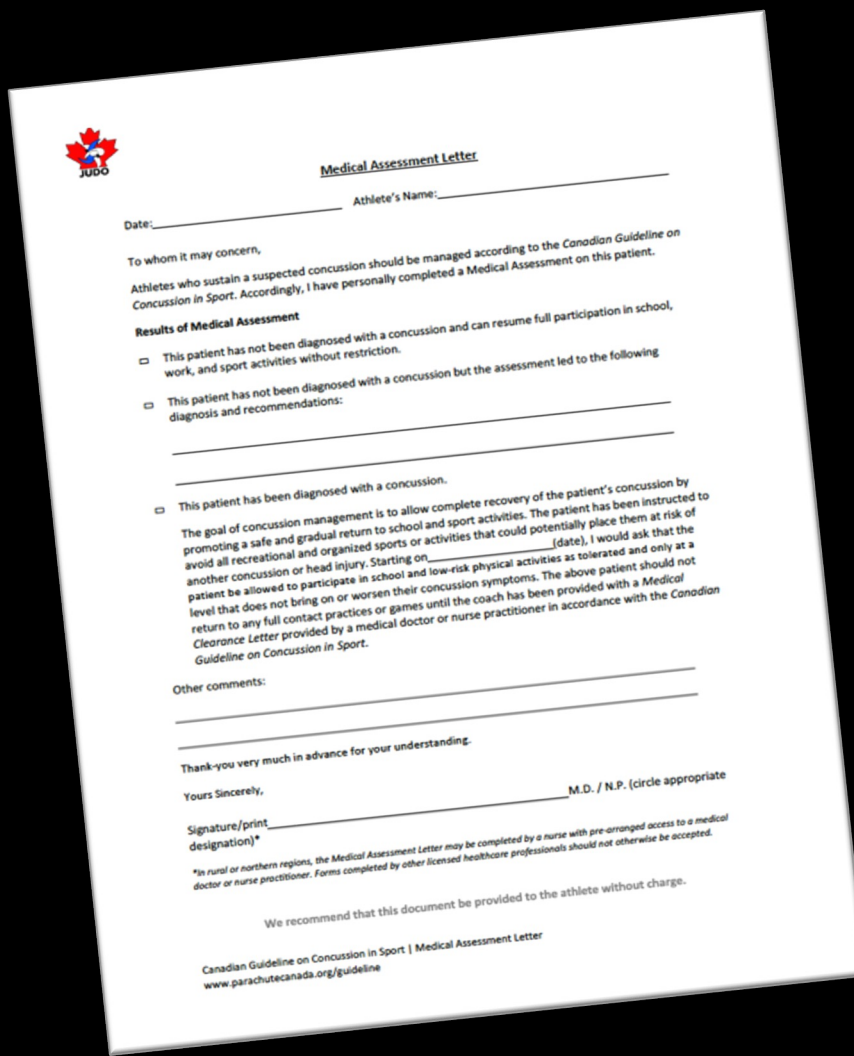
** Avoid high grips from the partner to prevent receiving impact to head


- Nagekomi *5 x 30 seconds

30 second break between each set

**As Tori only, without resistance and without follow through of the Tori on the ground

Medical Assessment and Medical Clearance Letters



 Medical Assessment Letter

Date: _____ Athlete's Name: _____

To whom it may concern,
Athletes who sustain a suspected concussion should be managed according to the *Canadian Guideline on Concussion in Sport*. Accordingly, I have personally completed a Medical Assessment on this patient.

Results of Medical Assessment

- This patient has not been diagnosed with a concussion and can resume full participation in school, work, and sport activities without restriction.
- This patient has not been diagnosed with a concussion but the assessment led to the following diagnosis and recommendations:

- This patient has been diagnosed with a concussion.
The goal of concussion management is to allow complete recovery of the patient's concussion by promoting a safe and gradual return to school and sport activities. The patient has been instructed to avoid all recreational and organized sports or activities that could potentially place them at risk of another concussion or head injury. Starting on _____ (date), I would ask that the patient be allowed to participate in school and low-risk physical activities as tolerated and only at a level that does not bring on or worsen their concussion symptoms. The above patient should not return to any full contact practices or games until the coach has been provided with a *Medical Clearance Letter* provided by a medical doctor or nurse practitioner in accordance with the *Canadian Guideline on Concussion in Sport*.

Other comments:

Thank-you very much in advance for your understanding.

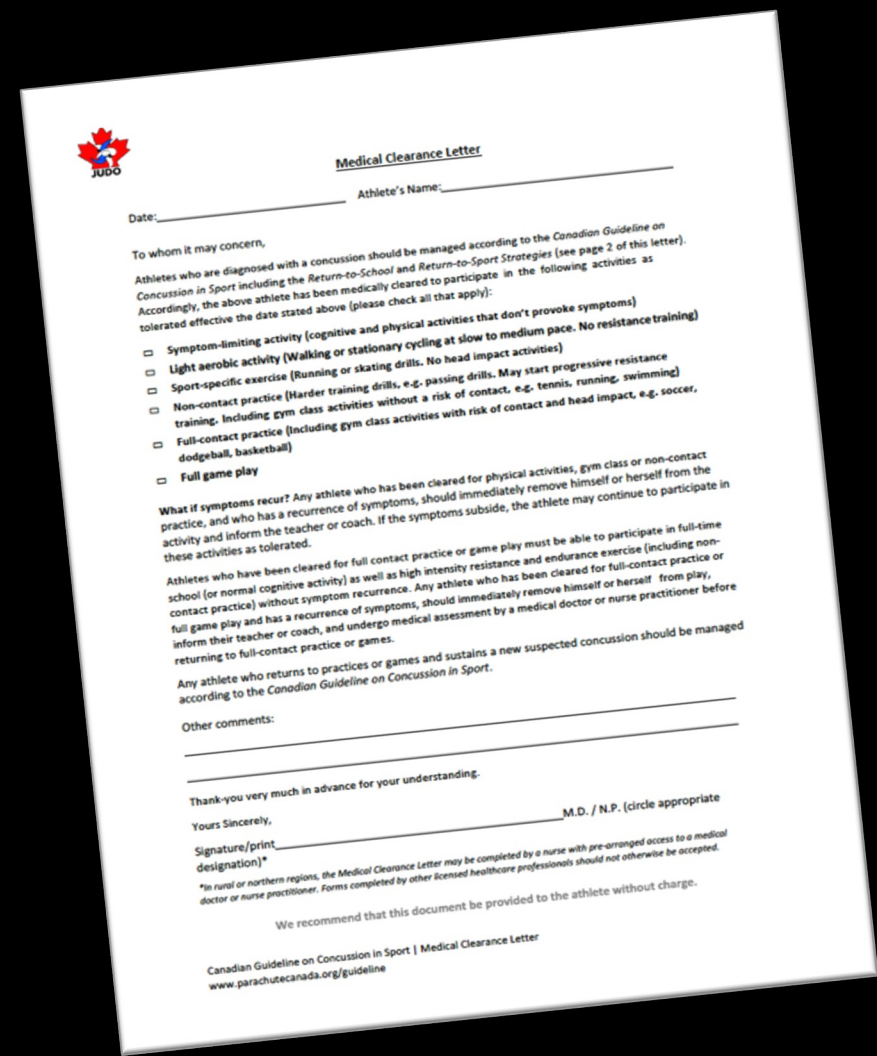
Yours Sincerely, _____ M.D. / N.P. (circle appropriate)


Signature/print designation)* _____

*In rural or northern regions, the Medical Assessment Letter may be completed by a nurse with pre-arranged access to a medical doctor or nurse practitioner. Forms completed by other licensed healthcare professionals should not otherwise be accepted.

We recommend that this document be provided to the athlete without charge.

Canadian Guideline on Concussion in Sport | Medical Assessment Letter
www.parachutecanada.org/guideline



 Medical Clearance Letter

Date: _____ Athlete's Name: _____

To whom it may concern,
Athletes who are diagnosed with a concussion should be managed according to the *Canadian Guideline on Concussion in Sport* including the *Return-to-School* and *Return-to-Sport Strategies* (see page 2 of this letter). Accordingly, the above athlete has been medically cleared to participate in the following activities as tolerated effective the date stated above (please check all that apply):

- Symptom-limiting activity (cognitive and physical activities that don't provoke symptoms)
- Light aerobic activity (Walking or stationary cycling at slow to medium pace. No resistance training)
- Sport-specific exercise (Running or skating drills. No head impact activities)
- Non-contact practice (Harder training drills, e.g. passing drills. May start progressive resistance training. Including gym class activities without a risk of contact, e.g. tennis, running, swimming)
- Full-contact practice (Including gym class activities with risk of contact and head impact, e.g. soccer, dodgeball, basketball)
- Full game play

What if symptoms recur? Any athlete who has been cleared for physical activities, gym class or non-contact practice, and who has a recurrence of symptoms, should immediately remove himself or herself from the activity and inform the teacher or coach. If the symptoms subside, the athlete may continue to participate in these activities as tolerated.

Athletes who have been cleared for full contact practice or game play must be able to participate in full-time school (or normal cognitive activity) as well as high intensity resistance and endurance exercise (including non-contact practice) without symptom recurrence. Any athlete who has been cleared for full-contact practice or full game play and has a recurrence of symptoms, should immediately remove himself or herself from play, inform their teacher or coach, and undergo medical assessment by a medical doctor or nurse practitioner before returning to full-contact practice or games.

Any athlete who returns to practices or games and sustains a new suspected concussion should be managed according to the *Canadian Guideline on Concussion in Sport*.

Other comments:

Thank-you very much in advance for your understanding.

Yours Sincerely, _____ M.D. / N.P. (circle appropriate)

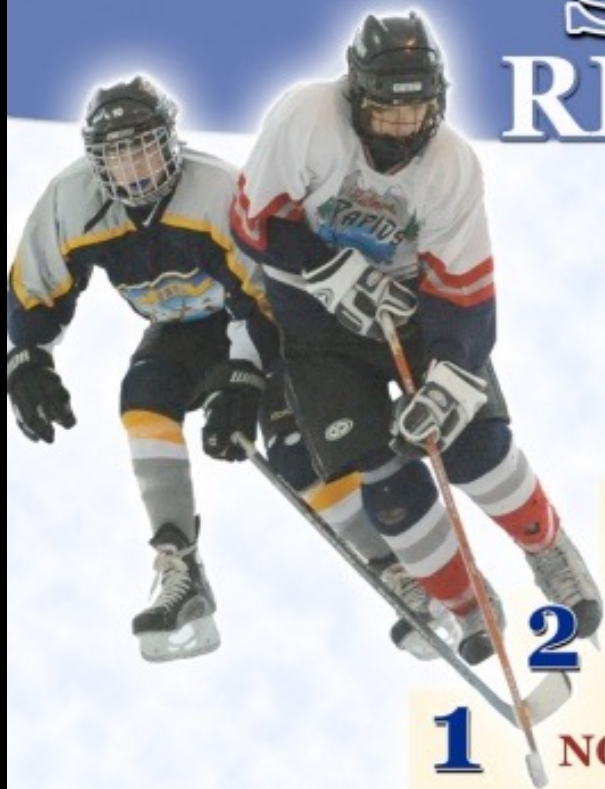
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We recommend that this document be provided to the athlete without charge.

Canadian Guideline on Concussion in Sport | Medical Clearance Letter
www.parachutecanada.org/guideline

STEPWISE RETURN TO PLAY



1 **NO ACTIVITY.** Rest until asymptomatic.

2 Light aerobic exercise.
Examples: light jogging; stationary bike

3 Sport-specific exercise. No contact.
Examples: running, shooting on a side basket

4 Non-contact sport drills.
Example: full-speed agility drills

5 Full-contact sport drills.
Examples: tackling drills; scrimmage

6 Full activity.
No restrictions

**Each Step Up Must Be Separated by 24 Hours
Do Not Advance to the Next Step if Symptoms Reappear**



Shanahan

“It’s a concussion, Sven—you’re sitting out the next siege.”

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