

**Waxers Concussion Webinar**  
*2023-2024 Season*

**No boundaries**

# Outline

## Waxers's Concussion Policy Outline:

1. Concussion 101 & Rowan's Law
2. Recognizing a suspected concussion
  - Q&A
3. Remove-from-sport protocol, report and refer
  - Q&A
4. Initial medical assessment and diagnosis
5. Recovery and clinical support
  - Q&A
6. Return-to-sport protocol and medical clearance for stage 5 & 6
  - Q&A

## About Holland Bloorview

- Holland Bloorview is Canada's largest kids rehabilitation hospital
- Specialize in youth concussion
- Clinicians specifically trained in pediatric brain injury and leading researchers in the field of youth concussion
- Focus on getting kids back to what they need, want and love to do



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# Rowan's Law (Bill 193)

Legislative  
Assembly  
of Ontario



Assemblée  
législative  
de l'Ontario

2ND SESSION, 41ST LEGISLATURE, ONTARIO  
67 ELIZABETH II, 2018

## Bill 193

*(Chapter 1 of the Statutes of Ontario, 2018)*

**An Act to enact Rowan's Law (Concussion Safety), 2018  
and to amend the Education Act**

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## Rowan's Law: Concussion Awareness Resources

Review the [Concussion Awareness Resources](#) (if you are an athlete, parent, coach, team trainer or official).

### Requirements for Sport Organizations

Ontario is a national leader in concussion management and prevention. *Rowan's Law (Concussion Safety), 2018* makes it mandatory for sports organizations to:

- 1** ensure that athletes under 26 years of age,\* parents of athletes under 18, coaches, team trainers and officials confirm every year that they have reviewed Ontario's Concussion Awareness Resources
- 2** establish a Concussion Code of Conduct that sets out rules of behaviour to support concussion prevention
- 3** establish a Removal-from-Sport and Return-to-Sport protocol

### Requirements for School Boards

The Ministry of Education has a [concussion policy \(PPM 158\)](#) for school boards, school authorities and provincial and demonstration schools. This policy is currently being updated by the Ministry of Education to be consistent with *Rowan's Law*. Until PPM 158 is reissued, schools and school boards are advised to continue to follow their existing concussion policy.

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# Rowan's Law

As of January 2022 *Rowan's Law (Concussion Safety)* removal-from/return-to-sport requirements will come into effect. After this date, all children and youth under the age of 25 who participate in organized sport and sport within schools will be required to seek medical assessment for two mandatory touchpoints:

**Medical diagnosis:** All children and youth suspected of sustaining a concussion will require medical concussion assessment and diagnosis by a physician or nurse practitioner, with a letter which confirms positive or negative diagnosis.

**Medical clearance for unrestricted physical activity:** All children and youth diagnosed with concussion will require medical clearance by a physician or nurse practitioner, with a letter which confirms child or youth has met criteria to participate in unrestricted sport/physical activity participation.

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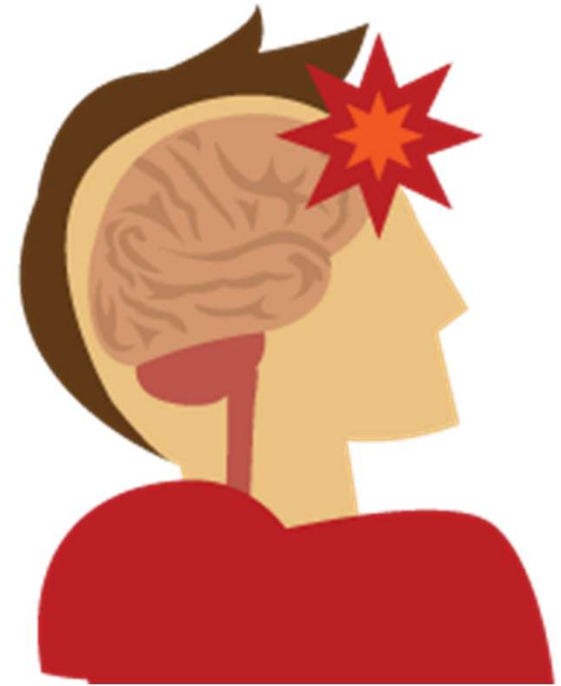


What is a concussion?

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## What is a concussion?

- An injury to the brain
- Caused by blow to head or another part of the body
- “Traumatically induced physiological disruption of brain function”
- Causes non-specific onset of signs and symptoms (physical, cognitive, emotional, sleep)



ONF Living guidelines on diagnosing and managing pediatric concussion

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## What is a concussion?

- **Every injury is different** - A person's experience with concussion and their recovery are individual and different with each injury.
- Symptoms may take up to **24-48 hours** to appear - some children/youth do not recognize symptoms until at school the following day
- Only need **1 symptom** to treat as a suspected concussion
- Concussions cannot be seen on a CT scan or MRI
- There is currently no biomarker test (i.e. blood test) which can identify concussions

Canadian Guideline for Concussion in Sport, 2017

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# Concussion signs and symptoms

## Physical Concussion Symptoms:

- Headache
- Sensitive to light
- Sensitive to noise
- Dizziness
- Nausea

## **Examples of signs:**

- Slow to get up after direct/indirect hit
- Balance/walking difficulties
- Uncoordinated/slow movements

Physical 

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# Concussion signs and symptoms

## Cognitive Concussion Symptoms:

- Feeling mentally foggy
- Feeling slowed down
- Difficulty concentrating
- Difficulty remembering

## **Example of signs:**

- Disoriented or confused
- Difficulty responding to questions
- Blank or vacant look



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# Concussion signs and symptoms

## Emotional & Behavioural Concussion Symptoms:

- Irritability
- Sadness
- Nervous/anxious
- More emotional

## Example of signs:

- Abnormal behaviour for that child



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# Concussion signs and symptoms

## Sleep Concussion Symptoms:

- Drowsiness
- Sleeping more/less than usual
- Trouble falling asleep
- Fatigue

## Note:

- Important to monitor from a parent perspective



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## Red flag symptoms

**Figure 2: RED FLAG SYMPTOMS**

|                                     |   |
|-------------------------------------|---|
| Headaches that worsen               | Can't recognize people or places                        |
| Seizures or convulsion              | Increasing confusion or irritability                    |
| Repeated vomiting                   | Weakness/tingling/burning in arms or legs               |
| Loss of consciousness               | Persistent or increasing neck pain                      |
| Looks very drowsy/can't be awakened | Unusual behavioural change                              |
| Slurred speech                      | Focal neurologic signs (e.g. paralysis, weakness, etc.) |

**Initiate emergency action plan**

Canadian Guideline for Concussion in Sport, 2017

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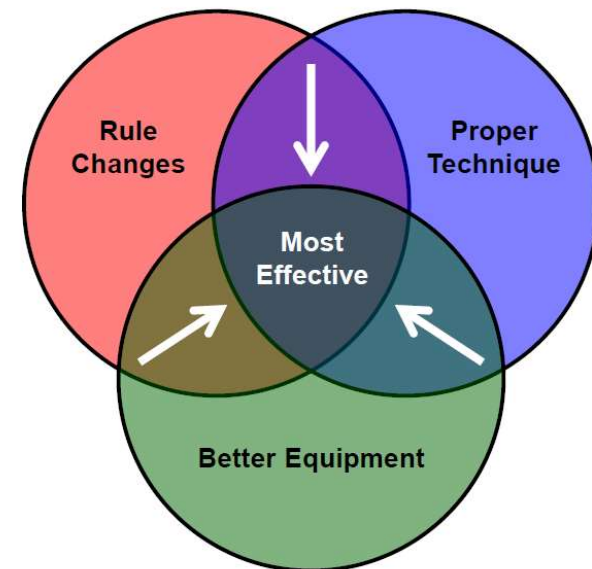
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# Prevention

- **Rule Changes:** Must enforce organizational rules and penalize hits to the head
- **Proper Technique:** Need to teach players how to prepare for contact, give and receive hits safely
- **Better Equipment:** Helmets and mouth guards cannot fully protect a player from having a concussion, however risk can be minimized

## 3 Strategies:



Canadian Guideline for Concussion in Sport, 2017

# Updates in best-practice – baseline testing

**Baseline testing on children/adolescents using concussion assessment tools or tests (or any combination of tests/tools) is not recommended or required for concussion diagnosis or management following an injury.**

- Baseline testing refers to the practice of having an athlete complete certain concussion assessment tools/tests prior to sports participation to provide baseline measurements that can be compared to post-injury values in the event of a suspected concussion.
- Current evidence does not support a significant added benefit of baseline testing athletes. This includes the Child SCAT5 and the SCAT5 tools, as well as neuropsychological and neurocognitive tests, both computerized or not.

ONF Living guidelines on diagnosing  
and managing pediatric concussion

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## Q&A

- ✓ Rowan's Law
- ✓ What is a concussion
- ✓ Concussion signs and symptoms
- ✓ Concussion prevention



# Remove-from-sport protocol

## Recognizing, removing, reporting and referring

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# Recognition

## **When should a concussion be suspected?**

All players who experience any concussion reported signs and symptoms or visual/observation symptoms following a blow to the head or another part of the body is considered to have a suspected concussion and must stop participation in the activity immediately.

Reminder: Symptoms of concussion typically appear immediately but may be delayed and evolve within the first 24-48 hours.

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# Recognition

## **3 ways** to recognize signs and symptoms of a suspected concussion:

1. Self-reported signs & symptoms
2. Observed signs & symptoms
3. Peer-reported signs & symptoms from child/youth, teachers, coaches and/or parents

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# Recognition

**Figure 1: GENERAL CONCUSSION SYMPTOMS**

|                   |                               |                    |
|-------------------|-------------------------------|--------------------|
| Headache          | Feeling mentally foggy        | Sensitive to light |
| Nausea            | Feeling slowed down           | Sensitive to noise |
| Dizziness         | Difficulty concentrating      | Irritability       |
| Vomiting          | Difficulty remembering        | Sadness            |
| Visual problems   | Drowsiness                    | Nervous/anxious    |
| Balance problems  | Sleeping more/less than usual | More emotional     |
| Numbness/tingling | Trouble falling asleep        | Fatigue            |

# Recognition

**Figure 2: VISUAL/OBSERVABLE SYMPTOMS**

Lying down motionless on the playing surface

Slow to get up after a direct or indirect hit

Disorientation or confusion, or an inability to respond appropriately to questions

Blank or vacant look

Balance, gait difficulties motor incoordination, stumbling, slow labored movements

Facial injury after head trauma

# Recognition

**Figure 2: RED FLAG SYMPTOMS**

|                                     |   |
|-------------------------------------|---|
| Headaches that worsen               | Can't recognize people or places                        |
| Seizures or convulsion              | Increasing confusion or irritability                    |
| Repeated vomiting                   | Weakness/tingling/burning in arms or legs               |
| Loss of consciousness               | Persistent or increasing neck pain                      |
| Looks very drowsy/can't be awakened | Unusual behavioural change                              |
| Slurred speech                      | Focal neurologic signs (e.g. paralysis, weakness, etc.) |

**Initiate emergency action plan**

Canadian Guideline for Concussion in Sport, 2017

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## Remove-from-sport

- Any child/youth who experiences signs and symptoms of concussion following a blow to the head or body will be considered to have a suspected concussion and must stop participation in the sport activity immediately
- **Who is responsible for recognising a suspected concussion?** All team officials hold a responsibility to recognise the signs and symptoms of a suspected concussion
- **Who is responsible for removal from play?** When present, **team trainers hold the final decision to remove players with a suspected concussion.** If there is doubt whether a concussion has occurred, it is to be assumed that it has. ***If no team trainer is present order of next most responsible individuals:***
  - An individual with trainer certification
  - Team head coach

# Remove-from-sport

## Once removed the trainer must:

1. Monitor the player until a parent/guardian is contacted or on-site. Players with a suspected concussion should not be left alone. Older players should not drive themselves.
2. Complete a **Suspected Concussion Report Form** immediately after a concussion is suspected. *Trainer must provide copies of the Suspected Concussion Report Form to:*
  - The individual's parents/guardian to bring to their medical appointment
  - One copy to the head trainer barbm.waxers@gmail.com

*Note: If the form was completed by another individual with trainer certification or team head coach (as trainer was not present), that individual must send to the team trainer who review and submit to head trainer*

3. Recommend to the players parent/guardian that they see a medical doctor or nurse practitioner as soon as possible for assessment

# Suspected concussion report form

## GENERAL INFORMATION

Player Name: \_\_\_\_\_ DOB: \_\_\_\_\_ Sex:  M  F  Unspecified  
Club Name: \_\_\_\_\_ Division: \_\_\_\_\_ Level:  A  AA  AAA  
Height: \_\_\_\_\_ Weight: \_\_\_\_\_ Position:  Forward  Defense  Goalie

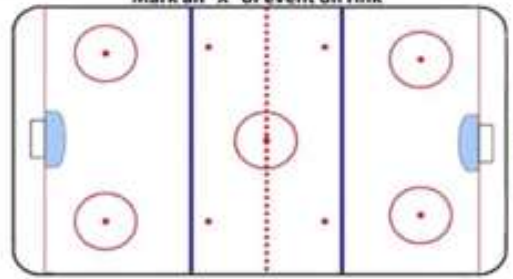
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# Suspected concussion report form

## INJURY DESCRIPTION

| Date of injury: _____ Time: _____ Date you were aware of suspected injury: _____ |   |  |                                     |  |
|--|---|--|-------------------------------------|--|
| Arena location: _____ Opposing team: _____                                       |   |  |                                     |  |
| A) Initial injury scenario   |   | B) Resulted in contact with              |                                     | C) Was contact anticipated?  |
| <input type="checkbox"/> Contact with Opponent                                   |   | <input type="checkbox"/> Boards          |                                     | <input type="checkbox"/> Yes   |
| <input type="checkbox"/> Contact with Opponent (From Behind)                     |   | <input type="checkbox"/> Ice             |                                     | <input type="checkbox"/> No  |
| <input type="checkbox"/> Contact with Teammate                                   |   | <input type="checkbox"/> Opponent's Body |                                     | <input type="checkbox"/> Unsure  |
| <input type="checkbox"/> Fall  |   | <input type="checkbox"/> Stick           |                                     | D) Was there a penalty called on play?   |
| <input type="checkbox"/> Other _____   |   | <input type="checkbox"/> Puck            |                                     | <input type="checkbox"/> Yes   |
|  |   | <input type="checkbox"/> Net             |                                     | <input type="checkbox"/> No  |
|  |   | <input type="checkbox"/> Other _____     |                                     | <input type="checkbox"/> Unsure  |
| E) Game Scenario   | F) Period                                       | G) Puck Possession                       | H) Score                            | I) Injury Location   |
| <input type="checkbox"/> On ice practice   | <input type="checkbox"/> 1 <sup>st</sup> period | <input type="checkbox"/> Yes             | <input type="checkbox"/> Winning    | <p>Mark an "X" of event on rink</p>  |
| <input type="checkbox"/> Regular game  | <input type="checkbox"/> 2 <sup>nd</sup> period | <input type="checkbox"/> No              | <input type="checkbox"/> Losing     |  |
| <input type="checkbox"/> Exhibition  | <input type="checkbox"/> 3 <sup>rd</sup> period | <input type="checkbox"/> Just released   | <input type="checkbox"/> Winning >2 |  |
| <input type="checkbox"/> Tournament  | <input type="checkbox"/> Overtime               | <input type="checkbox"/> Other _____     | <input type="checkbox"/> Losing >2  |  |
| <input type="checkbox"/> Playoffs  | <input type="checkbox"/> Other _____            |  | <input type="checkbox"/> Tie Game   |  |
| <input type="checkbox"/> Other _____   |   |  |                                     |  |
| <b>Additional Comments:</b>  |   |  |                                     |  |

# Suspected concussion report form

## REPORTED SYMPTOMS (CHECK ALL THAT APPLY)

|  |   |  |  |
|--|---|--|--|
| <input type="checkbox"/> Visual problems | <input type="checkbox"/> Balance problems         | <input type="checkbox"/> Drowsiness                    | <input type="checkbox"/> Irritability    |
| <input type="checkbox"/> Nausea          | <input type="checkbox"/> Feeling mentally foggy   | <input type="checkbox"/> Sleeping more/less than usual | <input type="checkbox"/> Sadness         |
| <input type="checkbox"/> Dizziness       | <input type="checkbox"/> Feeling slowed down      | <input type="checkbox"/> Trouble falling asleep        | <input type="checkbox"/> Nervous/anxious |
| <input type="checkbox"/> Vomiting        | <input type="checkbox"/> Difficulty concentrating | <input type="checkbox"/> Sensitive to light            | <input type="checkbox"/> More emotional  |
| <input type="checkbox"/> Headache        | <input type="checkbox"/> Difficulty remembering   | <input type="checkbox"/> Sensitive to noise            | <input type="checkbox"/> Fatigue         |

## RED FLAG SYMPTOMS (CHECK ALL THAT APPLY): CALL 911 IMMEDIATELY WITH A SUDDEN ONSET OF ANY OF THESE SYMPTOMS

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Severe or increasing headache             | <input type="checkbox"/> Neck pain or tenderness       | <input type="checkbox"/> Seizure or convulsion                        |
| <input type="checkbox"/> Double vision                             | <input type="checkbox"/> Loss of consciousness         | <input type="checkbox"/> Repeated vomiting                            |
| <input type="checkbox"/> Weakness or tingling/burning in arms/legs | <input type="checkbox"/> Deteriorating conscious state | <input type="checkbox"/> Increasingly restless, agitated or combative |

Are there any other symptoms or evidence of injury to anywhere else?  Yes  No

If yes, what: \_\_\_\_\_

Has this player had a concussion before?  Yes  No  Prefer not to answer

If yes, how many:  1  2  3  4  >5  Unsure

Any pre-existing medical conditions or take any medications?  Yes  No  Prefer not to answer

If yes, please list: \_\_\_\_\_

# Suspected concussion report form

I [*name of trainer completing this form*] \_\_\_\_\_ recommended to player's parent/guardian that the player seek medical assessment as soon as possible. *A medical assessment must be from a family doctor, pediatrician, emergency room doctor, sports-medicine physician, physiatrist, neurologist or a nurse practitioner.*

Signature \_\_\_\_\_ Phone Number: \_\_\_\_\_

Email Address: \_\_\_\_\_

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# Suspected concussion report form

## Importance of suspected concussion report forms:

- **Catalyst:** Initiates the concussion policy process
- **Recording:** Record of the suspected injury
- **Communicating:** Consistent way of communicating suspected injuries to parents, head coaches and medical community
- **Surveillance:** Can support clubs/districts in injury data collection

## Refer to medical assessment/diagnosis

- a) **Seeking medical assessment:** If a player has been deemed to have had a suspected concussion, it is the parent/guardian's responsibility to take the player to see a medical doctor or nurse practitioner as soon as possible. Players with suspected concussions may not return to any Waxers activity until they have received medical assessment and submitted necessary documentation.
  
- b) **Required type of initial medical assessment:** In addition to nurse practitioners, the types of medical doctors that are qualified to evaluate patients with a suspected concussion include: family physician, pediatrician, emergency room physician, sports-medicine physician, neurologist or internal medicine and rehabilitation (physiatrists). Documentation from any other source will not be acceptable.

Note: Written documentation by a medical doctor or nurse practitioner may be provided in any format from the medical assessment. A recommended **Medical Assessment Letter** template can be found in Parachute's Canadian Guideline for Concussion in Sport.

Canadian Guideline for Concussion in Sport, 2017

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## Medical assessment and diagnosis – NO concussion

| <b>Parents/Player</b>  | <b>Trainer</b>  |
|--|---|
| <ul style="list-style-type: none"><li>• Parent/guardian must take the written documentation from the medical assessment (highlighting that the player did not have a concussion), and give this document to the team trainer.</li><li>• Parent/guardian should continue to monitor the player for at least 24-48 hours after the event, as signs and symptoms may be delayed or evolve over that period.</li></ul> | <ul style="list-style-type: none"><li>• Team trainer to submit medical documentation to the Barb Matthews before the player is permitted to return to a hockey activity (<a href="mailto:barbm.waxers@gmail.com">barbm.waxers@gmail.com</a>)</li><li>• Team trainers and head coaches will not allow return until documentation has been received.</li><li>• Team trainers have the right to refuse a player to return to any hockey activity if they deem the player unfit to do so.</li></ul> |

## Medical assessment and diagnosis – YES concussion

| <b>Parents/Player</b>   | <b>Trainer</b>   |
|---|--|
| <ul style="list-style-type: none"><li>• Parent/guardian must take the written documentation from the medical assessment (highlighting that the player has been diagnosed with a concussion), and give this document to the team trainer</li><li>• The player is to begin stage 1 of the return-to-sport protocol.</li></ul> | <ul style="list-style-type: none"><li>• Team trainer to submit medical documentation, in addition to the <b><u>Hockey Canada Injury Report Form</u></b>, to the to the Markham Waxers now that it is a confirmed injury/concussion.</li><li>• Team trainers and head coaches will follow gradual return-to-sport protocol and ensure no participation in stage 5 and 6 sport activities until medical clearance (See details on page 9-10)</li></ul> |



# Tools to have on sidelines

## REGONIZE IT

### CONCUSSION RECOGNITION TOOL 5®

To help identify concussion in children, adolescents and adults

Supported by:

#### RECOGNISE & REMOVE

Head impacts can be associated with serious and potentially fatal brain injuries. The Concussion Recognition Tool 5 (CRT5) is to be used for the identification of suspected concussion. This tool designed to diagnose concussion.

#### STEP 1: RED FLAGS – CALL AN AMBULANCE

If there is concern after an injury including whether ANY of the following signs are observed or complaints are reported the player should be safely and immediately removed from play (game/activity). If no licensed healthcare professional is available, call an ambulance for urgent medical assessment:

- Neck pain or tenderness
- Severe or increasing headache
- Deteriorating conscious state
- Double vision
- Seizure or convulsion
- Vomiting
- Weakness or tingling/burning in arms or legs
- Loss of consciousness
- Increasingly restless, agitated or combative

**Remember:**

- In all cases, the best principle of first aid (danger, response, airway, breathing, circulation) should be followed.
- Do not attempt to move the player (other than required for airway support) unless so trained to do so.
- Do not remove a helmet or any other equipment unless trained to do so safely.
- Assessment for a spinal cord injury is critical.

If there are no Red Flags, identification of possible concussion should proceed to the following steps:

#### STEP 2: OBSERVABLE SIGNS

Visual clues that suggest possible concussion include:

- Lying motionless on the playing surface
- Disorientation or confusion, or an inability to respond appropriately to questions
- Balance, gait difficulties, motor incoordination, stumbling, slow laboured movements
- Slow to get up after a direct or indirect hit to the head
- Blank or vacant look
- Facial injury after head trauma

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## REPORT IT

### Suspected Concussion Report Form

**GENERAL INFORMATION**

Player Name: \_\_\_\_\_ DOB: \_\_\_\_\_ Sex:  M  F  Unspecified  
 Club Name: \_\_\_\_\_ Division: \_\_\_\_\_ Level:  A  AA  AAA  AAAA  
 Height: \_\_\_\_\_ Weight: \_\_\_\_\_ Position:  Forward  Defence  Goalie

**INJURY DESCRIPTION**

Date of injury: \_\_\_\_\_ Time: \_\_\_\_\_ Date you were aware of suspected injury: \_\_\_\_\_  
 Area/location: \_\_\_\_\_ Opposing team: \_\_\_\_\_

**Initial Injury Scenario**

|  |  |  |
|--|--|--|
| <input type="checkbox"/> Contact with Opponent               | <input type="checkbox"/> Boarded         | <input type="checkbox"/> Was contact anticipated?            |
| <input type="checkbox"/> Contact with Opponent (From Behind) | <input type="checkbox"/> Ice             | <input type="checkbox"/> No                                  |
| <input type="checkbox"/> Contact with Teammate               | <input type="checkbox"/> Opponent's Body | <input type="checkbox"/> Unsure                              |
| <input type="checkbox"/> Fall                                | <input type="checkbox"/> Stick           | <input type="checkbox"/> Was there a penalty called on play? |
| <input type="checkbox"/> Other                               | <input type="checkbox"/> Check           | <input type="checkbox"/> Yes                                 |
|  | <input type="checkbox"/> Net             | <input type="checkbox"/> No                                  |
|  | <input type="checkbox"/> Other           | <input type="checkbox"/> Unsure                              |

**Game Details**

| Game Scenario                            | 1st Period                          | 2nd Period                          | 3rd Period                          | All Goals                              | Injury Location  | Number of goals scored                   |
|--|-------------------------------------|-------------------------------------|-------------------------------------|--|--|--|
| <input type="checkbox"/> On Ice Practice | <input type="checkbox"/> 1st period | <input type="checkbox"/> 2nd period | <input type="checkbox"/> 3rd period | <input type="checkbox"/> Yes           | <input type="checkbox"/> Winging                       |  |
| <input type="checkbox"/> Regular game    | <input type="checkbox"/> 1st period | <input type="checkbox"/> 2nd period | <input type="checkbox"/> 3rd period | <input type="checkbox"/> No            | <input type="checkbox"/> Shooting more/less than usual | <input type="checkbox"/> Scoring         |
| <input type="checkbox"/> Exhibition      | <input type="checkbox"/> 1st period | <input type="checkbox"/> 2nd period | <input type="checkbox"/> 3rd period | <input type="checkbox"/> Just released | <input type="checkbox"/> Trouble falling asleep        | <input type="checkbox"/> Nervous/Anxious |
| <input type="checkbox"/> Commencement    | <input type="checkbox"/> 1st period | <input type="checkbox"/> 2nd period | <input type="checkbox"/> 3rd period | <input type="checkbox"/> Other         | <input type="checkbox"/> Sensitive to light            | <input type="checkbox"/> More emotional  |
| <input type="checkbox"/> Playoffs        | <input type="checkbox"/> Other      | <input type="checkbox"/> Other      | <input type="checkbox"/> Other      | <input type="checkbox"/> The Same      | <input type="checkbox"/> Difficulty concentrating      | <input type="checkbox"/> Fatigue         |
| <input type="checkbox"/> Other           |                                     |                                     |                                     |  | <input type="checkbox"/> Sensitive to noise            |  |

**Additional Comments:** \_\_\_\_\_

**REPORTED SYMPTOMS (CHECK ALL THAT APPLY)**

|  |   |  |  |
|--|---|--|--|
| <input type="checkbox"/> Visual problems | <input type="checkbox"/> Balance problems         | <input type="checkbox"/> Dizziness                     | <input type="checkbox"/> Irritability    |
| <input type="checkbox"/> Nausea          | <input type="checkbox"/> Feeling normally fussy   | <input type="checkbox"/> Sleeping more/less than usual | <input type="checkbox"/> Seizures        |
| <input type="checkbox"/> Dizziness       | <input type="checkbox"/> Feeling slowed down      | <input type="checkbox"/> Trouble falling asleep        | <input type="checkbox"/> Nervous/Anxious |
| <input type="checkbox"/> Vomiting        | <input type="checkbox"/> Difficulty concentrating | <input type="checkbox"/> Sensitive to light            | <input type="checkbox"/> More emotional  |
| <input type="checkbox"/> Headache        | <input type="checkbox"/> Difficulty remembering   | <input type="checkbox"/> Sensitive to noise            | <input type="checkbox"/> Fatigue         |

**RED FLAG SYMPTOMS (CHECK ALL THAT APPLY): CALL 911 IMMEDIATELY WITH A SUDDEN ONSET OF ANY OF THESE SYMPTOMS**

|  |  |   |
|--|--|---|
| <input type="checkbox"/> Severe or increasing headache             | <input type="checkbox"/> Neck pain or tenderness       | <input type="checkbox"/> Seizure or convulsion                        |
| <input type="checkbox"/> Double vision                             | <input type="checkbox"/> Loss of consciousness         | <input type="checkbox"/> Repeated vomiting                            |
| <input type="checkbox"/> Weakness or tingling/burning in arms/legs | <input type="checkbox"/> Deteriorating conscious state | <input type="checkbox"/> Increasingly restless, agitated or combative |

Are there any other symptoms or evidence of injury to anywhere else?  Yes  No  
 If yes, what: \_\_\_\_\_

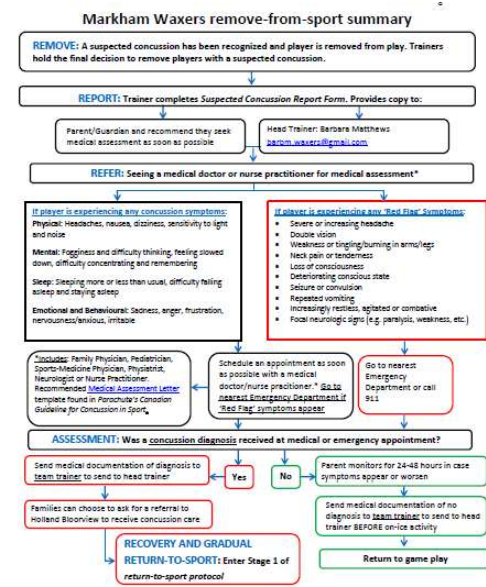
Has this player had a concussion before?  Yes  No  Prefer not to answer  
 If yes, how many:  1  2  3  4  5  Unsure

Any pre-existing medical conditions or take any medications?  Yes  No  Prefer not to answer  
 If yes, please list: \_\_\_\_\_

I (name of trainer completing this form) \_\_\_\_\_ recommended to player's parent/guardian that the player seek medical assessment as soon as possible. A medical assessment must be from a family doctor, pediatrician, emergency room doctor, sports-medicine physician, physiatrist, neurologist or a nurse practitioner.  
 Signature: \_\_\_\_\_ Phone Number: \_\_\_\_\_  
 Email Address: \_\_\_\_\_

PLEASE NOTE: This form is to be completed by the team trainer in the event of a suspected concussion in any Markham Waxers activity. Once this form is complete, give one copy of this report to parent/guardian and the other to head trainer. EMAIL: [markham.waxers@gmail.com](mailto:markham.waxers@gmail.com) Parents are to take this form for medical assessment appointment.  
 Report form informed by NHL head-up checklist from Hutchinson et al 2017. Version Nov 2021

## REFER IT



The GTH Concussion Protocol was made in collaboration with the GTH Safety Committee and the Holland Bloorview Concussion Centre from the Holland Bloorview Kids Rehabilitation Hospital. [hbv@hbv.com](mailto:hbv@hbv.com)  
 This version was been adapted for Markham Waxers organization. Version Nov 2021

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## Q&A

- ✓ **Recognize** the sign and symptoms (classroom, sport, other activities)
- ✓ **Remove** child/youth from the activity
- ✓ **Report** suspected injury to child/youth's parent/guardian and a team/club designate. Ensure they are not left alone and do not drive themselves
- ✓ **Refer** child/youth to medical doctor or nurse practitioner for assessment and diagnosis



# Recovery and clinical support

**No boundaries**

# Changes in rest recommendation

## The shift to an active rehabilitation approach

- Rest beyond 48 hours and strict limitations to low-risk activity **is no longer recommended.**
- Encourage patients with post-concussion symptoms to engage in cognitive activity and low-risk physical activity **as soon as tolerated** while staying below their symptom-exacerbation thresholds. (Reed, N. & Zemek, R. et al 2019)
- Early physical activity is associated with 5.8 lower odds of experiencing persistent symptoms. Patients who did not engage in early exercise had longer symptom duration, greater odds of post-injury headache, and greater symptoms at initial clinical evaluation (Wilson et al 2020) (Krainin et al 2021).
- Complete absence from the school environment for more than one week is not generally recommended.
- Prolonged rest and periods of restricted activity **may place children and youth at risk for secondary issues and contribute to the chronicity of concussion symptoms** (Schneider et al, 2013; Silverberg et al 2019; Thomas et al 2015)

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# Understanding who may need more support

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## Increased evidence for identification of high risk youth and need for early referral to specialized care

**Recommendation 2.1b:** Note common modifiers that may delay recovery and use a clinical risk score to predict risk of prolonged symptoms. (Reed, N. & Zemek, R. et al 2019)

**Recommendation 3.5:** Consider early referral (prior to 4-week post-injury) to an interdisciplinary concussion team in the presence of modifiers that may delay recovery. (Reed, N. & Zemek, R. et al 2019)

ONF Living guidelines on diagnosing and managing pediatric concussion

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# Understanding who may need more support

## Common modifiers:

- ✓ Age (13-18 higher risk)
- ✓ Sex (female higher risk)
- ✓ Duration of recovery from a previous concussion
- ✓ High pre-injury symptom burden
- ✓ High symptom burden at initial presentation
- ✓ Clinical evidence of vestibular or oculomotor dysfunction
- ✓ Personal and family history of migraines
- ✓ History of learning or behavioural difficulties
- ✓ Personal and family history of mental health issues
- ✓ Family socioeconomic status/education – High & Low
- ✓ Family stress

ONF Living guidelines on diagnosing and managing pediatric concussion

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## Does history of concussion influence recovery?

- **Duration of recovery from previous concussions** (i.e. >4 weeks of symptoms) is a factor which has increased likelihood of a longer recovery with subsequent concussions
- Number of previous concussions **has not shown as a consistent factor** for prolonged recover in the research – unless there is multiple concussion injuries in a short time period.
- This is why it's important to follow active but gradual return-to-sport and school protocols to limit risk of another injury during concussion recovery

(Reed, N. & Zemek, R. et al 2019)

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## Our clinical programs



### Early concussion care clinic

- $\leq$  4 weeks from injury to receive care from physician/NP and OT
- Requires physician referral
- Provides symptom management, return-to-school support, return-to-sport guidance and medical clearance



### Persistent symptoms clinic

- > 4 weeks from injury to receive care from physician, OT, PT, nursing, social work and neuropsychology (OHIP covered)
- Requires physician referral
- Provides ongoing symptom management strategies and individualized approach to client and family goals

[hollandbloorview.ca/concussion](http://hollandbloorview.ca/concussion)

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# Return-to-sport protocol

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# Return-to-sport

## What should return to sport look like:

0. **Diagnosis received and initial rest period of 24-48 hours**
1. **Symptoms limited activity** → Reintroduce work/school
2. **Light aerobic exercise** → Increase heart rate
3. **Sport-specific drills** → Add movement
4. **Non-contact drills** → Exercise, coordination and increased thinking

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Follow up with medical doctor or nurse practitioner for clearance

5. **Full contact practice** → Restore confidence and assess functional skill by coaching staff
6. **Return to full sport participation/competition**

McCroly et al. 2016

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## Return-to-sport

- **Parent/guardian and the player are responsible** to ensure that each stage of the *return-to-sport protocol* is followed appropriately and the required signatures are completed at each stage.
- Players should complete each stage of the return-to-sport protocol for a **minimum of 24 hours without new or worsening symptoms before progressing to the next stage**. If a player experiences, new or worsening symptoms at a particular stage they should return to the previously successful stage.

McCroly et al. 2016

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# Return-to-sport

|  |                             |
|--|-----------------------------|
| <b>Stage 0: Initial rest period of 24-48 hours before beginning return-to-sport protocol</b>   |                             |
| <b>Stage 1: Symptom limited activity (at least 24 hours)</b>   |                             |
| <ul style="list-style-type: none"><li>Daily activities that do not worsen symptoms</li><li>Conserve your brain and body's energy, it is needed to feel well and allow the brain to heal.</li></ul>   |                             |
| Confirmed completion Stage 1 for <u>minimum</u> of 24 hours with <b>no new or worsening symptoms</b> on _____<br>MM/DD/YY  |                             |
| _____  | _____                       |
| (Player Signature)   | (Parent/Guardian Signature) |
| <b>Stage 2: Light aerobic exercise (at least 24 hours)</b>   |                             |
| <b>Effort: 50%</b>   |                             |
| <ul style="list-style-type: none"><li>OFF THE ICE. NO CONTACT.</li><li>Begin with a warm up (stretching/flexibility) for 5-10 minutes.</li><li>Start a cardio workout for 15-20 minutes which can include: stationary bicycle, elliptical, treadmill, fast paced walking, light jog, rowing or swimming.</li></ul> |                             |
| Confirmed completion Stage 2 for <u>minimum</u> of 24 hours with <b>no new or worsening symptoms</b> on _____<br>MM/DD/YY  |                             |
| _____  | _____                       |
| (Player Signature)   | (Parent/Guardian Signature) |

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## Return-to-sport – Stage 3

**Stage 3: General conditioning & hockey specific exercise done individually (at least 24 hours)**

**Effort: 50-60%**

- OFF THE ICE. NO CONTACT.
- Begin with a warm up (stretching/flexibility) for 5-10 minutes.
- Increase intensity and duration of cardio workout to 20-30 minutes.
- Begin hockey specific skill work: individual stick handling and shooting drills.

Confirmed completion Stage 3 for minimum of 24 hours with **no new or worsening symptoms** on \_\_\_\_\_  
MM/DD/YY

\_\_\_\_\_  
(Player Signature)

\_\_\_\_\_  
(Parent/Guardian Signature)

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## Return-to-sport – Stage 4 (a)

| Stage 4 (a): Hockey specific training drills done with a teammate ( <i>at least 24 hours</i> ) Effort: 75%  |                             |           |
|---|-----------------------------|-----------|
| <ul style="list-style-type: none"><li>• CAN BEGIN ON-ICE ACTIVITIES. NO CONTACT. NO SCRIMMAGES. NO BODY CHECKING.</li><li>• Increase duration up to 60 minutes. Begin resistance training including neck and core strengthening exercises.</li><li>• Begin on-ice skating warm-up: forwards, backwards, stop and start, cones.</li><li>• Begin on-ice drills with a partner: passing, shooting on goalie and position specific drills like face-offs and deflections.</li><li>• Goalies begin in net with a coach shooting pucks in a controlled manner (e.g. progressing from shots to the pads/along the ice, glove shots then shots to the corners).</li></ul> |                             |           |
| Confirmed completion Stage 4(a) for <u>minimum</u> of 24 hours with <b>no new or worsening symptoms</b> on _____<br>MM/DD/YY  |                             |           |
| _____   | _____                       | _____     |
| (Player Signature)  | (Parent/Guardian Signature) | (Trainer) |

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# Return-to-sport – Stage 4 (b)

| <b>Stage 4(b): Non-contact team training</b>  |  | <i>Effort: 90-100%</i>  |
|---|--|---|
| <ul style="list-style-type: none"> <li>ON THE ICE. NO CONTACT. NO SCRIMMAGES. NO BODY CHECKING.</li> <li>Resume pre-injury duration of practice and team drills.</li> <li>Practice team passing, shooting drills and individual defensive skills.</li> <li>Practice break-out drills, 3 on 2's/2 on 1's and defensive coverage drills.</li> <li>Practice offensive and defensive plays.</li> <li>Review body checking and protection techniques.</li> <li>Goalies begin in net for controlled player drills (e.g. facing a single puck in play or players shooting one at a time). No drills that require a skater to drive hard to the net, to minimize accidental contact.</li> </ul> |  |   |
| <p>Confirmed completion Stage 4(b) for <u>minimum</u> of 24 hours with <b>no ongoing symptoms</b> on _____<br/> <div style="text-align: right; margin-right: 50px;">MM/DD/YY</div></p>  |  |   |
| _____<br>(Player Signature)   | _____<br>(Parent/Guardian Signature)   | _____<br>(Trainer)  |
| _____<br>(MD or NP signature)   | <div style="border: 1px solid black; width: 150px; height: 80px; margin: 0 auto;"></div> <i>MD or NP signature stamp and credentials</i> | <div style="border: 1px solid black; padding: 5px;"> <input type="checkbox"/> Family Physician<br/> <input type="checkbox"/> Pediatrician<br/> <input type="checkbox"/> Sports Medicine Physician<br/> <input type="checkbox"/> Neurologist<br/> <input type="checkbox"/> Physiatrist<br/> <input type="checkbox"/> Nurse Practitioner         </div> |



## New Wording coming down the pipeline

- Step 1 – Relative Rest and activities of daily living (max. 24 – 48 hours)
- Step 2 – Aerobic Exercise
  - 2a) Light (up to approx. 55% of maximum HR)
  - 2b) moderate (up to approx. 70% of maximum HR)
- Step 3. Individual Sport Specific Activities
- Step 4 – Non- contact training and drills
- Step 5 – Return to all non-competitive Activities, gym class activities and full contact practice
- Step 6 – return to Sport

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## Medical Clearance

- Once Stages 1-4 (b) of the *return-to-sport protocol* have been completed, the player must receive medical clearance to proceed to *Stage 5: Full contact practice with team*. **A player is not permitted to return to *Stage 5: Full contact practice with team* or *Stage 6: Game Play* until written permission by a medical doctor/nurse practitioner.**
  - In addition to nurse practitioners, the types of medical doctors that are qualified to support medical clearance for concussion include: family physician, pediatrician, sports-medicine physician, neurologist or internal medicine and rehabilitation (physiatrists). **Documentation from any other source will not be acceptable.**
  - Written clearance by a medical doctor or nurse practitioner may be provided in any format from the medical appointment. See [recommended medical clearance letter template](#) on in Parachute's Canadian Guideline for Concussion in Sport.

McCroly et al. 2016

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## Prepping for first game back

| Stage 5: Full contact practice with team ( <i>at least 24 hours</i> )  |                             | Effort: 100% |
|--|-----------------------------|--------------|
| <ul style="list-style-type: none"><li>• ON THE ICE. SCRIMMAGES. CONTACT. INCLUDING BODY CHECKING (if applicable).</li><li>• Participate in a full practice, review body checking and protection techniques. Focus on skills needed.</li><li>• If completed with no symptoms, discuss with coach/trainer about returning to full game play.</li><li>• Coaches/trainers make sure player has regained pre-injury skill level and is confident in ability to return to game play.</li><li>• Goalies return to full team practice with hard driven shots, drives to the net and puck battles around the net.</li></ul> |                             |              |
| Confirmed completion Stage 5 for <u>minimum</u> of 24 hours with <b>no ongoing symptoms</b> on _____<br>MM/DD/YY   |                             |              |
| _____  | _____                       | _____        |
| (Player Signature)   | (Parent/Guardian Signature) | (Trainer)    |
| Stage 6: Game play   |                             |              |

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## Medical clearance

| <b>Parents/Player</b>   | <b>Trainer and Coach</b>  |
|---|---|
| <ul style="list-style-type: none"><li>• Must provide the trainer with:<ul style="list-style-type: none"><li>• Written clearance from the medical doctor/nurse practitioner (highlighting player is safe to return to stage 5 &amp; 6</li><li>• Return-to-sport protocol with all signatures completed</li></ul></li></ul> | <ul style="list-style-type: none"><li>• It is the responsibility of the <b>team trainer</b> to submit written medical clearance and return-to-sport protocol with signatures completed to the Barb Matthews prior to the player participating in <b>Stage 6: Game Play</b>.</li><li>• Coaches do not progress to game play until player has regained their pre-injury skill-level and player is confident in their ability to return to game play.</li><li>• Team trainers have the right to refuse a player to return to any hockey activity if they deem the player unfit to do so.</li></ul> |

## Special considerations

*What happens when a suspected concussion from a Waxer's activity is not identified/reported until days or weeks after the Waxer's activity?*

**Action:** Remove from sport, report and refer a suspected concussion to medical assessment

**Rationale:** Immediately upon the concussion being suspected and/or reported to team officials, the trainer is to complete a Suspected Concussion Report Form and recommend that the player see a medical doctor/nurse practitioner as soon as possible.

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## Special considerations

***What happens when a child/youth sustains a concussion from a non Waxer's activity (i.e. school, other sports, non club/team related games or training)?***

**Action:** request or obtain medical diagnosis

**Rationale:** As the concussion did not happen at a club/team activity, no *Suspected Concussion Report Form* is needed. However, regardless of where a concussion was sustained child/youth is required to follow a return-to-sport protocol

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## Q&A

- ✓ Recovery and best practice updates
- ✓ Clinical support
- ✓ Return-to-sport protocol
- ✓ Medical clearance requirements



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# Stakeholder responsibilities – team trainer

## 1) Recognizing and removing:

- Recognizing the signs & symptoms of concussion
- Removing players, ensuring their monitored and recommend they seek medical attention

## 2) Completing the following forms:

- Suspected Concussion Report Form
- Hockey Canada Injury Report Form

## 3) Submitting all forms received from parents from medical appointments to Head Trainer (Barb Mathews).

- Diagnosis and clearance

## 4) Have the right to refuse a player to return to any Waxers hockey activity if they deem the player unfit to do so

## 5) Ensuring all players with a suspected concussion to not return to contact activity until medically cleared to do so.

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# Stakeholder responsibilities – head coaches

**Under this policy head coaches are responsible for:**

## **1) Recognizing and supporting removing:**

- Recognizing the signs & symptoms of concussion
- Create a team culture where players feel comfortable reporting injuries
- Trust your trainer and know that they have the final say about removing a player

## **2) Facilitating gradual return-to-sport at practices**

- Modifying practices and setting personalized training plans for players who are in return-to-sport protocol
- Ensuring a safe practice environment
- Ensure players have regained their pre-injury skill-level and player is confident in their ability to return to activity.

**3) Ensuring all players with a suspected concussion to not return to contact activity until medically cleared to do so.**

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# Stakeholder responsibilities – parents and players

## Parents

- Obtain documentation from medical professional
- Most responsible person for gradual return-to-sport protocol
- Co-sign all stages in return-to-sport protocol
- Communicate with team trainer and send documentation

## Players

- Be honest with trainers, coaches and parents
- Gradually move through return-to-sport protocol
- Co-sign all stages in return-to-sport protocol

## Referees

- Recognize the signs & symptoms of concussion
- Enforce rules and penalize hits to the head
- Report suspected concussions to team trainer

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Information about the Waxer's Concussion  
Policy can be found at:

[www.waxers.com](http://www.waxers.com)

-> Resources

-> Concussion Program

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