



## **Ministry of Tourism, Culture and Sport**

### **\*CONCUSSION GUIDELINES**

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## Ministry of Tourism, Culture and Sport – Concussion Guidelines\*

### CONTEXT:

The government takes seriously the health and well-being of all participants in sport and recreation activities and is committed to helping all Ontarians succeed and lead safe, healthy, productive, and active lives.

We all have a role to play in ensuring the safety of those participating in physical activity and for encouraging and motivating participants to assume responsibility for their own safety and the safety of others.

Recent research has made it clear that a concussion can have a significant impact on an individual's health and well-being. In fact, research shows that activities that require concentration can actually cause concussion symptoms to reappear or worsen. If a concussion is not identified and properly managed, it can result in permanent brain damage and, in rare occasions, even death.

Research also suggests that an individual who suffers a second concussion before he/she is symptom-free from the first concussion is susceptible to Second Impact Syndrome – a rare condition that causes rapid and severe brain swelling and often catastrophic results.

Awareness of the signs and symptoms of concussion and knowledge of how to properly manage a concussion is critical to recovery and helping to ensure the individual is not returning to physical activities too soon, risking further complications.

A concussion is a clinical diagnosis made by a medical doctor. It is critical that someone with a suspected concussion be examined by a medical doctor or nurse practitioner.

The Ministries of Education, Health and Long-Term Care and Tourism, Culture and Sport are working together to increase awareness, inside and outside of the school setting, on head injury prevention and concussion identification and management.

### DEFINITION:

A concussion:

- is a brain injury that causes changes in how the brain functions, leading to symptoms that can be physical (e.g., headache, dizziness), cognitive (e.g., difficulty concentrating or remembering), emotional/behavioural (e.g., depression, irritability) and/or related to sleep (e.g., drowsiness, difficulty falling asleep);
- may be caused either by a direct blow to the head, face or neck, or a blow to the body that transmits a force to the head that causes the brain to move rapidly within the skull;
- can occur even if there has been no loss of consciousness (in fact most concussions occur without a loss of consciousness); and,
- cannot normally be seen on X-rays, standard CT scans or MRIs.

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### COMMON SIGNS AND SYMPTOMS OF CONCUSSION:

Following a blow to the head, face or neck, or a blow to the body that transmits a force to the head, a concussion should be suspected in the presence of any one or more of the following signs or symptoms:

<b>Possible Signs Observed</b> <i>A sign is something that will be observed by another person (e.g., parent/guardian, teacher, coach, supervisor, peer).</i>	<b>Possible Symptoms Reported</b> <i>A symptom is something the student will feel/report.</i>
<p><b>Physical</b></p> <ul style="list-style-type: none"> <li>• vomiting</li> <li>• slurred speech</li> <li>• slowed reaction time</li> <li>• poor coordination or balance</li> <li>• blank stare/glassy-eyed/dazed or vacant look</li> <li>• decreased playing ability</li> <li>• loss of consciousness or lack of responsiveness</li> <li>• lying motionless on the ground or slow to get up</li> <li>• amnesia</li> <li>• seizure or convulsion</li> <li>• grabbing or clutching of head</li> </ul> <p><b>Cognitive</b></p> <ul style="list-style-type: none"> <li>• difficulty concentrating</li> <li>• easily distracted</li> <li>• general confusion</li> <li>• cannot remember things that happened before and after the injury</li> <li>• does not know time, date, place, class, type of activity in which he/she was participating</li> <li>• slowed reaction time (e.g., answering questions or following directions)</li> </ul> <p><b>Emotional/Behavioural</b></p> <ul style="list-style-type: none"> <li>• strange or inappropriate emotions (e.g., laughing, crying, getting angry easily)</li> </ul> <p><b>Sleep Disturbance</b></p> <ul style="list-style-type: none"> <li>• drowsiness</li> <li>• insomnia</li> </ul>	<p><b>Physical</b></p> <ul style="list-style-type: none"> <li>• headache</li> <li>• pressure in head</li> <li>• neck pain</li> <li>• feeling off/not right</li> <li>• ringing in the ears</li> <li>• seeing double or blurry/loss of vision</li> <li>• seeing stars, flashing lights</li> <li>• pain at physical site of injury</li> <li>• nausea/stomach ache/pain</li> <li>• balance problems or dizziness</li> <li>• fatigue or feeling tired</li> <li>• sensitivity to light or noise</li> </ul> <p><b>Cognitive</b></p> <ul style="list-style-type: none"> <li>• difficulty concentrating or remembering</li> <li>• slowed down, fatigue or low energy</li> <li>• dazed or in a fog</li> </ul> <p><b>Emotional/Behavioural</b></p> <ul style="list-style-type: none"> <li>• irritable, sad, more emotional than usual</li> <li>• nervous, anxious, depressed</li> </ul> <p><b>Sleep Disturbance</b></p> <ul style="list-style-type: none"> <li>• drowsy</li> <li>• sleeping more/less than usual</li> <li>• difficulty falling asleep</li> </ul>

#### Additional Information:

- Signs/symptoms can appear right after the injury, or may appear within hours or days of the injury.
- The signs/symptoms may be different for everyone.
- An individual may be reluctant to report symptoms because of a fear that they will be removed from the activity, or their status on a team or in a game could be jeopardized.
- It may be difficult for younger children (under the age of 10) and those with special needs or where English/French is not their first language to communicate how they are feeling.
- Signs for younger children (under the age of 10) may not be as obvious as in older children/adults.

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## INITIAL RESPONSE – Removal from Physical Activity:

An individual responsible for those who are participating in organized physical activity who believes that, following a blow to the head, face or neck, or a blow to the body that transmits a force to the head, a participant in the activity may have suffered a concussion needs to take immediate action. *(see Appendix A for INITIAL RESPONSE – Removal from Physical Activity Flow Chart)*

For a participant who is:

- **Unconscious**

- Initiate emergency action plan and **call 911**.
- If applicable, contact the child/youth's parent/guardian to inform them of the injury and that their child is being transported to the hospital.
- Stay with the individual until Emergency Medical Services arrives.
- Monitor and document any physical, emotional and/or cognitive changes.

For someone who is Unconscious:

- Assume there is also a possible head and/or neck injury and, **only if trained**, immobilize the individual before ambulance transportation to hospital.
  - Do not remove athletic equipment (e.g. helmet) unless there is difficulty breathing.
- If applicable, ensure the child/youth's parent/guardian is aware that he/she must inform the coach, administrator and/or supervisor of the child/youth's condition (i.e., concussed or not concussed) prior to the child/youth returning to physical activity.
- Even if consciousness is regained, he/she needs to be examined by a medical doctor or nurse practitioner. *(see steps below for someone who is conscious)*

- **Conscious**

- Remove the participant from the activity immediately.
- If signs are observed or symptoms are reported, **a concussion should be suspected**.
  - If a concussion is not suspected (i.e., signs are not observed and symptoms are not reported), the participant may resume physical activity; however, if applicable, a parent/guardian should be contacted and informed of the incident.\*
- If applicable, contact the parent/guardian and inform them of the injury and the need to be examined by a medical doctor or nurse practitioner.
- Stay with the injured participant until a parent/guardian or emergency contact arrives.
- Monitor and document any physical, emotional and/or cognitive changes.

\* Remember: signs and symptoms of concussion may appear within hours or days of the injury.

For a Participant who is Conscious:

- **If in doubt, sit them out.**
- Do not administer medication (unless conditions require it – e.g., insulin for diabetics).
- If applicable, ensure a parent/guardian is aware that he/she must inform the coach, administrator and/or supervisor of the participant's condition (i.e., concussed or not concussed) prior to their return to physical activity.

**Note – Responsibility of Coach, Administrator and/or Supervisor**

If a participant has been identified as having a suspected concussion, it is the responsibility of coach, administrator and/or supervisor of that activity to notify all affected parties including the participant, a

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parent/guardian (when appropriate) as well as other coaches, administrators and/or supervisors of the suspected concussion. At this point the individual should not participate in any physical activity until he/she has visited a medical doctor or nurse practitioner.

### **Note – Children/Youth Under the Age of 18**

If the participant identified as having a suspected concussion is under the age of 18 and currently attending a publicly funded elementary/high school in Ontario then that student's parent/guardian should contact their school principal. The school principal will then inform all school staff (e.g., classroom teachers, physical education teachers, intramural supervisor, coaches, volunteers) who work with the child/youth that the child/youth should not participate in any learning or physical activities until the parent/guardian reports back to the school principal.

### **MEDICAL EXAMINATION:**

Following examination by a medical doctor or nurse practitioner and prior to the individual returning to physical activity, the coach, administrator and/or supervisor must be informed of the results.

- If **No Concussion** is **Diagnosed**: the participant may return to physical activities.

or

- If a **Concussion** is **Diagnosed**: the medically supervised gradual Return to Physical Activity (R2P) plan is put in place (*see Appendix B for Return to Physical Activity Flow Chart*).

### **Note – Parent/Guardian Responsibilities for Children/Youth Under the Age of 18**

If the participant identified as having a concussion is under the age of 18 and currently attending a publicly funded elementary/high school in Ontario, it is the responsibility of that individual's parent/guardian to notify his/her school principal.

### **RETURN TO PHYSICAL ACTIVITY (R2P) (following a diagnosed concussion):**

A participant with a diagnosed concussion follows a medically supervised and individualized gradual Return to Physical Activity (R2P) plan.

It is critical to recovery that the individualized R2P plan be developed through a collaborative team approach. This team should include:

- the concussed individual
- her/his parents/guardians (if applicable)
- his/her coach, administrator and/supervisor
- school staff, including teachers, coaches etc. (if applicable)
- a medical doctor or nurse practitioner

Ongoing communication and monitoring by all members of the team will be essential to successful recovery.

### **Note – Children/Youth Under the Age of 18**

If the concussed participant is under the age of 18 and currently attending a publicly funded elementary/high school in Ontario then that student's parent/guardian should contact their child's school principal.

### **R2P – Step 1**

The first step in the medically supervised gradual R2P plan is for the individual to have:

- limit cognitive activities which provoke symptoms (*e.g., activities requiring mental concentration such as reading, television, video games, texting*) and physical (*e.g., activities requiring physical exertion*) rest until her/his symptoms begin to show improvement (minimum of 24 hours). This is determined by the medical doctor or nurse practitioner in consultation with the concussed individual and parent/guardian (if applicable).

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### Additional Information:

- The most important treatment for concussion is rest (i.e., cognitive and physical).
- A child/youth does not attend school during **R2P – Step 1**.

### **Note**

In order to proceed to **R2P-Step 2**, the concussed individual or parent/guardian (if applicable) must report back to his/her coach, administrator and/or supervisor that he/she is symptom free.

### **R2P – Step 2**

**Activity:** Individual light aerobic exercise only (e.g., walking or stationary cycling).

**Restrictions:** No resistance/weight training. No competition (including practices, scrimmages). No participation with equipment or with other participants. No drills. No body contact.

### **Note**

In order to proceed to **R2P – Step 3**, the concussed individual or parent/guardian (if applicable) must report back to his/her coach, administrator and/or supervisor that he/she is symptom free.

### **R2P – Step 3**

**Activity:** Individual sport specific exercise only (e.g. running, skating, shooting).

**Restrictions:** No resistance/weight training. No competition (including practices, scrimmages). No body contact, no head impact activities (e.g., heading a ball in soccer), or other jarring motions (e.g., high speed stops, hitting a baseball with a bat).

### **R2P – Step 4**

**Activity:** Activities where there is no body contact (e.g., dance, badminton, volleyball). Light resistance/weight training. Non-contact practice and non-contact sport specific drills (e.g., ball drills, shooting drills).

**Restrictions:** No activities that involve body contact, head impact (e.g., heading the ball in soccer) or other jarring motions (e.g., high speed stops, hitting a baseball with a bat).

### **Note**

**Medical Clearance:** In order for a concussed individual to move from R2P Step 4 to R2P Step 5 he/she must provide written documentation from a medical doctor or nurse practitioner to his/her coach, administrator and/or Supervisor. The documentation must indicate that the individual is symptom-free and able to return to full participation in physical activity before he/she can proceed to **R2P – Step 5**.

### **R2P – Step 5**

**Activity:** Full participation in regular physical activities in non-contact sports. Full training/practices for contact sports.

**Restrictions:** No competition (e.g., games, meets, events) that involve body contact.

### **R2P – Step 6 (Contact Sports only)**

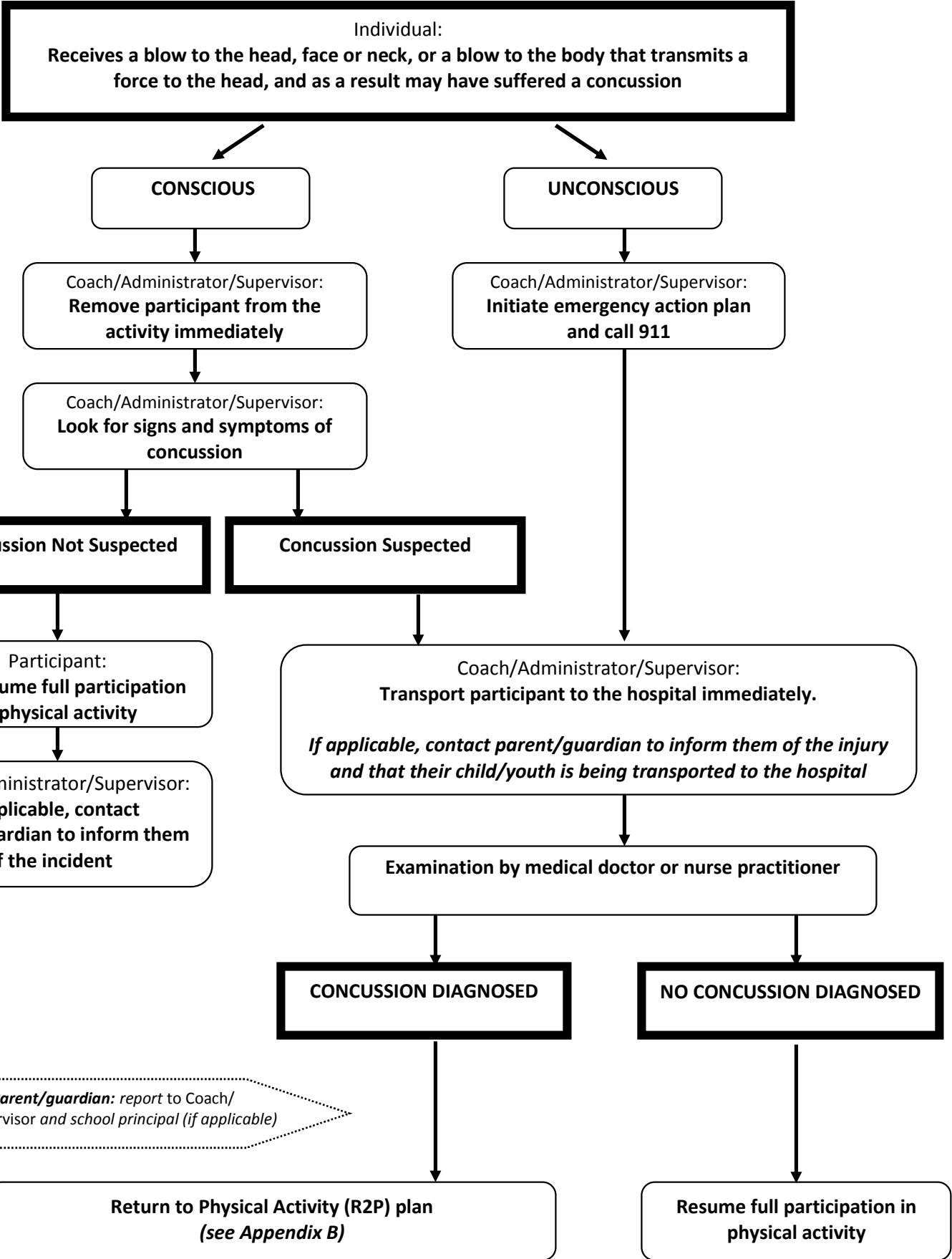
**Activity:** Full participation in all physical activities, including contact sports.

**Restrictions:** None.

### **Additional Information:**

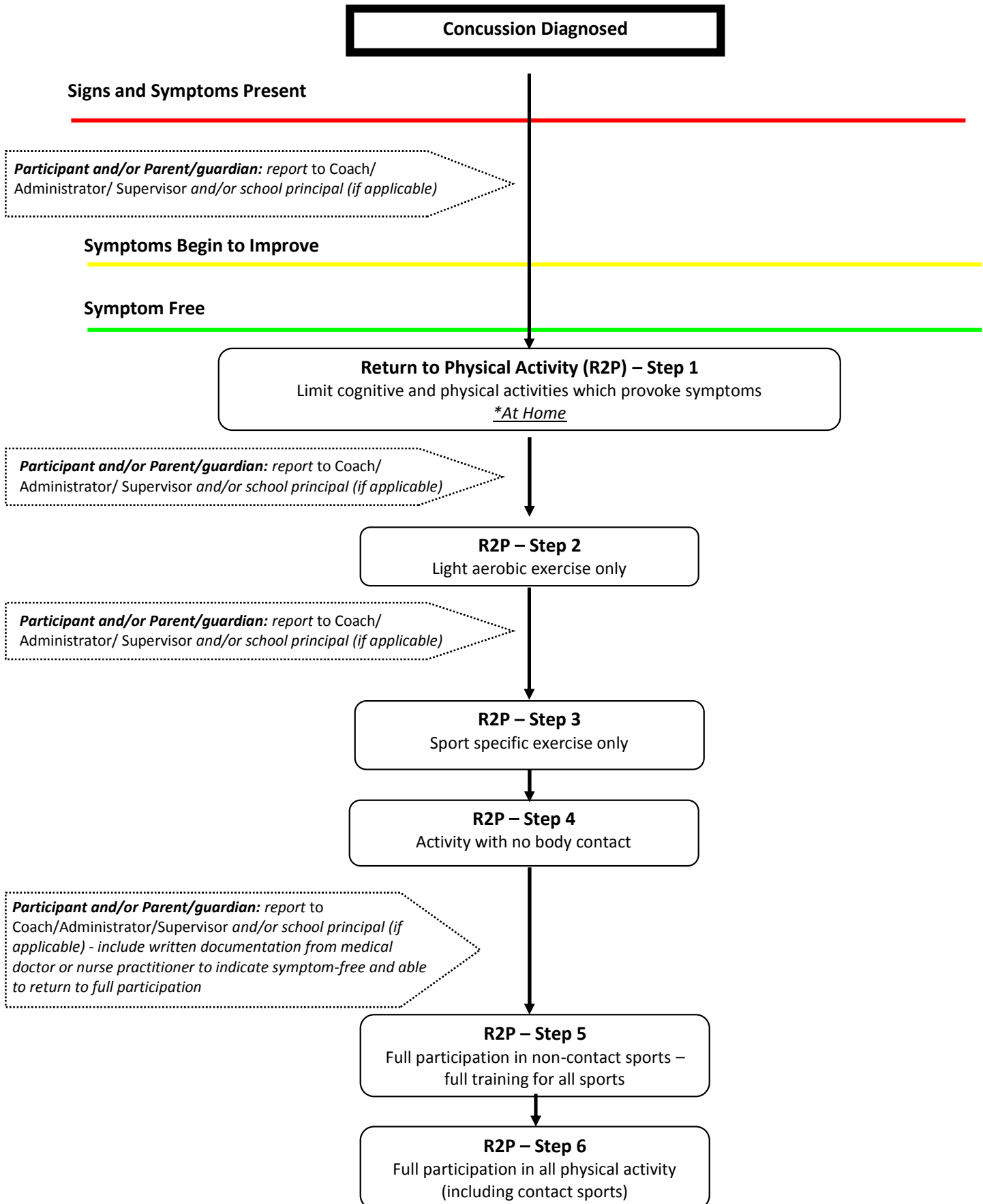
- Physical activities can cause concussion symptoms to reappear.
- Steps are not days – each step must take a minimum of 24 hours and the length of time needed to complete each step will vary based on the severity of the concussion.
- The concussed individual should be regularly monitored regularly for the return of any signs and/or symptoms of concussion.
  - If signs and/or symptoms return, consult with the medical doctor and/or nurse practitioner.

Appendix A: INITIAL RESPONSE – Removal from Physical Activity



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Appendix B: RETURN TO PHYSICAL ACTIVITY (R2P)



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