



## Concussion Management Plan Guidelines June, 2015

### Introduction

Given the incidence and importance of head injury in sports, QVRA has developed, and fully supports, guidelines for teams, clubs, and leagues to implement in the form of a Concussion Management Plan (CMP). These guidelines are not intended as a standard of care, and should not be interpreted as such. They are a guide based on current national and international research and consensus statements and should be reviewed regularly to keep them current. All QVRA sports programs hereby adopt this CMP and will make copies available to all members. Each team, club, and league is encouraged to educate all parents, coaches, and athletes on the CMP's contents and require compliance.

The QVRA Board accepts the definition of a concussion as referenced by the 4<sup>th</sup> International Concussion in Sport Conference (2013), to be the most useful:

*"Concussion is a brain injury and is defined as a complex pathophysiological process affecting the brain, induced by biomechanical forces. Several common features that incorporate clinical, pathologic and biomechanical injury constructs that may be utilized in defining the nature of a concussive head injury include:*

- 1. Concussion may be caused either by a direct blow to the head, face, neck or elsewhere on the body with an "impulsive" force transmitted to the head.*
- 2. Concussion typically results in the rapid onset of short-lived impairment of neurologic function that resolves spontaneously. However in some cases, symptoms and signs may evolve over a number of minutes to hours.*
- 3. Concussion may result in neuropathological changes, but the acute clinical symptoms largely reflect a functional disturbance rather than a structural injury and, as such, no abnormality is seen on standard structural neuroimaging studies.*
- 4. Concussion results in a graded set of clinical symptoms that may or may not involve loss of consciousness. Resolution of the clinical and cognitive symptoms typically follows a sequential course. However, it is important to note that in some cases symptoms may be prolonged".*

An athlete who exhibits signs, symptoms or behaviors suggestive of a concussion should be removed from practice or competition and not return to play until evaluated by a healthcare professional licensed and educated in the evaluation and management of concussions. Athletes diagnosed with or suspected of a concussion should not return to activity without a healthcare professional's release.

In addition, athletes should acknowledge that they understand the signs and symptoms of a concussion, accept the responsibility for reporting all of their injuries and illnesses to their coach, parents (if minors), and healthcare professionals if present, including signs and symptoms of concussions. Athletes and their parents should be presented with educational material, or directed to a website, regarding head injuries and concussions.

Although helmets can provide protection against concussions, it is important to understand that no current helmet can eliminate concussions. All current helmet standards are designed to reduce the risk of severe brain injury and skull fracture, not to prevent concussion. There are substantial efforts towards developing standards and helmets that can reduce the risk of concussions, but this remains a challenge. Additionally, there is no evidence that any helmet or headgear can be used to reduce the risk of a second concussion or allow an earlier return to participation.

## **Signs and Symptoms of a Concussion**

Those suggested by the Centers for Disease Control (2012), are as follows:

### Signs Observed by Others

- Appears dazed or stunned
- Is confused about assignment or position
- Forgets an instruction
- Is unsure of game, score or opponent
- Moves clumsily
- Answers questions slowly
- Loses consciousness (even briefly)
- Shows mood, behavior or personality changes
- Can't recall events prior to hit or fall
- Can't recall events after hit or fall

## Symptoms Reported by Athlete

- Headache or “pressure” in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Sensitivity to light or noise
- Feeling sluggish, hazy, foggy, or groggy
- Concentration or memory problems
- Confusion
- Does not “feel right” or is “feeling down”

## **Preseason Education**

Parents, athletes, and coaches are encouraged to obtain preseason concussion education. The education program should include information regarding the signs and symptoms, possible prevention, mechanisms of injury, treatment, return to activity guidelines, and limitations of protective equipment. Coaches are encouraged to complete a concussion on-line sports program, (Center for Disease Control). Parents and athletes, as part of the preseason process, should be informed of the CMP, including all of the elements as well as local and online resources.

## **Preseason Baseline Testing**

*Athletes are encouraged, but not required to* undergo pre-participation baseline evaluations. This ideally includes a baseline physical examination as well as a review of the athlete’s history of prior injuries, co-existing medical issues (e.g., history of migraines, learning disabilities, mental health issues, as well as a baseline evaluation of symptoms, cognitive functions and balance). This information should be managed by the athlete’s healthcare provider so that it is available for appropriate post injury evaluation, should it be necessary.

## **Evaluation**

An athlete exhibiting signs and symptoms of a concussion should be removed from play immediately and evaluated by a healthcare provider with experience in concussion assessment and management. It will be the responsibility of the athlete’s parent to obtain the medical evaluation. It is recommended that a brief screening tool assessing symptoms, cognitive function and balance (e.g., SCAT3) should be used by the healthcare provider. Any athlete diagnosed with, or suspected of potentially having, a concussion shall not return to activity for the remainder of that day and until cleared by a

physician. Assessment of the athlete will be conducted at appropriate time intervals as determined by his or her physician or appropriate healthcare provider. The athlete will not be allowed to return to activity until cleared by an appropriate healthcare provider licensed to do so in the State of Pennsylvania.

### **Return to Physical Activity**

Athletes diagnosed with a concussion should rest both physically and cognitively until they are back to their baseline level of symptoms. A graduated return to activity should be used, per a return-to-play protocol as prescribed by his or her health care provider, provided the athlete has been cleared to do so by an appropriate healthcare professional. The athlete should gradually increase their level of exertion and risk for contact and be followed for the development of any new symptoms or complications.