



HEALTH & SAFETY BASICS

CONCUSSION AWARENESS GUIDELINES

BMX NEW ZEALAND CONCUSSION AWARENESS GUIDELINES

This guideline document has been produced to increase awareness of concussion in the sport of BMX and aid racers, riders, coaches, supporters, families and clubs to understand:

- Why there is a need for a Concussion Awareness Policy
- What concussion is
- How to recognise the signs and symptoms of concussion
- What action to take when concussion occurs
- Who can assess concussion
- Why graduated return to riding and racing is required

This guideline primarily pertains to adults, although the principals outlined can also be applied to younger riders. As children and adolescents are at higher risk of protracted recovery, we strongly recommend riders with concussion or possible concussion in this age group be promptly assessed by a medical professional.

Guideline Summary:

- Recognise and Stop. If concussion is suspected, stop the rider from riding immediately and seek urgent assessment by a medical doctor.
- Concussions often occur without loss of consciousness (only 10-20% lose consciousness).
- Extra caution is required for child and adolescent riders.
- It may take several hours (or even days) after crashing for some or all of the symptoms of concussion to emerge.
- Everybody (e.g. riding buddies, training partners, families, support crew, coaches, race officials, clubs) have an important role to play in recognising the signs and symptoms of concussion.
- Concussion can present in a similar manner to other catastrophic conditions with delayed onset of symptoms.
- A medical doctor must provide assessment and diagnosis of concussion because the diagnosis may be difficult and relies on clinical judgement.
- It is unanimously agreed that no return to riding on the day of concussive injury should occur.
- The effects of concussion can interfere with the athlete's ability to learn in the classroom or to function well at work. Return to school/work may need to be graduated and demands altered to reflect level of function, guided by a medical practitioner experienced in this area. Return to school/work and social activities should be achieved before return to riding.



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Why there is a need for a Concussion Awareness?

Concussion is a serious injury and occurs frequently. An estimated 35,000 head injuries occur in New Zealand every year. The rigorous demands of BMX racing place participants at potential risk of sustaining head injuries and concussion.

By wearing helmets, riders significantly decrease their odds of head and skull injury but cannot prevent concussion completely. Those who have a history of prior concussion are at an increased risk of repeat injury due to slowed reaction times and loss of balance that may be caused by the initial injury. 11% of sports related ACC claimants have multiple concussions within a 2-year period. Evidence shows that with repeat concussion people may experience a decline in general health and quality of life up to 10 years following injury so it is imperative for repeat injuries to be prevented wherever possible.

What is concussion?

Concussion is a mild traumatic brain injury that results from direct blow to the head or rapid acceleration and deceleration of the brain inside the skull. There may or may not be direct impact to the head or helmet, lacerations or contusions, or visible damage to the helmet and loss of consciousness does not necessarily have to occur (and more often does not).

How to recognise the signs and symptoms of concussion

Concussion presents with a wide range of signs and symptoms that may or may not include loss of consciousness. In fact, only 10-20% who suffer concussion, experience a loss of consciousness. It is important to remember that not every sign and symptom will be present in every case and symptoms can develop gradually for up to 14 days after crashing.

Signs and Symptoms of Concussion in BMX Riders:

SIGNS of Concussion (what you see)	SYMPTOMS of concussion (what they feel)
<ul style="list-style-type: none">• Appears DAZED or STUNNED• Appears CONFUSED or DISORIENTATED• LOSES Consciousness• Shows BEHAVIOUR or PERSONALITY changes• CAN'T RECALL events prior to or after crashing• DAMAGE to face or head or HELMET	<ul style="list-style-type: none">• HEADACHE or PRESSURE on the head or neck• Nausea or VOMITING or Seizure• BALANCE problems or DIZZINESS• DOUBLE or BLURRY vision• SENSITIVITY to light or noise• Concentration or MEMORY problems• Feeling SLUGGISH, HAZY or GROGGY

What action to take when concussion occurs

When concussion or possible concussion occurs, it is important to act and get help. The most important steps in the early identification of concussion are to recognise a possible injury and stop the rider from riding.

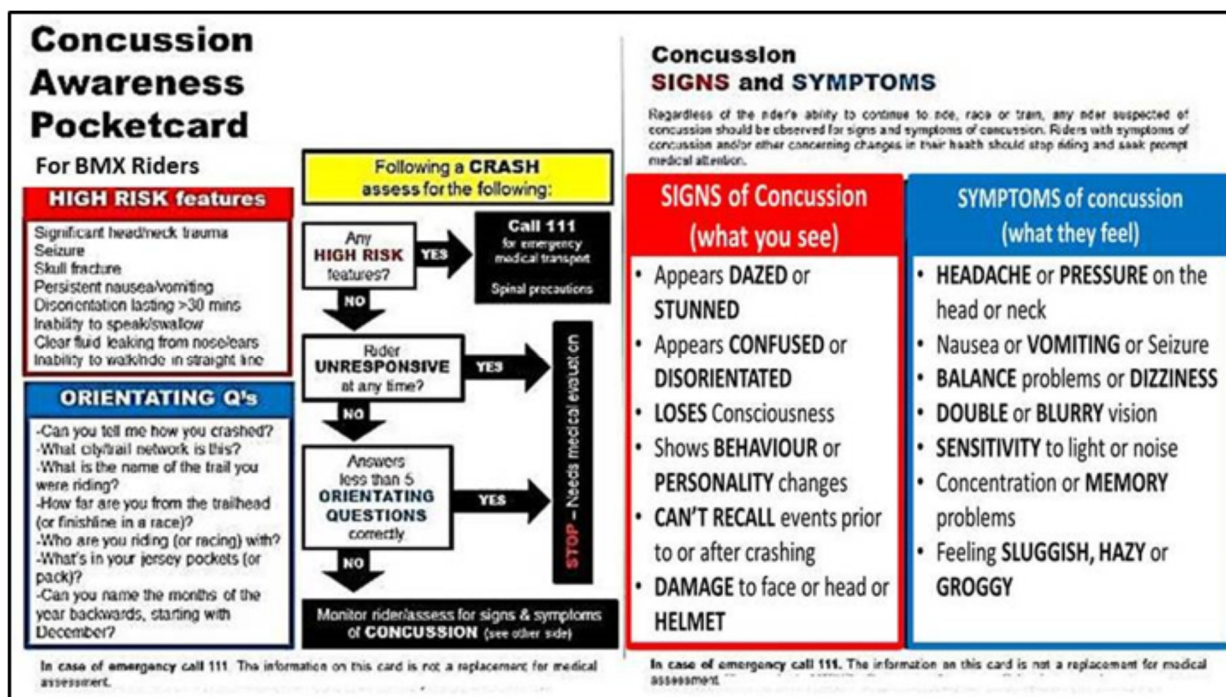
Riders should be educated on the signs and symptoms of concussion and encouraged to be honest with medical staff and report any new symptoms as they develop.

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Use the BMXNZ Concussion Awareness Pocketcard

Riders, riding buddies, training partners, families, support crew, coaches, race officials and club members are encouraged to download the Concussion Awareness Pocketcard from www.cyclingnewzealand.nz/bmx and either print it and/or save it on their phone.



Non-medical personnel (e.g. riding buddies, training partners, families, support crew, coaches, race officials, clubs) have an important role in observing possible concussion and its effects, and should take responsibility for stopping the injured rider from riding.

If a suspected concussion has occurred, it is important to see a medical doctor for assessment immediately. Medical doctors are available at general practitioner practices, sports medicine clinics or hospital emergency departments.

It is unanimously agreed that no return to sport/activity on the day of concussive injury should occur. In cases of uncertainty, always adopt a conservative approach –“If in doubt sit it out”.

To help an unconscious rider:

- Apply first aid principles –DRABC (Danger, Response, Airway, Breathing, Circulation). Formal training for providing first aid in remote locations can be obtained through the Pre-Hospital Emergency Care (PHEC) course.
- It is extremely important to treat all unconscious athletes as though they have a neck injury. An unconscious athlete must **ONLY** be moved by a medical professional trained in spinal immobilisation techniques.



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A rider with any of the following should be referred to hospital URGENTLY – call 111:

- Loss of consciousness or seizures.
- Persistent confusion.
- Deterioration after being injured .
- Increased drowsiness, headache or vomiting.
- Report of neck pain or spinal cord symptoms.
- Numbness, tingling, muscle weakness.

If at any time there is any doubt the rider should be referred to hospital for prompt medical assessment.

Who can assess concussion

Only a qualified medical doctor can assess and diagnose concussion.

Anyone with a suspected head injury needs to see and be assessed by a medical doctor. This is essential to confirm the diagnosis of concussion and to assess the risk for more serious injury. ACC endorse the Sport Concussion Assessment Tool version 3 (SCAT3) as a validated means of assessing concussion by a medical doctor. A printable PDF of SCAT3 can be downloaded at: <http://links.lww.com/JSM/A30>. It is also possible to download various Concussion Assessment apps that utilise SCAT2 or SCAT3 tools free.

Why a graduated return to riding and racing is required

The return to normal activities is a critical step in the recovery of concussed riders. Performing this safely requires supervision by a medical professional. Though each rider's recovery should be evaluated on an individual basis, a few basic premises should be followed to maximise safety and allow for proper recovery. These should serve as educational guidelines only and not rules for unmonitored return to riding and/or racing.

Rest

It is unanimously agreed that no return to sport/activity on the day of concussive injury should occur. The primary treatment for concussion is physical and mental rest. Avoid all physical and mental exertion including the use of technology (e.g. use of phones, computers, reading, watching TV) as this may continue to stress the brain and prolong recovery.

Rehabilitation

For riders who have a baseline neurocognitive test, return for repeat evaluation and comparison to baseline once the rider no longer reports any concussion related symptoms.

Gradual Return to Activity

Once the rider exhibits no further signs or symptoms of concussion, a gradual return to activity process should be used. Advance to the next step no more quickly than every 24 hours and only if symptoms of concussion are not reproduced with each level of increasing activity.

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Gradual Return to Activity Post Concussion Protocol:

	Recognition of Concussion	Assessment & Diagnosis	Rehabilitation	Return to school, work and Riding	Return to Racing
Responsibility	Everybody	Medical Doctors	Coaches, skills instructors, physios, sports doctors	Medical Doctors	
Tools/How	Concussion Awareness Pocketcard	SCAT3, medical assessment & diagnosis	SCAT3 – symptom checklist only. Gradual return to activity protocol	SCAT3, medical assessment & diagnosis	
Education	Riding buddies, training partners, families, coaches, race officials, Clubs	GP, ED doctors, sports doctors	All responsible	GP	
Sport Concussion Assessment Tool – 3rd edition					

Important Points:

- If concussion symptoms return at any stage of the rider's return to riding/racing, the rider must inform the managing medical professional of their symptoms and rest a minimum of 24 hours before resuming the level of activity where symptoms recurred.
- Return to activity should be particularly cautious where children and adolescents are concerned.
- The safety of the athlete is the priority and must NOT be compromised.
- The decision regarding return to school/work and clearance to return to restricted activity should always be made by a medical doctor.
- The decision regarding the timing of return to sport/activity should always be made by a medical doctor.
- In some cases, symptoms may be prolonged or graded activity may not be tolerated. If recovery is prolonged, evaluation by a concussion specialist or clinic may be warranted to determine if there are other aspects of the concussion that could respond to rehabilitation.

In summary, the table below shows the roles and responsibilities for concussion management (i.e. stages of identification, assessment and diagnosis, rehabilitation and return to sport).

Roles and Responsibilities for Concussion Management:



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	Return to Activity Stage	Functional Exercise	Objective
1	No Activity	Avoid all physical and mental exertion, including the use of technology (e.g. phones, tablets, computers, tv, reading, etc.	Recovery
2	Indoor (stationary trainer) riding.	Light exercise riding at less than 70% of maximum heart rate for a short duration only. Avoid riding on rollers as balance may be impaired.	Increase heart rate
3	Riding on road/non-technical tracks.	Avoid riding that poses a risk of repeat head impact.	Add movement
4	Riding on road/non-technical tracks with higher level of intensity riding	Progression to adding more intensity	Add intensity of exercise. A coach and/or sports doctor can help you monitor your progression.
5	Riding on more technical tracks	Progression to adding more mentally challenging riding.	Movement, co-ordination, cognitive load, Restore confidence. A coach and/or Skills instructor can help assess your functional skills.
6	Return to full racing	Normal pre-injury racing.	Full return to racing.



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Riders with a suspected concussion should not:

- 1. DRIVE**
- 2. BE LEFT ALONE**
- 3. DRINK ALCOHOL or TAKE DRUGS**

Rehabilitation (Suggested stand-down times)

	Rehabilitation Stages	
1	Rest / No Activity	2 Days
2	Light Aerobic Exercise Symptom guided low to moderate intensity activity such as walking, swimming and stationary cycling	14 Days
3	More Physical Exercise Progression to more intensive riding and weight training	2 Days
5	Medical Clearance May participate in normal BMX Activities.	2 Days