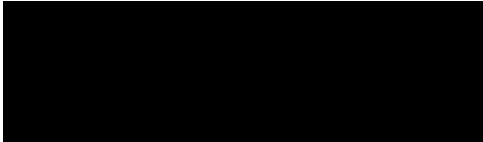




**Hospital Services**

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22 February 2021



Dear

**Re: OIA request – Sports-related concussions**

Thank you for your Official Information Act request received 25 January 2022, seeking information from Waitematā District Health Board (DHB) about sports-related concussions.

Before responding to your specific questions, it may be useful to provide some context about our services.

Waitematā is the largest and one of the most rapidly growing DHBs in the country, serving a population of around 650,000 across the North Shore, Waitakere and Rodney areas. We are the largest employer in the district, employing around 8,600 people across more than 80 locations.

In addition to providing care to our own resident population, we are the Northern Region provider of forensic mental health services and child rehabilitation services, plus the metro Auckland provider of child community dental services and community alcohol and drug services.

In response to your request, we are able to provide the following information:

**1. What process would a patient go through when presenting at a hospital accident and emergency with a suspected sports-related concussion?**

Patients who present with a suspected sports-related concussion and meet specific inclusion/exclusion criteria are generally managed through our Minor Head Injury 'bundle of care'. This includes a nursing assessment, analgesia, review for 'red flags' and a request for CT (computerised tomography) head scan if the criteria are met, per the Canadian CT head rule (a validated CT head rule) – please refer **Attachment 1**.

The patient's neuro observations are recorded on the Westmead PTA scale (Westmead post-traumatic amnesia score), a standardised assessment tool designed to provide an objective prospective measure of PTA, consisting of 12 questions (seven assessing orientation and five assessing memory).

Patients who present with major head trauma need emergency medicine expertise and management, as well as an emergent CT head scan and would either be admitted to neurosurgery or a trauma service at North Shore or Auckland City hospitals.

As Waitakere and North Shore hospitals offer secondary-level services, if a patient is being transported via ambulance with pre-identified major head trauma, they would be bypassed to Auckland City Hospital for tertiary-level services.

**2. Are medical clearances given on the day to patients for their sports if they present on the day of the suspected concussion incident?**

People are medically cleared and discharged from an emergency department when they have been assessed as having a mild head injury or concussion. However, if their symptoms and assessment indicate a more-severe injury, they may be observed in the emergency department or will sometimes require hospital admission for further management. It should be noted that our hospital emergency departments do not give clearance for return-to-sport, as this must be obtained from a GP.

**3. Is there a process followed to give a clearance for a sports-related concussion on the day of the incident?**

If the patient has been medically cleared for discharge, they are advised to follow-up with their GP if they have any ongoing symptoms or for clearance to return-to-sport.

At the time of discharge, the patient is given an information leaflet, depending on if they are a paediatric or adult patient, as follows:

**Attachment 2** – Minor Head Injury – Children and Adolescents

**Attachment 3** – Discharge Information – Minor Head Injury.

I trust that this information is helpful.

Waitematā DHB supports the open disclosure of information to assist community understanding of how we are delivering publicly funded healthcare. This includes the proactive publication of anonymised Official Information Act responses on our website from 10 working days after they have been released.

If you consider there are good reasons why this response should not be made publicly available, we will be happy to consider your views.

Yours sincerely



**Executive Director Hospital Services  
Waitematā District Health Board**

# Canadian CT Head Rule

CT head is only required for minor head injury patients with any one of these findings:

## High Risk (for Neurological Intervention)

1. GCS score < 15 at 2 hrs after injury
2. Suspected open or depressed skull fracture
3. Any sign of basal skull fracture\*
4. Vomiting  $\geq$  2 episodes
5. Age  $\geq$  65 years

## Medium Risk (for Brain Injury on CT)

6. Amnesia before impact  $\geq$  30 min
7. Dangerous mechanism \*\* (*pedestrian, occupant ejected, fall from elevation*)

### \*Signs of Basal Skull Fracture

- hemotympanum, 'raccoon' eyes, CSF otorrhea/rhinorrhea, Battle's sign

### \*\* Dangerous Mechanism

- pedestrian struck by vehicle
- occupant ejected from motor vehicle
- fall from elevation  $\geq$  3 feet or 5 stairs

### Rule Not Applicable if:

- Non-trauma cases
- GCS < 13
- Age < 16 years
- Coumadin or bleeding disorder
- Obvious open skull fracture



## Minor Head Injury – Children and Adolescents

### What is a minor head injury?

- A head injury occurs when the head is struck during a fall, collision, accident or inflicted injury.
- There may be a bruise or swelling on the face or scalp.
- Sometimes but not always the brain or skull are also injured.

### What is a concussion?

- Concussion is the term used when the brain gets “shaken” during the injury. This can cause mild bruising or swelling to the brain and can affect how the brain works.
- Signs of concussion can occur immediately or within the first few days after the head injury.
- Children with signs of mild concussion can be cared for at home.

### Common signs of concussion are:

Headache	Irritability/being grumpy	Mood swings
Dizziness	Vomiting	Emotional behaviour
Feeling sick	Sensitivity to noise or light	Sleeping more
Tiredness	Memory loss	Poor concentration

#### Note:

Your child has been assessed as having a minor head injury *with or without concussion* and is safe to be cared for at home.

**You will need to watch your child carefully for the next 24 hours to check for worsening signs.**  
(See over the page for these signs)

### Things you can do to help your child in the next few days

- REST is the most important thing children need after a head injury.
- AVOID busy, noisy or stressful environments completely for at least 2 days.
- We advise keeping them home from school for at least 2 days if they have any signs of concussion. They may need a gradual return to school if they still have symptoms.
- DO NOT keep them awake or wake them over night when you leave hospital. Allow them to sleep as usual. They may also need an extra nap in the afternoon for a few days.
- GIVE pain relief as prescribed (e.g. paracetamol or ibuprofen) if they complain of a headache.
- AVOID computer based activities and to a lesser extent television to promote brain rest.
- AVOID all physical activity for 1 week and gradually reintroduce it over the next 4 weeks as symptoms allow.

It is normal for children to have a headache, be grumpier than usual, dizzy or more tired after a minor head injury.

Issued by	Emergency Department	Issued Date	February 2019	Classification	01008-13-002
Authorised by	Clinical Director	Review Period	36 months	Page	Page 1 of 2

This information is correct at date of issue. Always check in the relevant Waitemata DHB policy manual that this copy is the most recent version.



## Minor Head Injury – Children and Adolescents

### When should I bring my *child* back to ED?



If your child:

- Has a severe headache - not relieved by pain medicines (eg Paracetamol or Ibuprofen)
- Vomits twice or more after leaving the hospital (in the first 24 hours after the injury)
- Is walking abnormally for them or is very unsteady on their feet – a small amount of dizziness is usual
- Has double or blurred vision
- Is drinking less than half normal amount or wont drink
- Is unusually sleepy or you can't wake them up completely
- Is unusually irritable and cannot be comforted/distracted despite pain relief
- Has jerking movements of arms, legs or face – “a fit”
- Becomes pale and floppy

**DIAL 111 for an Ambulance**

### Returning to Competitive Sports after a Injury

It is important that you stage your child's return to playing sports (see our advice for teachers and coaches). Most concussion guidelines recommend gradually working through the following phases over 3-4 weeks (some children may require longer).

*Move on to the next phase if there are no symptoms of concussion for at least a few days and if symptoms return, drop back to phase 1 or 2 and seek specialist medical advice or concussion clinic for returning to sports plan:*

Phase 1: Normal daily activities but no exercise for 1 week.

Phase 2: Light aerobic activity (walking, swimming, exercise bike)

Phase 3: Running drills (no head impact activities)

Phase 4: Light or non-contact training (passing, drills, start resistance training)

Phase 5: *After clearance from a Doctor* – full contact training session.

Phase 6: Normal competitive play.

There is an ACC funded sports related concussion clinic. One provider is Axis Sports Medicine. Call (09) 521 9811 within 10 days of the injury to make an appointment – you will need your ACC number.

### When to see your family doctor?

Most children will feel better in 3-4 days and will be completely better by 2 weeks after their injury. Your child may need more rest for the first 2 weeks.

Take your child to your family doctor if they have any symptoms of concussion after 2 weeks (e.g. headache, more tired than usual, irritable, disturbed sleep).

It is very important that your child does not get another head injury in the 4 weeks following this injury.



This can cause further and serious injuries to the brain.

Issued by	Emergency Department	Issued Date	February 2019	Classification	01008-13-002
Authorised by	Clinical Director	Review Period	36 months	Page	Page 2 of 2

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## Head Injury – Information for teachers and coaches

### What is a minor head injury?

- A head injury occurs when the head is struck during a fall, collision, accident or inflicted injury.
- There may be a bruise or swelling on the face or scalp.
- Sometimes but not always the brain or skull are also injured.

### What is a concussion?

- Concussion is the term used when the brain gets “shaken” during the injury. This can cause mild bruising or swelling to the brain and can affect how the brain works.
- Signs of concussion can occur immediately or within the first few days after the head injury.

#### 1.1 Common signs of concussion are

Headache	Irritability/being grumpy	Mood swings
Dizziness	Vomiting	Emotional behaviour
Feeling sick	Sensitivity to noise or light	Sleeping more
Tiredness	Memory loss	Poor concentration

### What do children with a minor head injury (including concussion) need?

- Rest – children with any symptoms of concussion should have at least 1-2 days off school.
- Strict total rest is not necessary – rather activity (mental and physical) should be limited by how the child is feeling.
- Rest includes avoiding or limiting computer and other screen-based activities.
- On returning to school some children may need to have breaks during the school day and may need to have a reduction in their assignments and homework, or be given more time to complete these tasks.
- Exams may need to be delayed until the student is adequately prepared and symptoms do not interfere with testing.
- Strenuous or risky physical activity should be avoided.

It is normal for children to have a headache, be grumpier than usual, dizzy or more tired for several days after a minor head injury.

**Occasionally children may need additional time away from school if they have severe symptoms.**

Issued by	Emergency Department	Issued Date	July 2019	Classification	01008-08-002
Authorised by	Clinical Director	Review Period	36 months	Page	1 of 2

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## Head Injury – Information for teachers and coaches

### Returning to sport or physical activity?

In the older adolescent sport-related concussion symptoms typically resolve within 2 weeks. In the younger athlete recovery may take longer, but symptoms typically resolve within 4 weeks. A return to sport should be delayed until concussion-related symptoms have resolved. Children with persistent symptoms beyond the expected recovery time frame should be evaluated by a healthcare provider or multidisciplinary team with appropriate expertise. Exercise and activities that do not aggravate symptoms are usually recommended for those with persistent symptoms.

- Do not return to sport until you are symptom free and/or have medical clearance.
- Do not take part in contact sport for at least 3 weeks.
- Non-contact aerobic exercise that does not cause the return of symptoms may begin as soon as tolerated after the initial 1-2 days of relative rest.
- Return to sport should be gradual and progress through a series of stages.
- The rate of progression varies depending on the injury, the person’s age, history of previous concussion, level of play, and the ability to provide close supervision during the return to activity.
- In general, each stage of the progression should take at least 24 hours (and often longer) without return of symptoms before progressing to the next stage.
- If symptoms develop at any stage the athlete should go back to the previous stage.

Stage	Description	Objective
1	Normal daily activities	Reintroduce usual activities of daily living.
2	Light aerobic exercise	Walking, stationary biking and other controlled activities that increase the heart rate
3	Sport-specific exercise	Running, cycling, swimming or other sport-specific aerobic exercise, avoiding risk of head impact.
4	Non-contact training drills	Sport-specific non-contact training that involves increased coordination and thinking. Progressive introduction of resistance training.
5	Full contact practice*	Return to normal training activities. Assess psychological readiness.
6	Return to sport	

\*A stand-down period of at least 3 weeks is necessary for contact sport. Also ensure you have medical clearance before returning to contact sport.

Issued by	Emergency Department	Issued Date	July 2019	Classification	01008-08-002
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