Guidance for Managing Head Injuries in Children

A minor head injury is a frequent occurrence in the school playground and on the sports field. Fortunately, the majority of head injuries are mild and do not lead to complications or require hospital admission. However, a small number of children do suffer from a severe injury to the brain. Complications such as swelling, bruising or bleeding can happen inside the skull or inside the brain. How much damage is done depends on the force and speed of the blow. **Any injury involving the head that occurs during sporting activities requires the child to cease play immediately and sit out for the rest of that lesson or the duration of the match.**
All children who suffer a head injury at school should initially be seen by the School Nurse or a First Aider for assessment and to plan ongoing care. After any head injury, even when none of the worrying signs are present, it is important that the child's parents or carers are informed about the head injury and given written information about how to monitor their child using the school Head Injury Form.
Staff should consider whether referral to the school nurse or medical practitioner is required using the information in this document. This guidance is to help staff to treat head injuries when they happen and recognise signs which mean that a child requires further medical assessment or hospital treatment following a head injury.

In rare cases there may be a serious head injury and staff should look out for the following danger signs:

SIGNS THAT MEAN AN AMBULANCE SHOULD BE CALLED (DIAL 999)

- Unconsciousness or lack of consciousness (for example problems keeping eyes open)
- Problems with understanding, speaking, reading or writing
- Numbness or loss of feeling in part of body
- Problems with balance or walking, general weakness
- Any changes in eyesight
- Any clear fluid running from either or both of the ears or nose
- Bleeding from one or both ears
- New deafness in one or both ears
- A black eye with no associated damage around the eye
- Any evidence of scalp or skull damage, especially if the skull has been penetrated
- A forceful blow to the head at speed (for example a pedestrian struck by a car, a car or bicycle crash, a diving accident, a fall of less than 1 metre or a fall down any number of stairs)
- Any convulsions or having a fit

If the child does not have any of the problems listed in the box above, but has any of the problems in the following list, there is the possibility of complications and the child should be taken by a responsible adult to the Accident and Emergency department straight away. It is ok to transport the child in a car or using a taxi but if in doubt or there is a delay then call an ambulance.

SIGNS THAT A CHILD SHOULD BE TAKEN TO AN A+E DEPARTMENT STRAIGHT AWAY

- Any loss of consciousness (being 'knocked out') from which the child has now recovered
- Any problems with memory
- A headache that won't go away
- Any vomiting or sickness
- Previous brain surgery
- A history of bleeding problems or taking medicine that may cause bleeding problems (for example Warfarin)

- Irritability or altered behaviour such as being easily distracted, not themselves, no concentration or no interest in things around them, particularly in infants and young children (younger than 5 years)

Graduated Return to Play after Concussion

Concussion must be taken seriously to safeguard the short and long term health and welfare of young players. The majority of concussions will resolve in 7-10 days although a longer period of time is recommended for children. During this recovery time the brain is vulnerable to further injury. If a player returns to play too early then they may develop prolonged concussion symptoms or long-term health consequences such as brain degenerative disorders. During the recovery time a further episode of concussion can be fatal due to severe brain swelling (second impact syndrome). Graduated return to play should be undertaken on an individual basis and with the full cooperation of the player and their parents / guardians. If symptoms return then the child must stop play immediately and be seen by a doctor or attend A&E the same day. *NB: Earliest return to play after concussion in a child under 19 years of age is 23 days.*

Before they can return to graduated play the child MUST:

- Have had two weeks rest
- Be symptom free
- Have returned to normal academic performance
- Be cleared by a doctor (it is the parent's responsibility to obtain medical clearance)

If any symptoms occur while progressing through this protocol then the player must stop for a minimum period of 48 hours rest and during this time they must seek further medical advice. When they are symptom free they can return to the previous stage and attempt to progress again after 48 hours if they remain symptom free.

SUMMARY OF GRADUATED RETURN TO PLAY

Stage	Rehabilitation Stage	Exercise Allowed	Objective
1	Rest	Complete physical and cognitive rest without symptoms	Recovery
2	Light aerobic exercise	Walking, swimming <70% maximum predicted heart rate. No resistance training.	Increase heart rate and assess recovery
3	Sport-specific exercise	Running drills, no head impact activity	Add movement and assess recovery
4	Non-contact training drills	Progression to more complex training drills, e.g. passing drills. May start progressive resistance training.	Add exercise and coordination and cognitive load. Assess recovery
5	Full contact practice	Normal training activities	Restore confidence and assess functional skills by coaching staff. Assess recovery
6	Return to play	Player rehabilitated	Safe return to play once fully recovered.

Before a player can commence the exercise elements at Stage 2 they must be symptom free for a period of 48 hours. The player can then progress through each stage as long as no symptoms or signs of concussion return, taking 48 hours for each stage.

Reference:

- *Head injury: Triage, assessment and early management of head injury in infants, children and adults, National Institute for Health and Clinical Excellence (Nice Guidelines CG56, September 2007).*
- *Head injury: assessment and early management, National Institute for Health and Clinical Excellence (Nice Guidelines CG176, January 2014).*

- *Management of Concussion, RFU 2015 available online at:* http://www.englandrugby.com/my-rugby/players/player-health/concussion-headcase/management-of-concussion/