ESSKIA's Concussion Guidelines

These guidelines are based on current evidence and best practice taken from other sports and organisations around the world, including the Rugby Football Union, World Rugby, the Football Association, the FIS Concussion Guidelines and Cross-Sports Scottish Sports Concussion and Head injury in Football. These guidelines are in line with the Consensus Statement on Concussion in Sport issued by the Fifth International Conference in Concussion in Sport, Berlin 2017.

What is Concussion?

Concussion is an injury to the brain resulting in a disturbance of brain function. There are many symptoms of concussion, common ones being headache, dizziness, memory disturbance or balance problems (this is not an exhaustive list).

What causes a concussion?

Concussion can be caused by a direct blow to the head, but can also occur when a blow to another part of the body results in a rapid movement of the head (e.g. whiplash type injuries).

Onset of symptoms

The symptoms of concussion typically appear immediately, but they can often be delayed and can appear any time (typically in the first 24 – 48 hours) after the incident which caused the suspected concussion.

A monitoring mechanism must be set up to ensure that these delayed symptoms are not missed. All those who have suffered from a confirmed or suspected concussive injury must be repeatedly checked for development of new symptoms, or for signs of progression of symptoms.

Who is at risk?

Concussions can happen to anyone at any age. However, it is important to note that children and adolescents take longer to recover, and because their brains are still developing a more conservative approach should be taken with them. Although symptoms may resolve, the brain takes longer to recover fully, and we allow for this in the guidance.

There is good evidence that during the recovery period the brain is more vulnerable to further injury. If an athlete returns to sport with a predictable risk of head injury before they have fully recovered and have a further concussion this may result in:

- Prolonged concussion symptoms
- Possible increased risk of long-term health consequences
    - Mild cognitive impairment

- Degenerative brain disorders later in life
- In adolescents, a further concussive event before recovery can in rare cases be FATAL, due to severe brain swelling (Second impact syndrome)

A history of previous concussion increases the risk of further concussions, which may also take longer to recover from.

How to recognise a concussion

IF IN DOUBT SIT THEM OUT.

If any of the following signs or symptoms are present following an injury the athlete should be **suspected** of having a concussion and **immediately removed from training or competing and must not return to play until cleared by a medical professional.**

The pocket recognition tool may be used as an aid to determine a suspected concussion by non-medical personnel and the Sideline Concussion Assessment Tools (SCAT) and Child SCAT are for use by medical personnel only. The FIS concussion guidelines are available here.

It is important to note:

A loss of consciousness does not always occur in concussion (less than 10% of concussions). A concussed athlete may not have fallen down and may still be standing up.

Visible signs – what you might see

Any one or more of the following visual cues can indicate a concussion:

- Dazed, blank or vacant look
- Lying motionless on the ground/slow to get up
- Unsteady on feet/balance problems or falling over/poor coordination
- Loss of consciousness or responsiveness
- Confused/not aware of play or events
- Grabbing or clutching of head
- Seizures (fits)
- More emotional/irritable then normal for that person

Symptoms of concussion – what the athlete may tell you

Presence of any one or more of the following symptoms may suggest a concussion:

- Headache
- Dizziness
- Mental clouding, confusion, or feeling slowed down
- Visual problems
- Nausea or vomiting
- Fatigue
- Drowsiness/feeling like in a fog/difficulty concentrating
- Pressure in head
- Sensitivity to light or noise

Example Questions to ask an athlete

These should be tailored to the particular situation/activity/event, but failure to answer any of the questions correctly may suggest a concussion. You need to ask the athlete 5 questions which are relevant to the event/situation/situation they are in at the time of injury. This list is not exhaustive:

- What venue are we at today?
- What run are we on?
- How many runs have you completed today?
- Are you skiing slalom or GS?
- What time did you get on your last run?
- What skill are you working on at the minute?
- What were you doing this time last week?

Examples of FIS recommended questions:

- At what venue are we today?
- Is this the first or second run?
- Where were you placed after the first run?
- Where were you competing last week?
- Where were you placed in your last competition?

An incorrect answer to any of these questions may be an indication of a concussion, but a concussed athlete may answer these questions correctly.

What to do next

ANYONE WITH A SUSPECTED CONCUSSION MUST BE IMMEDIATELY REMOVED FROM PLAY!
IF IN DOUBT SIT THEM OUT

Once they are removed from play, they must not be allowed to return to activity that day. ***Everyone (teammates, coaches, officials, administrators or parents) has a responsibility to ensure that anyone they suspect of having a concussion is removed from play.***

If a neck injury is suspected, then suitable guidelines for the management of this injury must be followed.

Remember the basic rules of First Aid:

- Immediate – general assessment for injuries
- GCS
- Cervical spine examination
- Maddocks Questions (adapted for the sport, see above – Questions to ask an athlete)

If the athlete's condition gives significant cause for concern, urgent transport to the nearest hospital must be arranged. In addition, if any of the following are reported then the athlete must be transported for urgent medical assessment at the nearest hospital or emergency department:

- Severe neck pain
- Deteriorating consciousness (drowsier)
- Increasing confusion or irritability
- Severe and increasing headache
- Repeated Vomiting
- Unusual behaviour change
- Seizure (Fit)
- Double vision
- Weakness or tingling/burning in arms or legs

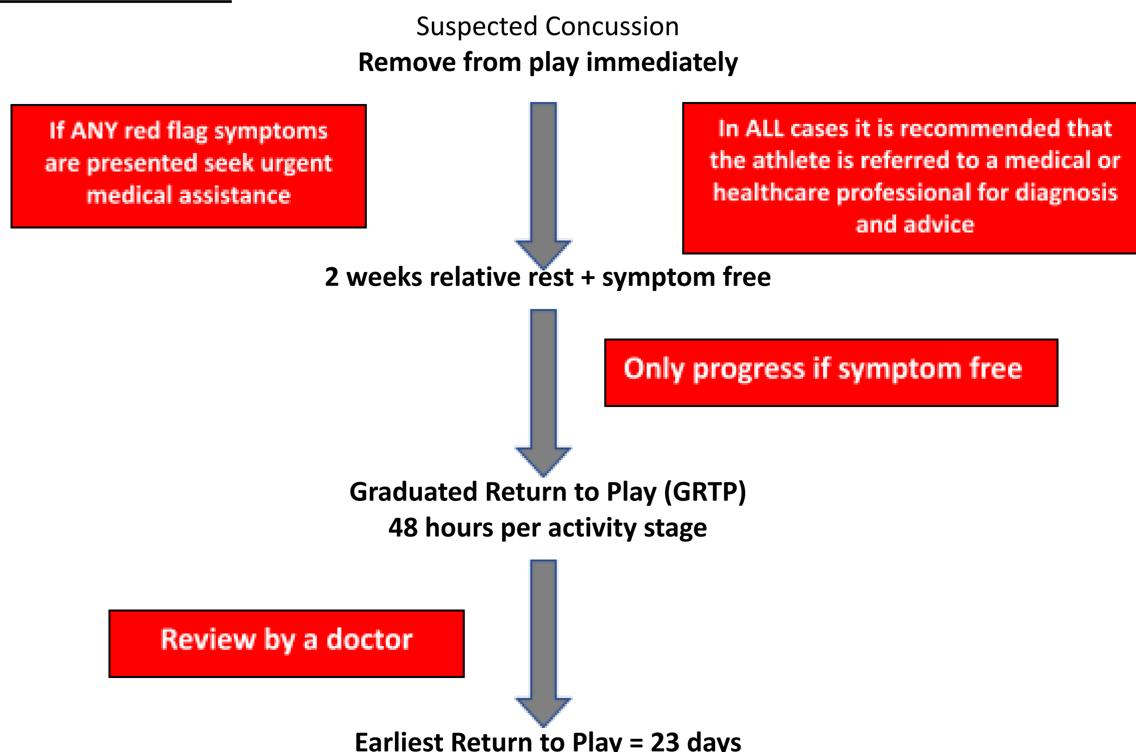
IN ALL CASES OF A SUSPECTED CONCUSSION IT IS RECOMMENDED THAT THE ATHLETE IS REFERRED TO A MEDICAL OR HEALTHCARE PROFESSIONAL FOR DIAGNOSIS AND ADVICE, EVEN IF THE SYMPTOMS RESOLVE.

Recovery and Return to Sport

Concussion must be taken extremely seriously to safeguard the short- and long-term health and welfare of all children and athletes. The majority of (80-90%) of concussion symptoms resolve in around 7-10 days, with around 1/3 of the symptoms resolving in 1-2 days. However, as children and adolescents take longer to recover, and because their brains are still developing it is imperative that careful consideration is given to returning athletes following a concussion in an appropriate time frame.

The following return to play (RTP) programme has been agreed across sports and reproduced as national guidelines for the Education Sector endorsed by the Department of Health and the Department for Education.

Routine U19 and Below



The times stated at each phase are 'minimum', players who do not recover fully within these timeframes will need to undertake a longer RTP.

Important notes on RTP:

- All those with a suspected or diagnosed concussion should follow this program
- The timing starts from the day after the concussive injury
- Players or parents are responsible for informing all sporting clubs and schools that the player attends, of their concussion. However, it is good practice for the coach/manager of the team/club to do so with the player's/parent's/guardian's consent
- If signs or symptoms of concussion are clearly identified at the time of injury but have resolved at the time of assessment by a healthcare professional, the player should still follow the RTP programme

- The player should be reviewed by a doctor before returning to sport with a predictable risk of head injury

Recovery and Return to Academic Studies

REST THE BODY REST THE BRAIN

One of the most important aspects of recovery is to have an expectation of recovery and a positive, open and honest approach. This should be reinforced with the player and the parents/guardians.

Rest is the cornerstone of concussion treatment. This involves resting the body, **physical rest (rest from exercise),** and resting the brain, **cognitive rest (rest from reading, television, computer, video games and smartphones)**. The period of rest allows symptoms to recover and allows for a return to study prior to resuming training.

Sleep is good for recovery, there is however a balance needed as too much complete rest is thought to delay recovery, so returning to light activities of daily living as soon as the symptoms have started to reduce is advised. No more than 24 hours complete rest is all that is needed in most cases.

After this initial period of 24-48 hours of rest, the athlete should gradually return to their normal activities of daily living provided this does not lead to a worsening of their symptoms. If this occurs, they should limit activities to a level where this does not occur, while looking to return to full activities as symptom resolution allows.

School/College/Academic Absence

It is reasonable for a child to miss a day or two of academic study after a concussion if they feel unwell or if returning to lessons their symptoms return. Extended absence is rarely needed.

Children and young people should return to academic studies before they return to sport:

- Good communication with the school is important and the school may have a support worker who can help
- Pupils should undertake a gradual return to academic studies
- Consideration should be given to a managed return to full study days i.e., part days initially
- Gradual reintroduction of homework is advised to avoid long days of work
- Consideration should be given to delaying tests and exams until fully recovered. If this is not possible then the school should advise the Examinations Board
- In a small number of cases, symptoms may be prolonged, and this may impact on the child's studies. In such cases, early referral back to a doctor and educational support services is advised

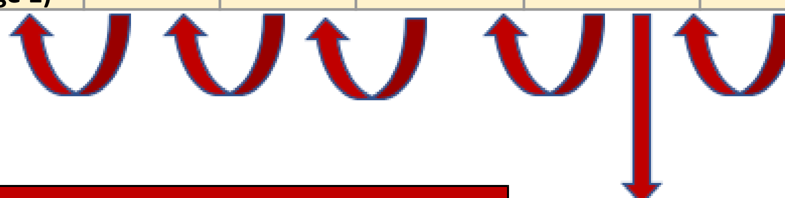
Graded Return to Play (GRTP)

Following the recommended rest period, the athlete should return to sport by following a graduated return to play programme. Stage 2 should only be started after the athlete has:

- Had 14 days rest
- Is symptom free
- Is off all medication that modifies symptoms
- Has returned to normal studies

The GRTP Protocol contains six distinct stages:

STAGE	Stage 1	Stage 2A	Stage 2B	Stage 3	Stage 4	Stage 5	Stage 6
Aim	Initial rest (Physical and Cognitive)	Relative Rest Symptom limited activity	Light aerobic activity	Sports Specific Exercise	Non-contact training drills	Full contact practice	Return to sport
Activity	No exercise or driving. Minimise screen time. Consider time off or adaptation of work or study	Initially daily activities that do not provoke symptoms. Consider time off or adaptation of work and study	Brisk walking or stationary cycling at a slow pace. No resistance training	Running drills, no head impact activities	Harder training drills, e.g., passing drills. May start progressive resistance training	Following medical review, participation in normal training activities	Normal Sporting activities
Goal	Recovery	Return to normal activities (as symptoms permit)	Increase heart rate	Add movement	Exercise, coordination, and cognitive load	Restore confidence and assess functional skills by coaching staff	Exercise, coordination, and cognitive load
Time	24-48 hrs	Minimum 2 weeks (including stage 1)	Minimum 48 hours	Minimum 48 hours	Minimum 48 hours	Minimum 48 hours	



If any symptoms occur while progressing through the GRTP programme, the player should rest a minimum of 48 hours until symptom free and then may return to the previous stage

Review by a Doctor

Follow this link for the FIS specific recommended return to academics and return to play.

Important Notes on GRTP:

- Each stage of the routine U19 is for a minimum of 48 hours
- If symptoms do not resolve with Rest (stage 1) then progression to symptom limited activities (stage 2A) is recommended
- Athletes who are symptom free with daily activities can progress to stage 2B
- The athlete can progress through each stage as long as no symptoms or signs of concussion return
- Where the athlete completes each stage successfully without any symptoms the athlete would normally progress through each stage 48 hours at a time
- If any symptoms occur while progressing through GRTP programme, the athlete should rest for a minimum of 48 hours or until symptom free and then may return to the previous symptom free stage
- If it is not feasible for the coach to complete stages 2-4, these may be done by the athlete in their own time and under parental supervision with appropriate guidance. Alternatively, the programme may simply be extended with each level being conducted by the coach at training sessions or (if appropriate) in the school setting by other PE staff during PE lessons.
- On completion of stage 5 without the presence of symptoms and with a review by a doctor, the athlete may return to sport in full (stage 6)

Review by a Doctor:

Following a concussion or suspected concussion, it is recommended that children and young people are reviewed/assessed by a doctor (typically a GP) before returning to sport and other activities with a predictable risk of head injury.

Some doctors are happy to clear an athlete to return to sport, but formally clearing an athlete to return to sport is not their role. It is however considered by most experts in concussion that good routine clinical management should include a review by a doctor at an appropriate time to confirm recovery and satisfy themselves that there are no other underlying conditions.

This review should be undertaken having completed the 14 days of relative rest and up to Stage 5 of the GRTP. This fits with the GRTP at day 23 days for children.

The doctor does not need to provide a letter as verbal confirmation by a parent or guardian for U18's is acceptable. Clubs are advised to make a record of this verbal confirmation. GP's may charge a fee for providing a letter.

The following should also be referred back to their doctor for review:

- Children or young people who struggle to return to their studies
- Those who persistently fail to progress through GRTP because symptoms return
- Children or young people who sustain 2 or more concussions in a 12-month period should be referred to their doctor for a specialist opinion in case they have an underlying predisposition or risk factor

If an athletes concussion resulted from poor technique or behaviour, then this should be addressed before return to play.

Summary

Most athletes make an uneventful recovery from their concussion, but it is important that we all work together to ensure that they are managed properly for their short- and long-term health.

It is recognised that athletes will often want to return to play as soon as possible following a concussion. Athletes, coaches and management, parents and teachers must exercise vigilance and caution to ensure a safe 'Return to Play':

- Ensure that all symptoms have subsided, and students have returned to academic studies successfully before commencing the GRTP
- Ensure that advice of those experienced in managing the GRTP is sought and the GRTP programme is followed
- Ensure that the advice of healthcare professionals is sought when appropriate

After return to play all involved with the athlete must remain vigilant for the return of symptoms even if the GRTP has been successfully completed.

If symptoms reoccur the athlete must consult a healthcare professional as soon as possible as they may need referral to a specialist in concussion management.

Useful Links

1. Berlin Consensus Statement 2016: https://bjsm.bmj.com/content/51/11/838

2. SCAT 5 2017 (Physicians only):
https://bjsm.bmj.com/content/bjsports/early/2017/04/26/bjsports-2017-097506SCAT5.full.pdf

3. SCAT 5 CHILD 2017 (Physicians only):
https://bjsm.bmj.com/content/bjsports/early/2017/04/26/bjsports-2017-097492childscat5.full.pdf

4. FIS Concussion Guidelines:
https://assets.fis-ski.com/image/upload/v1537433174/fis-prod/assets/ConcussionGuidelines_13122017CorrectCRTlink_Neutral.pdf

5. RFU Headcase: https://www.englandrugby.com/participation/playing/headcase

6. FA Concussion Guidelines:
https://thebootroom.thefa.com/resources/coaching/the-fas-concussion-guidelines

7. Concussion Guidelines for Educational Settings:
https://www.sportandrecreation.org.uk/policy/research-publications/concussion-guidelines