FAI CONCUSSION GUIDELINES

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Published May 2025

INTRODUCTION

The Football Association of Ireland (FAI) is committed to safeguarding the health of every child and adult participating in football in the Republic of Ireland. This extends to raising awareness of and improving education on concussion management across every level of football in Ireland, from grassroots through to the professional game.

The FAI Concussion Guidance provides a framework for the recognition of concussion and its management from the time of injury through to a safe return to football. The information provided here is divided into (i) information for the general public and for grassroots participants which encompasses adult amateur and youth settings (e.g., where healthcare practitioners experienced in the management of sports-related concussion are not immediately accessible to manage concussed individuals), and (ii) in elite settings (e.g., circumstances where an appropriately trained healthcare professional is in place to perform an initial assessment of a suspected concussion and to supervise on-going further management, including a graduated return to play (GRTP)).

These guidelines are based on current evidence and examples of best practice taken from other sports and organisations including the Irish Rugby Football Union (IRFU) Concussion Guidelines, the Gaelic Athletic Association (GAA) Concussion Guidelines, FIFPRO Concussion guidance, FIFA Concussion Campaign toolkit and the UEFA Medical Committee's Concussion Charter. The guidelines are aligned with the core principles of the <u>consensus statement</u> on Concussion in Sport issued by the 6th International Conference on Concussion in Sport, Amsterdam 2022. The FAI will continue to review emerging research and best practice in the area of concussion and update these guidelines accordingly. This version of The FAI's Concussion Guidelines has been updated as of December 2024 and supersedes previous versions.

KEY SUMMARY

- At all levels of football, if a player is suspected of having concussion, they must be immediately removed from the pitch, whether in training or match play.
- No player should return to play on the same day with suspected concussion.
- No player should drive, operate machinery or drink alcohol after a suspected concussion.
- All suspected concussions should be assessed by an appropriately trained healthcare professional prior to a return to football. Those who are suspected of being 'knocked out' or have persisting or progressively worsening symptoms such as headache, vomiting or unusual behaviour, need to be reviewed urgently in an accident and emergency department (A&E).
- Any player with a second concussion within 12 months, with a history of multiple concussions, and/or with unusual symptoms (e.g., posttraumatic amnesia, mood disturbance) or prolonged recovery should be assessed (as soon as is practical) and managed by healthcare providers with experience in dealing with complex sports-related concussions. Practitioners should use their clinical judgment to determine whether individuals with a history of autistic spectrum disorder, ADHD or a mental health disorder require specialist input.

CONCUSSION FACTS

- » A concussion is a brain injury
- » All concussions are serious
- » Most concussions occur without loss of consciousness
- » Return to education or work takes priority over return to play
- » If in doubt, sit them out to help prevent further injury or even death
- » Concussion is treatable treatment should be tailored to each player depending on their symptoms
- » Most concussions recover with time and a staged return to normal life and sport

WHAT IS CONCUSSION?

Concussion is a traumatic brain injury leading to a disturbance of brain function. A concussion may result from a direct blow to the head, neck or body, resulting in an impulsive force being transmitted to the brain – this includes indirect blows to the head (e.g., shoulder to shoulder contact). It can impact how a person thinks, feels, behaves and remembers things. Signs and symptoms may present straight away, or they may evolve for up to several days following the injury. There are a broad range of potential signs/symptoms related to concussions (e.g., headache, dizziness, blurred vision, drowsiness). A loss of consciousness is not required to diagnose a concussion. Signs and symptoms commonly resolve within days, but in some cases they may be prolonged.

FIFA have documented the prevalence of concussion as approximately one concussion per 25 to 55 football matches.

HOW TO RECOGNISE A CONCUSSION?

The <u>Concussion Recognition Tool (CRT6) 6</u> can be used by non-medically trained individuals for the identification and immediate management of suspected concussion.

These videos provide a helpful overview of how to recognise a concussion in football:

FIFPro Concussion Awareness video

FIFA Suspect and Protect - no match is worth the risk

RECOGNISE AND REMOVE

RED FLAG SIGNS OF MORE SERIOUS INJURIES:

If <u>ANY</u> of the following signs are present after an impact to the head/body the player should be immediately removed and transported for urgent medical care by a healthcare professional:

- » Neck pain or tenderness
- » Seizure, 'fits', or convulsion
- » Loss of vision or double vision
- » Loss of consciousness

- » Increased confusion or deteriorating conscious state (e.g., becoming less responsive, drowsy)
- » Weakness or numbness/tingling in more than one arm or leg
- » Repeated vomiting
- » Severe or increasing headache
- » Increasingly restless, agitated or combative
- » Visible deformity of the skull
- » Discharge from the nose or ears, or change in hearing
- » Medical considerations: alcohol/drug intoxication, use of 'blood-thinning' medication, previous history of brain surgery or bleeding disorder
- » If there Is any RED FLAG:
- » Call an ambulance
- » Do not move the player (unless trained to do so or the player is at risk of harm)
- » The player should receive urgent medical help

If there are no RED FLAGS, assessment should proceed to assess for any signs (visible clues – what you may see) or symptoms (what the player may feel) of a concussion.

If a player displays any ONE of the following signs or symptoms, they must be immediately removed from play and must not return that day.

Signs (visible clues) may include:

- » Player is 'just not right'
- » Unexplained change in performance +/- uncharacteristic communication with teammates
- » Falling unprotected on to the playing surface
- » Slow to re-join play after a direct or indirect hit to the head
- » Dazed, blank or vacant look
- » Lying motionless on the pitch
- » Facial injury
- » Disorientation or confusion, or inappropriate responses to questions
- » Unsteady on feet / balance problems
- » Vomiting
- » Seizure, 'fits' or convulsions

- » Tonic posturing ('fencing sign') lying rigid / motionless due to muscle spasm
- » Loss of consciousness or reduced responsiveness

Symptoms (what the player may feel):

- » Changes in emotions (e.g., more irritable, sad)
- » Changes in thinking (e.g., difficulty remembering, difficulty concentrating)
- » Physical symptoms (e.g., headache, blurred vision, "pressure in head", nausea or vomiting, fatigue, more sensitive to noise/light, neck pain)

Questions to ask a player (failure to answer one or more of these questions correctly may suggest a concussion):

- » Where are we today?
- » Who are we playing?
- » What is the score in this game?
- » Who did we play in our last game?
- » What was the score in the last game?

These questions should not be used as a filter to keep a player on the pitch. Concussion can still be present despite correct answers. If a high suspicion of a concussion exists despite the player answering these questions correctly, the player should be removed from play.

WHAT TO DO NEXT?

If a player is **suspected** of having concussion, they must be immediately removed from the pitch, whether in training or match play and should not return to play until they have been assessed medically (even if symptoms have resolved). This assessment must be completed by a suitably qualified healthcare practitioner (e.g., medical doctor (e.g., GP), a CORU-registered physiotherapist, an Athletic Rehabilitation Therapist (ARTI)). Team-mates, coaches, match officials, team managers, administrators or parents who suspect a player may have concussion must do their best to ensure that the player is removed from play in a safe manner. Once the player has been removed:

- » They should not be left alone for 24 hours
- » They must not drive a vehicle in the first 24 hours

- » They must not consume alcohol or take recreational drugs or drugs not prescribed by their doctor in the first 24 hours
- » They must not return to play before completing the FAI's GRTP protocol

After the initial 48-hour period of relative rest, a staged and graduated return to full daily activities (education/work) and football training is allowed but at a rate that does not worsen existing symptoms, more than mildly, or produce new symptoms.

HEADING IN FOOTBALL

A header is a football action used to control the ball to pass, shoot or clear using the head, it can be done in a variety of positions (e.g., standing, jumping or diving). Heading (or repeat heading) is a potential mechanism of injury in concussions. There is also ongoing research to determine whether repeat nonconcussive impacts (e.g., heading) may affect brain health in footballers in later life.

There is no established consensus on the risks of heading in football, although the initial studies appear to suggest that it is ex-professional players rather than recreational (e.g., grassroots) players who are primarily affected. Despite these potential risks, the studies have shown that ex-professional footballers live longer than the general population, which highlights the long-term positive health effects of cardiovascular fitness.

While the understanding of the potential risks of heading in football evolves, the FAI would recommend:

- » Players and associated groups (e.g., team-mates, coaches, match officials, team managers, administrators and/or parents) adhere to the FAI Concussion Guidelines.
- » Players under the age of 18 (with support from team-mates, coaches, match officials, team managers, administrators and/or parents) adhere to the UEFA Heading Guidelines for youth players. These guidelines emphasise appropriate ball size and ball pressure, recommend reducing heading burden where possible, conducting neck strengthening exercises, and managing concussion appropriately.
- » Coaching staff should ensure appropriate technical proficiency and technical progressions in heading for players giving thought to how these proficiencies can be developed without the ball.

- » Coaching staff should design sessions that limit heading burden as much as is practical e.g., playing small-sided games, limiting or modifying setpiece practices, encouraging teams to play out from the back.
- » Coaching staff should consider modifying heading exposures for players who have had a higher heading exposure in a particular week than is normal for that player (e.g., due to increased volume of set-piece practices).
- » Match officials should ensure that rules regarding deliberate head contact are enforced.
- » Players, coaches, match officials and administrators should participate in FAI education initiatives with respect to brain health, and how to protect this.
- » Neuromuscular neck exercises should be incorporated into general injury prevention programmes.

KEY POINTS TO CONSIDER

- » Ignoring the signs and symptoms of concussion may result in death, a more serious brain injury or a prolonged recovery period.
- » Children and adolescents may be more susceptible to concussions and associated neurological complications (including death), and require a full return to education before returning to football
- » The frequency and severity of concussions in football appear to be higher amongst women and girls (than their male counterparts)
- » For those participating in disability football, para-football or with individual medical or learning needs, standard methods for the assessment of concussion may need to be adapted. These individuals need specific, tailored advice which is outside the remit of the FAI guidance. See <u>British Journal of Sports Medicine Para- Sport</u> <u>Concussion Consensus Paper.</u>
- » Video footage may be of assistance in identifying visible signs of a concussion as well as establishing the mechanism and potential severity of the injury.

ADULT AMATEUR AND YOUTH (GRASSROOTS) FAI GUIDELINES*

*These guidelines also apply to players under the age of 18 participating in 'elite' settings.

<u>The earliest a player following these guidelines (including 'elite' players less</u> <u>than 18 years of age) can return to play following a concussion is at Day 21.</u>

Combined progression through stages 1-4 must take a minimum of 14 days.

Stage 1 (minimum 48 hours): Day of Injury

- » Recognise and remove from play
- » Diagnosis of concussion by an appropriately trained healthcare professional with experience in the recognition and management of sports-related concussion. This may be completed by a medical doctor (e.g., GP) or a CORU-registered physiotherapist, an Athletic Rehabilitation Therapist (ARTI).
- » In the case of youth athletes, inform school (including PE Teacher) and other sports that your child has sustained a concussion and will follow the FAI GRTP protocol.

Stage 2 (minimum 48 hours): Recovery and Resumption:

- » Resumption of activities of daily living (mild symptoms acceptable)
- » Light aerobic exercise (e.g., 15 minute walk daily). Initial session aimed at increasing heart rate to 55%, and then subsequent sessions up to approx. <70% HR max (or RPE 5) without significant head movement or risk of contact. The player should be able to hold a conversation without needing to catch their breath.
- » Start graded return to school or work with modifications where appropriate (e.g., reduced number of days / half-days). A return to school / work should be prioritised over a return to sport.
- » Progression criteria: A review by an appropriately trained healthcare practitioner at day 4-6 is recommended.

Stage 3 (minimum 48 hours): Individual Football-Specific Exercise:

- » Objective; To commence individual football-specific exercise (minimal head movements). This must be completed individually and NOT as part of normal team training.
- » Moderate intensity walk, jog or stationary bike 15- 20mins (e.g., 70% HR max and above / RPE 5-7)
- » If tolerated can be progressed to football-specific skills with head movements (running, change of direction, passing drills)
- » Progression criteria: If previous steps are not causing a significant exacerbation of symptoms, consider adding resistance training.

Stage 4 (minimum 48 hours): Non-contact training with increased training intensity: symptoms no higher than 3/10 (self-reported symptom severity), resolved within 60 minutes.

- » Increase cardiovascular activities
- » Continue NON-contact football-specific training drills
- Increase training drills allowing close to max exertion and multi directional movements. (Up to 90% HRmax and up to 90% of full training (NON-CONTACT)
- » Return fully to education or work.
- » Recommend completion of three NON-contact training sessions with no concussion-related symptoms.
- » Progression criteria: Recommend review by healthcare practitioner

Stage 5: Full-contact training (must start only after a minimum period of 14 days):

- » Player must be symptom free with previous steps, review to include neurocognitive testing (e.g., SCAT6/SCOAT6)* where appropriate. You may consider a formal cardiovascular assessment at this point if appropriate and suitable within your context. (see Appendix).* Alternatively, the player should have completed a minimum of three non-contact training sessions (with no restrictions on %HR max).
- » Phased return to full-contact drills and practice sessions. Introduction of heading drills once cleared by healthcare practitioner

^{*}These are specific tests that should be completed by a healthcare practitioner who is trained in concussion recognition and management.

Stage 6 (earliest return to competition at Day 21):

- » Return to competition (recommend clearance by healthcare practitioner)
- » Return to competition should not take place before day 21 post-concussion AND player must have remained symptom-free for at least 14 days.

FAI 6-STAGE GRADUATED RETURN TO SPORT PROTOCOL FOLLOWING A CONCUSSION IN ELITE SETTINGS

(for use in an adult (18 years of age and older) 'elite' setting – defined by the presence of a suitably trained healthcare professional with day-today responsibility for player medical care, the completion of baseline neurocognitive testing and a formal concussion education programme for players/coaches).

<u>The earliest an elite player (aged 18 years of age or older) can return to play</u> <u>following a concussion is at Day 12*</u>

Initial review by a suitably qualified healthcare professional (e.g., medical doctor (e.g., GP), a CORU-registered physiotherapist, an Athletic Rehabilitation Therapist (ARTI)).

Stage 1 (minimum 48 hours): Symptom-Limited Activity

- » **Objective:** Allow the brain to rest and recover from initial symptoms.
- » **Exercise Type:** In the first 48 hours, players should be encouraged to continue with daily activities (that do not provoke symptoms) such as walking or gentle stretching, but training is advised against.
- » **Duration:** Varies based on symptom resolution (minimum 48 hours).
- » **Precautions:** Reduce activities that increase symptoms (e.g., screen time); monitor for resolution of symptoms.
- » Progression Criteria: Clearance by a qualified healthcare practitioner with documented evidence of symptom resolution. In some cases, it may be acceptable to progress to the next stage if low-level symptoms persist at rest – these should be minimal and stable.

Stage 2 (minimum 48 hours): Light Aerobic Exercise

- » **Objective:** Initial session aimed at increasing heart rate to 55%, and then subsequent sessions up to approximately <70% HR max (or RPE 5) without significant head movement or risk of contact. The player should be able to hold a conversation without needing to catch their breath.
- » **Exercise Type:** Walking, light jogging and/or stationary cycling, and targeted rehabilitation for cervical, ocular, or vestibular deficits. May also commence light resistance training that does not significantly exacerbate symptoms.
- » **Duration:** up to 20 minutes.
- » **Precautions:** Avoid exercises that may expose the player to a head impact; monitor for symptom recurrence.
- » Progression Criteria: Completion of rehabilitation with symptoms no higher than 3/10 (self-reported symptom severity), resolved within 60 minutes.

Stage 3 (minimum 48 hours): Individual Football-Specific Exercise

- » Objective: Incorporate football-specific movements without risk of head impact.
- » **Exercise Type:** Multidirectional movements, running, resistance training, and football-specific drills. This must be completed individually and NOT as a part of normal team training.
- » Duration: up to 30 minutes.
- » **Precautions:** Avoid head impacts (e.g., heading) and any form of contact.
- » **Progression Criteria:** Symptom control and improved neurocognitive testing (e.g., SCAT6/SCOAT6). Full return to education or work (if relevant to player).

Stage 4 (minimum 48 hours): Non-Contact Training Drills

- » **Objective:** Increase exercise intensity with complex drills involving coordination and cognitive components. Re-integrate into team training, remaining non-contact.
- » **Exercise Type:** Higher intensity exercises including non-contact change of direction drills, resistance training, and sprint exposures.

- » **Duration:** up to 45 minutes.
- » **Precautions:** Avoid body contact; monitor for symptom exacerbation or recurrence.
- » **Progression Criteria:** No symptoms during or after training; normal neurocognitive testing (e.g., SCAT6/SCOAT6). You may consider formal cardiovascular exercise testing at this point (see an example provided in the Appendix).

Stage 5 (minimum 72 hours): Participate in full-contact training

- » **Objective:** Restore confidence and assess functional skills through fullcontact practice.
- » **Exercise Type:** Phased return to full-contact drills and practice sessions. Graded introduction of heading drills.
- » **Duration:** Normal training session duration.
- » **Precautions:** Close monitoring by medical team; ensure appropriate technique, communication and decision-making.
- » **Progression Criteria:** No symptoms; medical clearance after three full training sessions.

Stage 6 (earliest return to competition at Day 12): Return to Competition

- » **Objective:** Full return to competitive play.
- » Exercise Type: Participation in games and competitions.
- » Duration: Regular game duration.
- » **Precautions:** Continued symptom monitoring and player/coach education.
- » Progression Criteria: Successful symptom-free participation.

General Precautions and Monitoring:

Regular reviews, gradual progression, clear communication, individualised care (e.g., based on comorbidities), and immediate action if symptoms recur.

*<u>Under exceptional circumstances, a player may return to play at Day 7 (or</u> <u>later) in an elite setting. This shortened return-to-play timeline is reserved for</u> <u>the following cases of concussion:</u>

- » uncomplicated concussions as defined by the absence of red flag signs / symptoms (see above) and no history of complex, significant or recurrent concussions (including prolonged recovery)
- » sign off to return to play has been completed by an independent Medical Council (Ireland) doctor on the specialist register for neurology, and with experience in the management of sports-related concussion
- » details of the injury (including subsequent clinical assessment details) have been reviewed by the FAI Medical Committee Concussion Working Group.

APPENDIX 1 Cardiovascular RTT exit test (an example of a validated cardiovascular exercise test that could be used during the GRTP).

Patient/ Athlete Name:

DOB:

EXIT Concussion Assesment

	Testing Order
Date: Start Time: BP pre: post:	1 2 3 4 5 6 Dynamic Circuit Ball Toss Version Box Drill (Shuffle)
HR pre: post:	Zig Zag Drill Pro Agility Arrow Agility

	<u>(mph)</u>	
LOW	<u>HIGH</u>	
4.5	7.0	
5.5	8.5	
	4.5	

<u>BMI > 30</u>	Speed (mph)			
<u>Gender</u>	LOW	<u>HIGH</u>		
Female	3.5	5.5		
Male	4.0	7.0		

Aerobic Component

Time	<u>HA</u>	<u>DZ</u>	<u>NA</u>	<u>RPE</u>	<u>HR</u>
0 (Pre)					
2 (Warm-up)					
6:30-7					
12 (Finish)					

Dynamic Movement Component

Assesment Notes Symptoms worsened during assesment Inability to mantain pace/physical demands and modified, explain: discontinued, explain:

Other:

End Time (ifDNF):

Task	HA	DZ	NA	RPE	HR	Errors	Time	Assesment Notes
Dynamic								Symptoms worsened during assesment
Circuit								
Ball Toss								Inability to mantain pace/physicc demands and
Box Drill							1	<u>modified</u> , explain:
(Shuffle)							2.	
							Ζ.	
Box Drill							1.	<u>discontinued</u> , explain:
(Carioca)							2.	
7:							1.	
Zig-Zag							2.	Other:
							1.	
Pro Agility							2.	1
Arrow							1	
Agility							2.	End Time (ifDNF):

Sport Specific/Contact Activities:

Pass Deconditioned

Symptomatic/Fail

Recommendations:

APPENDIX 2 Cardiovascular RTT exit test (an example of a validated cardiovascular exercise test that could be used during the GRTP).

Cardiovascular Assesment Name:

		Pre-Test	Post-Test
Oradiananalar	Heart Rate		
Cardiovascular	Blood Pressure		
	Headache		
Symptoms 0 - 10	Dizziness		
	Nausea		
		Normal	Symptomatic
Cardio Exertion Heart Rate Target 60-80%	Treadmill Jog/ Run		
Goal 25 minutes	Bike/ Elliptical		
	Deep Squats		
Dynamic Exercise Circuit (15 x each, 2 bouts)	Medicine Ball Rotations		
(10 x 0001), 2 00010)	Lunges		
Functional Testing Heart Rate Target 80%	Speed Steps (2 bouts x 1')		
	Forward/ Backward Jogging (2 Bouts Line Drills)		
	Jum Turn Toss 2 Way (2 x 10)		
	Lateral Plyo Jumos w/ Cone Touch (2 x 30")		
Sport-Specific Contact Activities			
Assesment Summary:		🗌 Normal Test	☐ Abnormal Test



Football Association of Ireland National Sports Campus Abbotstown Dublin 15 D15 X8PD