

Return to play after concussion

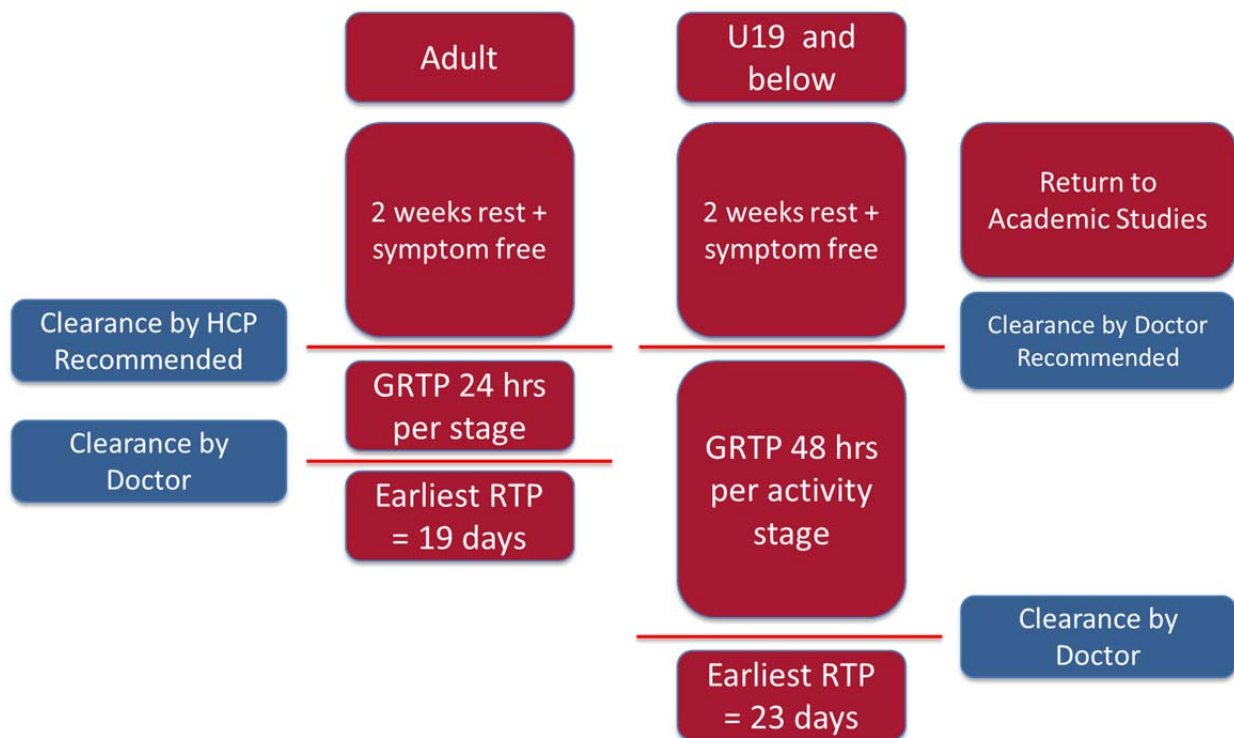
Concussion must be taken extremely seriously to safeguard the short and long term health and welfare of players, and especially young players.

The majority (80-90%) of concussions resolve in a short (7-10 days) period. This may be longer in children and adolescents and a more conservative approach should be taken with them. During this recovery time however, the brain is more vulnerable to further injury, and if a player returns too early, before they have fully recovered this may result in:

- Prolonged concussion symptoms
- Possible long term health consequences e.g. psychological and/or brain degenerative disorders
- Further concussive event being FATAL, due to severe brain swelling – known as second impact syndrome.

What should players do to return to play (RTP)?

The routine return to play pathway is shown in the diagram below:



A player's age is deemed to be their age as at 1st September.

- Rest. Individuals should avoid the following initially and then gradually re-introduce them:
 - Reading
 - TV
 - Computer games
 - Driving
- It is reasonable for a student to miss a day or two of academic studies but extended absence is uncommon.
- Start Graduated Return to Play (GRTP) once all symptoms have resolved and cleared to do so by a healthcare professional (HCP) or doctor (for children).
- In young players a more conservative Graduated Return To Play approach is recommended, and it is advisable to extend the amount of rest (routinely this should be two weeks/14 days) and the length of the GRTP.
- As part of the process it is also prudent to consult with the young person's academic teacher(s) or tutor to ensure that their academic performance has returned to normal prior to commencing their GRTP. The school environment obviously helps with this liaison with educational experts.

It must be emphasised that these are minimum return to play times and in players who do not recover fully within these timeframes, these will need to be longer.

Graduated Return to Play (GRTP)

The GRTP should be undertaken on a case by case basis and with the full cooperation of the player and their parents/guardians.

Where a club/school has their own medical resources the GRTP process should be carried out by the club/school coach, and overseen by the club/school health care professional/doctor. Parents should where possible also be actively involved in the process.

A summary of the GRTP is shown in the following diagram.


DON'T BE A HEADCASE STOP! CHECK FOR CONCUSSION

HEADACHE EMOTIONAL APPEARANCE DROWSINESS CONFUSION AGITATED SEIZURE EARS AND EYES

Stage	Rehabilitation Stage	Exercise Allowed	Objective
1	Rest	Complete physical and cognitive rest without symptoms	Recovery
2	Light aerobic exercise	Walking, swimming or stationary cycling keeping intensity, <70% maximum predicted heart rate. No resistance training.	Increase heart rate and assess recovery
3	Sport-specific exercise	Running drills. No head impact activities.	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 + 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.

The Pocket Concussion Recognition Tool symptom and signs check list can be used to assess players at each stage of the GRTP; this is shown below and is available to download at rfu.com/concussion.

Pocket CONCUSSION RECOGNITION TOOL™
To help identify concussion in children, youth and adults



RECOGNIZE & REMOVE
Concussion should be suspected if **one or more** of the following visible clues, signs, symptoms or errors in memory questions are present.

1. Visible clues of suspected concussion
Any one or more of the following visible clues can indicate a possible concussion:

- Loss of consciousness or responsiveness
- Lying motionless on ground/Slow to get up
- Unsteady on feet / Balance problems or falling over/Incoordination
- Grabbing/Catching of head
- Dazed, blank or vacant look
- Confused/Not aware of plays or events

2. Signs and symptoms of suspected concussion
Presence of any one or more of the following signs & symptoms may suggest a concussion:

- Loss of consciousness
- Seizure or convulsion
- Balance problems
- Nausea or vomiting
- Drowsiness
- More emotional
- Irritability
- Sadness
- Fatigue or low energy
- Nervous or anxious
- "Don't feel right"
- Difficulty remembering
- Headache
- Dizziness
- Confusion
- Feeling slowed down
- "Pressure in head"
- Blurred vision
- Sensitivity to light
- Amnesia
- Feeling like "in a fog"
- Neck Pain
- Sensitivity to noise
- Difficulty concentrating

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3. Memory function
Failure to answer any of these questions correctly may suggest a concussion.

"What venue are we at today?"
"Which half is it now?"
"Who scored last in this game?"
"What team did you play last week / game?"
"Did your team win the last game?"

Any athlete with a suspected concussion should be IMMEDIATELY REMOVED FROM PLAY, and should not be returned to activity until they are assessed medically. Athletes with a suspected concussion should not be left alone and should not drive a motor vehicle.

It is recommended that, in all cases of suspected concussion, the player is referred to a medical professional for diagnosis and guidance as well as return to play decisions, even if the symptoms resolve.

RED FLAGS
If ANY of the following are reported then the player should be safely and immediately removed from the field. If no qualified medical professional is available, consider transporting by ambulance for urgent medical assessment:

- Athlete complains of neck pain
- Increasing confusion or irritability
- Repeated vomiting
- Seizure or convulsion
- Weakness or tingling/burning in arms or legs
- Deteriorating conscious state
- Severe or increasing headache
- Unusual behaviour change
- Double vision

Remember:

- In all cases, the basic principles of first aid (danger, response, airway, breathing, circulation) should be followed.
- Do not attempt to move the player (other than required for airway support) unless trained to do so
- Do not remove helmet (if present) unless trained to do so.

from McCrory et. al. Consensus Statement on Concussion in Sport. Br J Sports Med 47 (5), 2013
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Before a player can commence the exercise elements of the GRTP i.e. Stage 2, they must be symptom free for a period of 24 hours (adult) or 48 hours (U19) (This is Level 1)

The player can then progress through each stage as long as no symptoms or signs of concussion return. Where the player completes each stage successfully without any symptoms the player would normally proceed through each stage on successive days. In U19s, progression should take 2 days for each stage.

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If any symptoms occur while progressing through the GRTP protocol, the player must consult with their medical practitioner before returning to the previous stage and attempting to progress again after a minimum 24-hour (adult) or 48 hour (U19) period of rest, without the presence of symptoms.

If it is not feasible for the coach to conduct Levels 2 - 4, these may be done by the player in their own time or in children supervised by parents with appropriate guidance. Alternatively the protocol may simply be extended with each level being conducted by the coach at training sessions or in the school setting by other PE staff during PE lessons, when they are able

On completion of Level 4 the player may resume full contact practice (Level 5) with Medical Practitioner clearance.

It is the player's or parent's responsibility to obtain medical clearance before returning to play.

Schools and clubs are advised to keep a record of the player's or parent's confirmation that clearance has been obtained and a doctor's letter is not necessarily required.

On completion of Level 5 without the presence of symptoms, the player may return to playing in full contact rugby games (Level 6).

Note:

If a player's concussion resulted from poor tackle technique, their coach must also ensure that this is corrected before return to play.

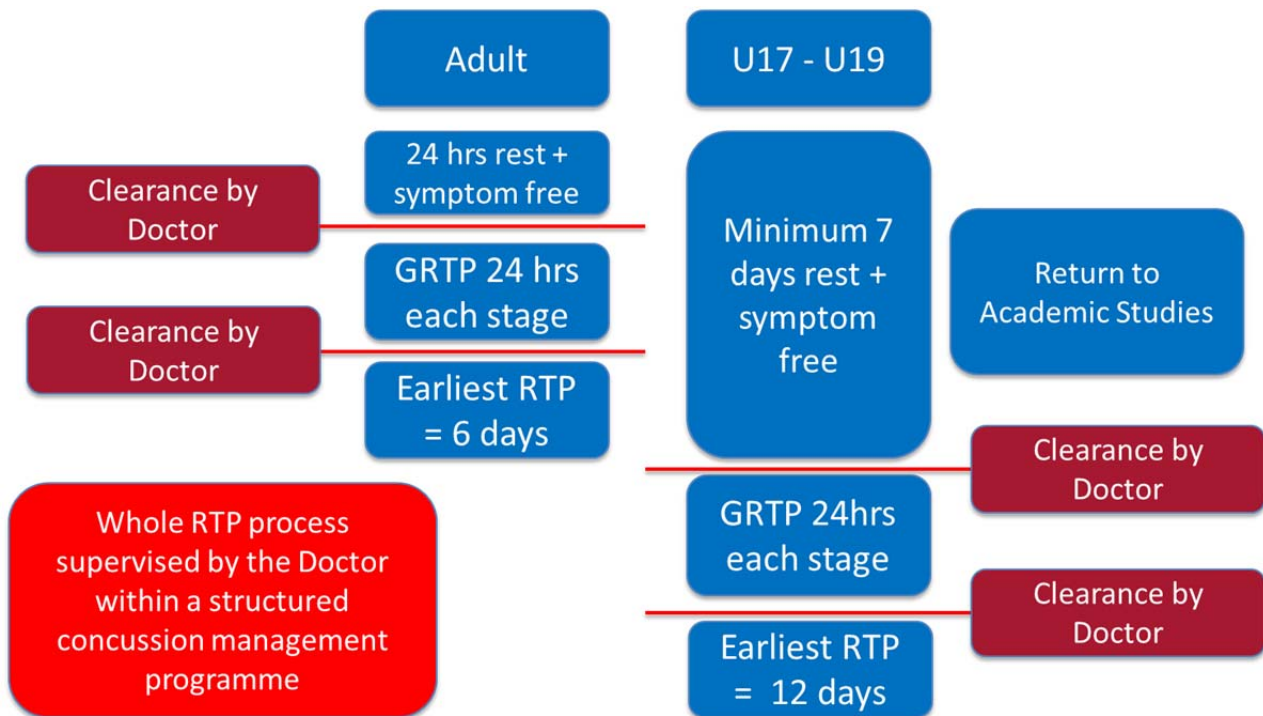
If there are concerns about the player's behaviour and approach to the game when playing or training that appears to put them at increased risk of concussion, then this should be addressed before return to play.

Return to Play Pathway in an Enhanced Care Setting

In some circumstances (such as Professional clubs and Rugby Academies) there is a doctor with training and experience in the management of concussion/traumatic brain injury available to closely supervise the player's care and GRTP, and clear the player prior to RTP. In these instances, a shortened timeframe for RTP is possible, but only under strict supervision by the appropriate medical experts as part of a structured concussion management programme. In these circumstances **ONLY**, the following RTP pathway can be followed:

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Criteria for an Enhanced Care Setting:

1. There is a doctor with training and experience in the management of concussion/traumatic brain injury available to closely supervise the player's care and GRTP, and clear the player prior to RTP.
- and
2. There is a structured concussion management programme in place including:
 - a. Baseline SCAT 3 and/or Computerised Psychometric/Cognitive testing of players.
 - b. Clinical serial multimodal concussion assessment of players post head impact event.
 - c. Formalised GRTP programme with regular SCAT 3 or equivalent assessments recorded in players' medical records.
 - d. Access to neuropsychology/neurology/neurosurgery specialists if required
 - e. Formal concussion education programme for coaches and players.

It is recognised that players will often want to return to play as soon as possible following a concussion. Players, coaches, management, parents and teachers must exercise caution to:

- a. Ensure that all symptoms have subsided before commencing GRTP.
- b. Ensure that the GRTP protocol is followed.
- c. Ensure that the advice of Medical Practitioners and other Healthcare Professionals is strictly adhered to.

After returning to play all involved with the player, especially coaches and parents must remain vigilant for the return of symptoms even if the GRTP has been successfully completed.

If symptoms reoccur the player must consult a Healthcare Practitioner as soon as possible as they may need referral to a specialist in concussion management.

Additional resources

- Coaches Concussion Guide rfu.com/concussion
- Pocket Concussion Recognition Tool rfu.com/concussion
- Coaches, First Aiders, Match Officials and Administrators concussion education module. www.irbplayerwelfare.com/concussion
- Club/School Health Care Professionals concussion educational module. www.irbplayerwelfare.com/concussion

These RFU Concussion resources have been developed based on the Zurich Guidelines published in the Consensus Statement on Concussion in Sport, and adapted for rugby by the International Rugby Board

The information contained in this resource is intended for educational purposes only and is not meant to be a substitute for appropriate medical advice or care. If you believe that you or someone under your care has sustained a concussion we strongly recommend that you contact a qualified health care professional for appropriate diagnosis and treatment. The authors have made responsible efforts to include accurate and timely information. However they make no representations or warranties regarding the accuracy of the information contained and specifically disclaim any liability in connection with the content on this site.