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.
<table>
<thead>
<tr>
<th>Stage</th>
<th>Rehabilitation Stage</th>
<th>Exercise Allowed</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rest</td>
<td>Complete physical and cognitive rest without symptoms</td>
<td>Recovery</td>
</tr>
<tr>
<td>2</td>
<td>Light aerobic exercise</td>
<td>Walking, swimming or stationary cycling keeping intensity, &lt;70% maximum predicted heart rate. No resistance training.</td>
<td>Increase heart rate and assess recovery</td>
</tr>
<tr>
<td>3</td>
<td>Sport-specific exercise</td>
<td>Running drills. No head impact activities.</td>
<td>Add movement and assess recovery</td>
</tr>
<tr>
<td>4</td>
<td>Non-contact training drills</td>
<td>Progression to more complex training drills, e.g. passing drills. May start progressive resistance training.</td>
<td>Add exercise + coordination, and cognitive load. Assess recovery</td>
</tr>
<tr>
<td>5</td>
<td>Full Contact Practice</td>
<td>Normal training activities</td>
<td>Restore confidence and assess functional skills by coaching staff. Assess recovery</td>
</tr>
<tr>
<td>6</td>
<td>Return to Play</td>
<td>Player rehabilitated</td>
<td>Safe return to play once fully recovered.</td>
</tr>
</tbody>
</table>

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](http://rfu.com/concussion).

![Pocket Concussion Recognition Tool](image)

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.
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:
It must be emphasised again, 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.

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.