How Do You Manage Concussion?

Rest the Body, Rest the Brain

1. On-field management

Any player with concussion or suspected concussion should be immediately and permanently removed from training or play. Appropriate emergency management procedures must be followed especially if a neck injury is suspected. In this instance the player should only be removed by emergency healthcare professionals with appropriate spinal care training.

Once safely removed, the injured player must not return to any activity that day and should be medically assessed.

Side-line medical staff, coaches, players or parents and guardians who suspect that a player may have concussion **must** do their best to ensure that the player is removed from the field of play in a safe manner.

Immediate management of concussion or suspected concussion

If any of the following are reported or noticed then the player should be transported for urgent medical assessment at the nearest hospital:

- player complains of severe neck pain
- deteriorating consciousness (more drowsy)
- increasing confusion or irritability
- severe or increasing headache
- repeated vomiting
- unusual behaviour change
- seizure (fit)
- double vision
- numbness, tingling, burning or weakness in the arms or legs'
- slurred speech

In all cases of concussion it is strongly recommended that the player is referred to a medical or healthcare professional for diagnosis and guidance regarding management and return to play, even if the symptoms resolve.

Players with concussion or suspected concussion:

- **should not be left alone** in the first 24 hours
- **should not consume alcohol** in the first 24 hours and thereafter should avoid alcohol until provided with medical or healthcare professional clearance or if no medical or healthcare professional advice is available the injured player should avoid alcohol until symptom-free
- **should not drive a motor vehicle** and should not return to driving until provided with medical or healthcare professional clearance or if no medical or healthcare professional advice is available should not drive until symptom free.

2. Mandatory rest

Rest is the cornerstone of concussion treatment. This involves resting the body, 'physical rest', and resting the brain, 'cognitive rest'.

This means avoidance of:

- physical activities such as running, cycling, swimming
- cognitive activities such as school work, homework, computers or white screens, reading, television, video games, smart phones

Adults

Physical rest should be for a minimum of one week for any adult player with concussion. This physical rest comprises 24 hours of complete physical and cognitive rest followed by relative rest (activity that does not induce or aggravate symptoms) for the rest of the week. Cautious reintroduction of cognitive ("thinking") activities are allowed following an obligatory 24 hours of complete (physical and cognitive) rest as long as symptoms related to the concussion are not aggravated.

After the one week physical rest period the player:

- must be symptom-free
- should be cleared by a medical practitioner or approved healthcare provider prior to starting a Graduated Return-To-Play programme; and
- must follow (and complete) this Graduated Return-To-Play (GRTP) programme which must be consistent with World Rugby's Protocol set out later in this leaflet.

The only exceptions to the requisite minimum 1 week rest period and the completion of a Graduated Return-to-Play Programme may be an individual who has access to, or a professional player with match commitments that is able to:

- access brain imaging facilities and neuroradiologists
- have a multidisciplinary team of specialists including neurologists, neurosurgeons, neuropsychologists, neurocognitive testing, balance and vestibular rehabilitation therapists.

Children and adolescents

Physical rest shall be for a minimum of two weeks for any child or adolescent (18 years and under) with concussion. The principle of no activity – physical or cognitive (thinking) - that provokes or aggravates their symptoms is the same as for adults over this two week period. Children and adolescents must be managed more conservatively than adults.

After the two week physical rest period the player:

- must be symptom-free
- should be cleared by a medical practitioner or approved healthcare provider prior to starting a Graduated Return-To-Play programme
- must, if a student, have returned to school or full studies
- must follow (and complete) this Graduated Return-To-Play programme.

Any child, adolescent or adult player with a second concussion within 12 months, a history of multiple concussions, players with unusual presentations or prolonged recovery must be assessed and managed by healthcare professionals (multi-disciplinary) with experience in

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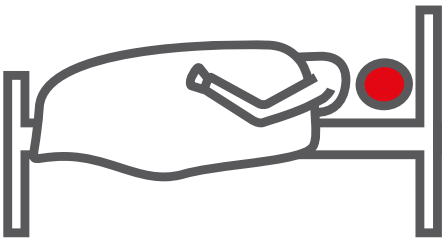
sports-related concussions and no further participation in sport must take place until the player is cleared.

3. Graduated return-to-play (GRTP) Programme

A player with concussion should be assessed medically immediately after their injury and prior to returning to contact training and match play. Following the mandatory rest periods (age-specific) a gradual and progressive return to activity can commence once symptom-free. If any symptoms are present or reappear physical activity should not be started, or if started it should be stopped until symptoms resolve. In the case of students, or even working adults, return to a full working or school day and studying symptom-free must have been achieved prior to commencing physical activity or sport. The player must not be taking any medication that may mask their symptoms, pain, or headaches.

The Graduated Return-To-Play (GRTP) programme incorporates a progressive exercise programme that introduces a player back to sport in a step-wise fashion. World Rugby's GRTP Protocol contains six distinct stages:

- The first stage is the recommended rest period
- The next four stages are training-based restricted activity
- Stage 6 is a return to play



It is required that each stage of the GRTP be a minimum of 24 hours. Should a player perform an activity and be symptom free during it, they are not permitted to move to the next stage until 24 hours later. This is due to the fact that many concussion symptoms develop and present themselves hours after the exertion. Should a player progress through the stages and then start to develop symptoms, they have to rest for 24 hours and then drop back a level and slowly progress again, remaining symptom-free throughout.

GRTP Programme

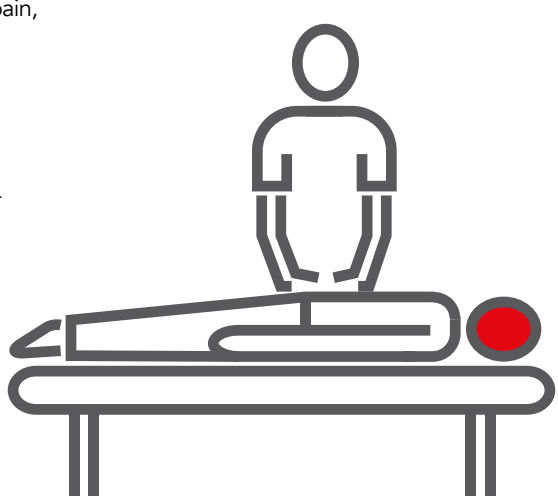
Stage	Rehabilitation Stage	Exercise Allowed	Objective
	EACH STAGE IS A MINIMUM OF 24 HOURS		
1	Initial rest (physical and cognitive)	No driving or exercise. Minimise screen time. Consider time off or adaptation of work or study.	Rest and recovery includes both mental and physical rest
2a Symptoms persist at 24 hours	Symptom-limited activities	Initially activities of daily living that do not provoke symptoms. Consider time off or adaptation of work or study.	Return to normal activities (as symptoms permit)
2b Symptom free at 24 hours	Light aerobic exercise	Light jogging for 10-15 minutes, swimming or stationary cycling at low to moderate intensity. No resistance training. Symptom-free during full 24-hour period	Increase heart rate
Return to sport	Sport-specific exercise	Running drills. No head impact activities	Add movement
3	Non-contact training drills	Progression to more complex training drills, eg. passing drills. May start progressive resistance training	Exercise, coordination and cognitive load A return to learning must achieved before returning to sport
4	Full contact practice	Following medical clearance, participate in normal training activities	Restore confidence and assess functional skills by coaching staff
5	Return to sport	Normal game play	

4. Physical therapy for concussion

Given that a concussion is often sustained due to a blow to the head or from a 'whiplash action' the chances are neck pain and headaches (possibly originating from the neck) can present in concussion patients. Physical therapy treatments addressing muscle spasm in the neck area, pain and inflammation within the joints and ligaments of the neck can help reduce pain, stiffness and discomfort, which may aid your recovery.

From Stage 2 onwards physical therapists can prescribe specific exercises to restore balance and co-ordination. This is often called vestibular rehabilitation and is proven to help with dizziness, vertigo, and imbalance. Your vestibular system is responsible for movements of your head and head position – essentially spatial awareness of where your head is looking, turning, tilting etc. Following concussion the nerves that monitor and report on this, nerves from your ears and eyes to your brain are often temporarily affected. Without appropriate rehabilitation these symptoms can persist and delay your return to activity.

Your physical therapist, if experienced in sports concussion, may also help you through the progression of activities (their intensity and complexity) performed in the graduated return to play programme.



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