

Concussion Return to Sports Protocol 2023

Step	Mental Activity	Activity at Each Step	Goal	Specific Instructions
1	Symptom-limited activity.	Daily activities that do not exacerbate symptoms (e.g., walking).	Gradual reintroduction of work/school.	
2	Aerobic exercise 2A-Light (up to approx. %55 max HR) then 2B-Moderate (up to approximately %70 max HR).	Stationary cycling or walking at slow to medium pace. May start light resistance training that does not result in more than mild and brief exacerbation* of concussion symptoms.	Increase heart rate.	
3	Individual sport-specific exercise NOTE: if sport-specific exercise involves any risk of head impact, medical determination of readiness should occur prior to step 3.	Sport-specific training away from the team environment (e.g., running, change of direction and/or individual training drills away from the team environment). No activities at risk of head impact	Add movement, change of direction.	
Steps 6-4 should begin after resolution of any symptoms, abnormalities in cognitive function, and any other clinical findings related to the current concussion, including with and after physical exertion.				
4	Non-contact training drills.	Exercise to high intensity including more challenging training drills (e.g., passing drills, multiplayer training). Can integrate into team environment.	Resume usual intensity of exercise, coordination, and increased thinking.	
5	Full contact practice.	Participate in normal training activities.	Restore confidence and assess functional skills by coaching staff.	
6	Return to sport.	Normal game play.		

MaxHR=predicted maximal Heart Rate according to age(i.e.,220-age)

Age Predicted Maximal HR=220-age	Mild Aerobic Exercise	Moderate Aerobic Exercise
%55	$220 - \text{age} \times 0.55 = \text{Training target HR}$	
%70		$220 - \text{age} \times 0.70 = \text{training target HR}$

NOTE: *Mild and brief exacerbation of symptoms (i.e., an increase of no more than 2 points on a 0-10 point scale for less than an hour when compared with the baseline value reported prior to physical activity). Athletes may begin Step 1 (i.e., symptom-limited activity) within 24 hours of injury, with progression through each subsequent step typically taking a minimum of 24 hours. If more than mild exacerbation of symptoms (i.e., more than 2 points on a 0-10 scale) occurs during Steps 1 -3, the athlete should stop and attempt to exercise the next day. If an athlete experiences concussion-related symptoms during Steps 4-6, they should return to Step 3 to establish full resolution of symptoms with exertion before engaging in at-risk activities. Written determination of readiness to RTS should be provided by an HCP before unrestricted RTS as directed by local laws and/or sporting regulations.

Reference: Patricios J, et al. Br J Sports Med June 2023 Vol 57 No 11