STEP FOUR: PACE

FAMILY TEAM Is the student/athlete 100% back to pre-concussion functioning?

SCHOOL ACADEMIC TEAM Is the student/athlete 100% back to pre-concussion academic functioning

WHEN ALL FOUR TEAMS AGREE

that the student/athlete is 100% recovered, the MEDICAL TEAM can then approve the starting of the Graduated RTP steps. The introduction of physical activity (in the steps outlined in order below) is the last test of the brain cells to make sure they are healed and that they do not "flare" symptoms. This is the final and formal step toward "clearance" and the safest way to guard against a more serious injury.

MEDICAL TEAM approves the start of the RTP steps

SCHOOL PHYSICAL TEAM Often the ATC at the school takes the athlete through the RTP steps.

If there is no ATC available, the MEDICAL TEAM should teach the FAMILY TEAM to administer and supervise the RTP steps.

A Graduated Return-to-Play (RTP) Recommended by The 2012 Zurich Consensus Statement on Concussion in Sport*

STAGE	ACTIVITY	FUNCTIONAL EXERCISE AT EACH STAGE OF REHABILITATION	OBJECTIVE OF STAGE
1	No activity	Symptom limited physicial and cognitive rest.	Recovery
	When 100% symptom free for 24 hours proceed to Stage 2. (Recommend longer symptom-free periods at each stage for younger student/athletes) ▼		
2	Light aerobic exercise	Walking, swimming or stationary cycling keeping intensity <70% maximum permitted heart rate. No resistance training.	Increase heart rate
	If symptoms re-emerge with this level of exertion, then return to the previous stage. If the student remains symptom free for 24 hours after this level of exertion, then proceed to the next stage. ▼		
3	Sport-specific exercise	Skating drills in ice hockey, running drills in soccer. No head-impact activities.	Add movement
	If symptoms re-emerge with this level of exertion then return to the previous stage. If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage. ▼		
4	Non-contact training drills	Progression to more complex training drills, e.g., passing drills in football and ice hockey May start progressive resistance training.	Exercise, coordination and cognitive load
	If symptoms re-emerge with this level of exertion then return to the previous stage. If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage. ▼		
5	Full-contact practice	Following medical clearance, participate in normal training activities.	Restore confidence and assess functional skills by coaching staff
	If symptoms re-emerge with this level of exertion then return to the previous stage. If the student remains symptom free for 24 hours after this level of exertion then proceed to the next stage.		
6	Return to play	Normal game play.	No restrictions

*bjsm.bmj.com/content/47/5/250.full

The healthcare professional should give the responsibility of the graduated RTP steps over only to a trained professional such as an ATC, PT or should teach the parents. A coach, school nurse or PE teacher does NOT need to be responsible for taking concussed student/athletes through these steps.

Research Note: Earlier introduction of physical activity is being researched and may become best practice. However, at this time, any early introduction of physical exertion should only be conducted in a supervised and safe environment by trained professionals.