



USC Physical Therapy

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Objectives

- Identify services offered by USC PT-UPC to USC Club Sport teams and athletes
- Discuss concussion policy
- Identify pre-participation requirements for concussion pre-screening
- Discuss medical follow-up and clearance after concussion



Injury Clinic Hours

- Mondays and Thursdays, 5-7pm, Lyon Center-Massage Room
 - Free
 - Open to all Club Sport Athletes
 - Injury prevention
 - Hx of prior injury, prevent re-injury
 - Training form recommendations
 - Assess, screen, and triage injuries
 - Make recommendations regarding treatment



Team Consultation

- Available to come to practice
 - Injury prevention recommendations
 - Training recommendations
 - Must be pre-scheduled
 - Depending on nature of request, may require additional fee



CONCUSSION POLICY



- USC Recreational Sports Department is dedicated to the safety of our student-athletes.
- Concussion policy in place to manage concussion that occurs during Club Sports events (practices, workouts, games)



Pre-Participation Screening

- Pre-participation computerized cognitive testing utilizing the ImPact computerized system for the following teams:
 - Men's/women's soccer
 - Field hockey
 - Men's/women's ice hockey
 - Men's/women's lacrosse
 - Men's/women's rugby
 - Boxing
 - Martial arts teams: Tae Kwon Do, Brazilian Jiu Jitsu, Kendo, Shinkendo
 - Spirit Leaders
 - Cheer
 - Men's/women's basketball
 - Gymnastics
 - Wrestling
 - Men's/women's water polo
 - Men's/women's ultimate frisbee



Pre-Participation Screening



Test code

link: www.impacttestonline.com/testing



Customer ID Code: **JJJ5TB437G**





During Practice or Game

- If a student-athlete sustains a concussion, they should be removed from play and will not be allowed to return to play on the same day following injury
 - This is consistent with current recommendations on all sport levels from little league to professional
- Student-athlete should be evaluated by AT, PT, or EMT on-site (if available)
- If no medical coverage on-site (ie during practices or off-site events), refer to Student Health Center (during business hours) or to ER



Concussion signs and symptoms

- Headache
- Nausea
- Vomiting
- Dizziness
- Lightheadedness
- Sluggish
- Slurred speech
- Attention changes
- Memory changes
- Balance deficits
- Difficulty walking in a straight line
- Visual changes
- Personality changes
- May or may not involve loss of consciousness



Concussion Recovery

- Follow-up with Sports Resident during walk-in clinic at Lyon Center
- Symptom-limiting activity, relative rest for 2 days
 - If some activity (physical or cognitive) is causing increase in symptoms, that activity should be discontinued
 - No athletic activity until able to return to class without increased symptoms



Once symptoms have resolved ...

- Follow-up with Sports Resident during walk-in clinic at Lyon Center or during PT appointment at USC PT-UPC
- ImPact post-injury test
 - Evaluate neurocognitive status
 - Test results will be forwarded to Dr. Wenger or to Dr. Olsen, Student Health Center physicians with USC Club Sports
- Student-athlete must receive clearance from Student Health Center physician prior to returning to participation



Graded, Step-wise Return to Learn

International Symposia on Concussion In Sport, 6th International Conference

Table 1 Return-to-learn (RTL) strategy

Step	Mental activity	Activity at each step	Goal
1	Daily activities that do not result in more than a mild exacerbation* of symptoms related to the current concussion	Typical activities during the day (eg, reading) while minimising screen time. Start with 5–15 min at a time and increase gradually.	Gradual return to typical activities
2	School activities	Homework, reading or other cognitive activities outside of the classroom.	Increase tolerance to cognitive work
3	Return to school part time	Gradual introduction of schoolwork. May need to start with a partial school day or with greater access to rest breaks during the day.	Increase academic activities
4	Return to school full time	Gradually progress in school activities until a full day can be tolerated without more than mild* symptom exacerbation.	Return to full academic activities and catch up on missed work

Following an initial period of relative rest (24–48 hours following an injury at Step 1), athletes can begin a gradual and incremental increase in their cognitive load. Progression through the strategy for students should be slowed when there is more than a mild and brief symptom exacerbation.
 *Mild and brief exacerbation of symptoms is defined as an increase of no more than 2 points on a 0–10 point scale (with 0 representing no symptoms and 10 the worst symptoms imaginable) for less than an hour when compared with the baseline value reported prior to cognitive activity.

Patricios JS, et al. *Br J Sports Med* 2023;57:695–711. doi:10.1136/bjsports-2023-106898

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Graded, Step-wise Return to Activity



International Symposia on Concussion In Sport, 6th International Conference

Table 2 Return-to-sport (RTS) strategy—each step typically takes a minimum of 24 hours

Step	Exercise strategy	Activity at each step	Goal
1	Symptom-limited activity	Daily activities that do not exacerbate symptoms (eg, walking).	Gradual reintroduction of work/school walking).
2	Aerobic exercise 2A—Light (up to approximately 55% maxHR) then 2B—Moderate (up to approximately 70% maxHR)	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 training involves any risk of inadvertent head impact, medical clearance should occur prior to Step 3	Sport-specific training away from the team environment (eg, 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 4–6 should begin after the 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 (eg, passing drills, multiplayer training) can integrate into a 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.	
*Mild and brief exacerbation of symptoms (ie, 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 (ie, 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 (ie, 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. Athletes experiencing concussion-related symptoms during Steps 4–6 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. HCP, healthcare professional; maxHR, predicted maximal heart rate according to age (ie, 220-age).			



Questions?

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