

Psychosocial considerations for athletes returning to sport following a concussion

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Background

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Development, implementation and assessment of a concussion education programme for high school student-athletes

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ABSTRACT

Although experts have noted that adolescent athletes should be educated about concussions to improve their safety, there is no agreement on the most effective strategy to disseminate concussion education. The purpose of this study was to develop, implement and assess a concussion education programme. More precisely, four interactive oral presentations were delivered to high school student-athletes ($N = 35$, $M_{age} = 15.94$, $SD = 0.34$) in a large urban centre. Participants completed a questionnaire at three time-points during the season to measure changes in their knowledge (CK) and attitudes (CA) of concussions, and focus group interviews were conducted following the concussion education programme. Questionnaire data revealed participants' post-intervention CK scores were higher than their pre-intervention scores. During the focus groups, the student-athletes said they acquired CK about the role of protective equipment and symptom variability, and in terms of CA, they intended to avoid dangerous in-game collisions in the future. Our study was the first to create and deliver a concussion education intervention across multiple time-points, and to use mixed-methods in its assessment. These findings may be of interest to researchers, practitioners and stakeholders in sport who are invested in making the sport environment safer through concussion education and awareness.

ARTICLE HISTORY

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KEYWORDS

Concussion education; intervention; adolescent; mixed method; knowledge translation; injury prevention



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Background

- Responses to some of the post-intervention interview questions piqued my interest:
 - *“How would you describe your recovery from the concussion?”*
 - *“Describe how you felt returning to sport after the concussion”*



Background



I would say that I changed the way I played for a while because the fear of having to go through a concussion again [...] Even when we were in gym class at school, I remember someone accidentally kicked a ball right at the back of my head and I started freaking out.

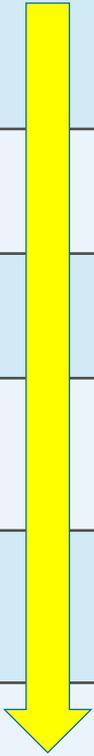
Background



I wasn't taking any headers when I first returned to soccer after my concussion. I was just trying to take the ball off of my chest and put it down to my feet [...] as soon as someone would come close to me I would take a little extra step to be out of the way.

Return to Sport steps

Stage	Aim	Goal of each stage
1	Symptom-limited activity	Gradual re-introduction of work/school activities
2	Light aerobic exercise	Increase heart rate
3	Sport-specific exercise	Add movement
4	Non-contact training drills	Exercise, coordination and increased thinking
5	Full-contact practice	Restore confidence and assess functional skills by coaching staff
6	Return to sport	



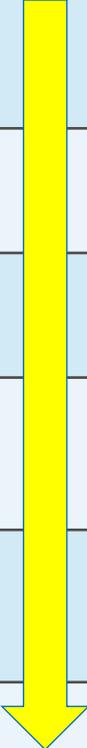
Adapted from McCrory et al. (2017) *British Journal of Sports Medicine*

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Psychosocial Aspects of RTS

Are athletes psychologically ready for sport following a concussion?

Jeffrey G Caron,¹ Gordon A Bloom,¹ Leslie W Podlog²

Sport-related concussions have garnered increasing attention in recent years. Part of making sport safer at all levels of competition involves ensuring that concussions are properly managed. Graduated return to play (RTP)¹ has been a widely implemented strategy to assist with concussion management. RTP is a six-stage process managed by health professionals

of athletes' ability to return to preinjury performance levels following musculoskeletal injury.

Concussed athletes also experience psychological concerns when returning to sport, possibly due to uncertain recovery times, symptoms associated with concussion (headaches, nausea and concentration difficulties), as well as growing aware-

secondary injury.^{3 4} Studying whether similar outcomes are apparent among formerly concussed athletes is both timely and necessary. To move this line of research forward, there is a need to determine (1) the key components of psychological readiness among concussed athletes, (2) whether concussed athletes receiving medical clearance to return report being psychologically underprepared and (3) the implications of psychological readiness on RTP outcomes. With regard to the implications of psychological readiness, prospective studies could also investigate whether psychological intervention is warranted among formerly concussed athletes.



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Psychosocial Aspects of RTS

Journal Pre-proof



Dr. Jacqueline van Ierssel, PT, PhD

Which psychosocial factors are associated with return to sport following concussion? A systematic review

Jacqueline van Ierssel , Kaleigh Ferdinand Pennock ,
Margaret Sampson , Roger Zemek , Jeffrey G. Caron

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Reference: JSHS 777



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Psychosocial Aspects of RTS

Key findings:

- **Fear (5/14)**: Recurrent concussion, of returning to sport, of losing playing status
- **Emotional factors**: Depression (6/14), anxiety and perceived stress (5/14), mental health and mood (3/14)
- **Contextual factors**: Social support (3/14), internal and external pressures (4/14), sense of identity (1/14).

Exploring student-athletes' perceptions of psychological readiness to return to sport following a concussion

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Table 2*Participant characteristics*

Athlete (M/F)	Sex	Sport	Age (years)	Number of Diagnosed Concussions	Concussion Duration (weeks)	Return to Sport Outcome
1	F	Ringette	19	1	6	Same season
2	F	Basketball	19	2	9	Next season
3	M	American Football	19	5	104	Forced retirement
4	M	Ice hockey	23	3	30	Next season
5	M	Basketball	18	2	16	Next season
6	M	Ice hockey	18	4	6	Same season
7	F	Cycling	24	1	104 (ongoing)	Forced retirement
8	M	Swimming	18	7	8	Same season
9	M	Ice hockey	25	5	14	Same season
10	F	Synchronized skating	24	1	6	Same season
11	F	Artistic swimming	21	2	8	Same season
12	F	Sailing	25	1	30	Next season

Key Findings

Theme	Description
Case-by-Case (11/12)	<p>Athletes mentioned that only they knew for certain when they were mentally ready to return. They felt that readiness was <u>highly individualized, and situation/context dependent</u>.</p> <p>Athletes described being frustrated that:</p> <ul style="list-style-type: none">• They “passed” the return to sport protocol and did not feel ready• Readiness could only truly be determined once they were in a game

Key Findings

Theme	Description
Confidence (12/12)	Athletes were confident they were ready to return to sport when they could: <ul style="list-style-type: none">• Balance social, academic, and athletic roles• No longer experiencing concussion symptoms• Believed they wouldn't get hurt again• Able to handle the strains of sport• Re-achieve their sport-related skills and fitness

Key Findings

Theme	Description
Fear (12/12)	Athletes detailed their fears about returning to sport <u>after receiving medical clearance</u> , which adversely impacted their perceived readiness: <ul style="list-style-type: none">• Getting hurt again• Experiencing a setback• Concerns about their long-term brain health• Judgments of others

Take Home Messages

- Our research suggests that “clearing” the RTS steps does not necessarily mean that athletes will feel ready to return
- Sport teams should endeavour to create a psychologically safe environment that promotes:
 - An appreciation about the invisible nature of concussion; that physical and psychological readiness following concussion do not necessarily happen simultaneously
 - Honesty among concussed athletes about their feelings of readiness
 - Support from teammates and coaches about athletes’ RTS decision/timing

Thank you!



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