

# On-field Management and Return-to-Play in Concussed Children are Lacking

## **On-field management and return-to-play in sports-related concussion in children: Are children managed appropriately?**

Haran HP., Bressan S., Oakley E., Davis GA., Anderson V., Babl FE. Journal of Science and Medicine in Sport. Epub ahead of print. <http://www.sciencedirect.com/science/article/pii/S1440244015000535>

*Take Home Message: Only 58% of concussed children were managed according to recommended guidelines and 13% returned to play while symptomatic. Additionally, 93% of parents and 96% of players were unaware of their organization's return-to-play guidelines following a concussion.*

Sixty-five percent of all sport-related head injuries presenting to emergency departments are children ages 5 to 18 years. Children who return to play while still recovering from a concussion have an increased risk of recurrent injury and related complications. It remains unclear if players and parents are knowledgeable about the general or sport-specific guidelines for concussion management as well as if these guidelines are being deployed in youth sports. Therefore, the authors assessed parent and player awareness of return-to-play guidelines as well as parent and player compliance with on-field management and return-to-play guidelines. The authors collected data from 93 children (5-18 years) who presented with a sport-related concussion at a pediatric emergency department at the Royal Children's Hospital Melbourne. Data were collected between May 2013 and November 2013 and included both organized and unorganized sports. The hospital provided all families with a return-to-sports factsheet that outlined a graduated return-to-play protocol. The research team followed up with the parents and players between 3 weeks and 3 months after the visit to the emergency department. Forty-two percent of children in an organized sport were not managed properly immediately following the concussion:

- 19% were not removed from play
- 27% were not assessed by qualified personnel
- 29% were allowed to return to play on the same day

- 8% returned to play within 30 minutes

During the follow-up calls, 65 out of 85 children reported experiencing post-concussive symptoms. None of the patients followed the full return-to-play progression. Seventy percent followed at least two steps within the step-wise return-to-play progression. Twenty-nine percent sought medical clearance before return to play; however, 15% returned to play while still symptomatic. Parents reported that prior to this study 48% knew some concussion information; however, 93% of parents and 96% of players involved in organized sport were unaware of concussion return-to-play guidelines from their own organization.

This study highlights that while many sports adopt concussion guidelines they often inadequately implement or explain the guidelines to parents and players. This study also illustrates alarming deficiencies in the acute management of a concussion; including, not immediately removing the athlete from play, allowing the athlete to return to play on the same day, and not being assessed by qualified personnel. The compliance with return-to-play progression was also poor, while almost 75% of the players completed some part of the return-to-play progression it is evident that only completing 2 steps is not sufficient since 15% returned to play while still symptomatic. These practices potentially expose children to a greater risk of further brain injury. Sports medicine professionals should offer talks to their local youth leagues about recognizing and managing a concussion so that parents, coaches, and players can be better informed. These findings are similar to a study in the United States where parents of 5-15 year-old athletes lacked knowledge in regards to concussion definition, mechanisms, and signs/symptoms (common content in the [CDC Heads-Up](#); Mannings et al., 2014). Sports associations need to improve the transfer of information about the best practice of on-field management and return to play progression plan following a head injury.

*Questions for Discussion: How can we improve our concussion education program? Would verbal communication or concussion workshops for parents, coaches, and players be achievable?*

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