

This systematic review evaluated the evidence around management of sport-related concussion (SRC) in children and adolescents. The review addressed 8 questions. This research brief focuses on 5 of the 8 questions most relevant to educators.

## 1. What is the 'normal' duration of SRC concussion recovery in children?

- Most children recover from SRC and return to play or school within 4 weeks.
- A significant proportion of children experience concussion-related symptoms beyond 4 weeks after injury.

## 2. What are the predictors of prolonged recovery of concussion in children?

- The authors identified risk factors of persistent post-concussive symptoms as being a female, acute headache, migraine, dizziness, and a history of multiple concussions.

## 3. How long should children with concussion rest?

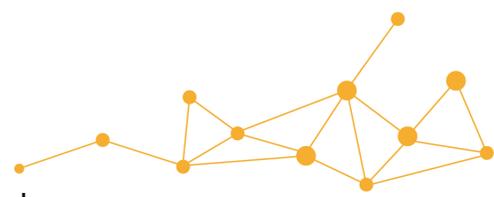
- Mild exercise doesn't seem to prolong symptoms and may shorten the time that symptoms are present.
- Mild exercise may be especially beneficial for adolescent athletes.
- Small amounts of cognitive activity during the acute recovery period don't appear to significantly prolong symptoms.
- But, high levels of cognitive activity may be associated with longer symptom duration.

**Study recommendation:** a brief period of cognitive and physical rest should be followed with a gradual increase of symptom-limited physical and cognitive activities.

## 4. What factors must be considered in 'return to school' following concussion and what strategy or accommodations should be followed?

Five factors were identified that influence return to school following a concussion:

- **Age:** Adolescents usually have more severe post-concussion symptoms than younger children. They typically take longer to recover and to return to school/sports. They are also more concerned about how the concussion will affect them academically than younger children.



- **Symptom load/severity:** Students with more symptoms and more severe symptoms usually take longer to return to school and require a greater number of academic accommodations.
- **School resources:** Schools with concussion policies that include student and parent education about concussion typically follow best-practice guidelines for concussion management. These schools usually provide more accommodations and a greater variety of accommodations to students following concussions. They are also more likely to form concussion management teams and have students and parents who are more knowledgeable about concussion.
- **Medical follow-up after injury:** Students who receive medical follow-up after assessment in an Emergency Department are more likely to receive academic accommodations upon return to school following a concussion.
- **Challenging subjects:** Students returning to school after a concussion have the most difficulty with math, followed by reading/language, arts, science, and social studies.

The majority of students require only a few days off of school, usually 2–5 days. But, some evidence suggests that many students return prematurely, resulting in a worsening or recurrence of symptoms.

**Study recommendation:** all schools are encouraged to have a concussion policy and should offer appropriate academic accommodations and support to students recovering from sport-related concussion.

## 5. When should children with concussion return to sport (RTSp)?

**Study recommendation:** children and adolescents should not RTSp until they have successfully returned to school, however introducing physical activity based on limiting symptoms, is appropriate.

### Conclusion:

The number of studies specific to children is limited, but this review represents the best available evidence on management of sport-related concussion in children and adolescents.

### Reference:

Davis, G. A., Anderson, V., Babl, F. E., Gioia, G. A., Giza, C. C., Meehan, W., . . . Zemek, R. (2017). What is the difference in concussion management in children as compared with adults? A systematic review. *Br J Sports Med*. doi:10.1136/bjsports-2016-097415

