

## New Updates on Concussions in Girls and Menstrual Patterns

A concussion is a type of traumatic brain injury that can be caused by a bump, blow, or jolt to the head, or by a hit to the body that causes the head and brain to move rapidly back and forth. Many of these injuries are not reported to a health care clinician, but it is estimated that 1.1 million to 1.7 million sports- and recreation-related concussions occur each year in the United States. Concussions represent approximately 8.9% of all high school athletic injuries and are more common in girls compared with boys. Further, girls who experience a concussion are more likely to report severe symptoms and take longer to recover.

Concussions commonly lead to certain signs and symptoms. Concussion signs include that a child cannot recall events before or after the injury or that he or she appears dazed or stunned. The child may answer questions slowly or show mood or personality changes. Children may also report concussion symptoms, which can include having a headache or a feeling of "pressure" in the head. Other symptoms include nausea or vomiting, balance problems, or dizziness. A child's vision may be affected, and he or she may have double or blurry vision. Children with concussions may be bothered by light or noise, or describe feeling foggy, confused, or just "not right."

The first step for caring for a child who may have had a concussion is seeking an initial evaluation, which may happen in a clinical or emergency department depending on the child's signs and symptoms. The treatment of a child who had a concussion is mostly focused supportive care, brief rest followed by returning to activities as tolerated, and a supervised step-care return to sports-related activities.

A new study published in *JAMA Pediatrics* evaluated females aged 12 to 21 years in whom a concussion was diagnosed. The researchers did a follow-up 4 months after the head injury and found that approximately a quarter of patients who had a concussion experienced 2 or more abnormal menstrual periods. Compared with females who had sustained a nonhead injury, patients who had a concussion were more than 5 times as likely to have had more than 1 abnormal menstrual cycle. These findings suggest that brain injuries, such as a concussion, may affect the hormonal processes involving estrogen and progesterone that are important in maintaining a regular menstrual cycle and female development via puberty and bone density. The investigators concluded that young women are at an increased risk for abnormal menstrual patterns after having a concussion, and that menstrual patterns should be monitored after a concussion.

If your daughter has a concussion:

- Ensure that she gets both physical and cognitive rest until her symptoms and signs have gone away.
- Monitor to see if she continues to have menstrual cycles.
- See your pediatrician if you are concerned about her recovery.

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### FOR MORE INFORMATION

Centers for Disease Control and Prevention

[https://www.cdc.gov/headsup/basics/concussion\\_what.html](https://www.cdc.gov/headsup/basics/concussion_what.html)

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