Bell ringers: Concussion problems in youth football players

Concussion has become an important topic in sports news and research. While researchers are studying the mental, physical, and emotional effects of concussion within professional, college, and high school athletes; the negative effects of concussion on youth athletes are not fully understood. About 60 million youth participate in organized sports yearly, with nearly half of these having a sport-related concussion before high school. Rates of youth concussion are rising, making concussion a large health risk for athletes of all ages.

Adolescence is an important period in brain development. Researchers once thought that youth athletes held better chances of recovery from concussion, due to the young brain's ability to quickly bounce back. While most youth recover from concussion within two weeks, about 10% experience symptoms for longer. Children may have any number of mental, physical, or behavioral problems following concussion (e.g., memory, dizziness, irritability).

Because concussion is complicated, there are differences in risk factors and symptoms, making it difficult to study in younger populations. Researchers are unsure whether current concussion risk and treatment is similar for younger athletes compared to older athletes. Previous studies have found specific risk factors for youth athletes, including body mass index (BMI), age, playing position, and years playing a sport or activity. In this study, the authors looked at mental, behavioral, and psychological factors in concussion risk for youth athletes.

Thirty-one parent-child pairs were evaluated for the child's cognitive (mental), emotional, and academic abilities. The youth athletes were males 8-13 years old and playing tackle football. This study examined cognitive and psychological differences between children who had a history of concussion (HOC; 26%) and those without (74%). Results showed no major differences in cognitive skills between youth athletes had a HOC and those without. This suggests that children with a HOC had fully recovered from injury. The authors then looked at descriptive information about the child to look for common patterns.

There were four important points: first, parents described their child's symptoms terms similar to adult concussions. For example, common symptom descriptions included "dizziness" and "headache" following concussion. Yet only about half of the parents reported getting medical care for their child's symptoms. This is concerning because it suggests that parents don't always use medical professionals when choosing if further treatment is needed. Second, athletes in positions exposed to repeated tackling were at a greater risk of getting a concussion; while BMI, age, and years of sport exposure were unrelated. Third, some parents reported cognitive and physical symptoms in their child even without problems on cognitive testing. This suggests that testing doesn't always catch changes that parents can see, or that parents may be overly sensitive to changes in their child following concussion. Lastly, while football is thought to be high-risk for concussions, many of the youth athletes experienced their concussion during other high-impact activities (e.g., sailing, recreational basketball, dirt biking) outside of organized sports.

The youth brain may be at risk to long-term mental changes following concussion, given its developmental state. As youth involvement in sports continues to increase, it is important for athletes, parents, and coaches to be educated about concussion, baseline testing/assessment, and concussion symptoms. Further research studies are needed to explain the benefits and risks to youth involvement in sports.

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