

RESEARCH MATTERS

CONCUSSION IN EARLY CHILDHOOD

ABOUT THIS ARTICLE

Due to the development of motor and cognitive skills during childhood, young children are at high risk for traumatic brain injuries (TBI), including mild traumatic brain injury (mTBI) or concussion. Although much research focuses on school-age children and adults, less is known about management of concussions in younger children and their longer-term outcomes.

This article reviews the current knowledge regarding early childhood concussions, focusing on children from birth to age 8. The authors examine the prevalence, causes, clinical signs, and outcomes associated with concussions in this age group, as well as the gaps in research, diagnosis, and management compared to older children and adults.

The unique challenges of diagnosing and treating concussions in infants, toddlers, and preschoolers are discussed, highlighting the need for increased research to improve identification and develop age-appropriate care.

METHODS

Using data from population-based studies, pediatric emergency department registries, and clinical records from New Zealand, Australia, Canada, and the United States, the authors evaluate frequency, causes, symptoms, and outcomes, referencing international studies and concussion management guidelines. Their review highlights the lack of specific evidence and diagnostic tools for concussions in young children.

KEY FINDINGS

For children under aged 0-5 brain injuries are common. Falls are the leading cause due to the mobility and exploratory behaviors of young children. Unlike older children, young children with concussions may not display typical symptoms like headaches or loss of consciousness. Rather, they might show signs such as irritability, altered feeding habits, sleep issues, and/or increased clinginess.

Signs of early childhood concussions often present as behavioral and nonverbal symptoms. These may include cognitive changes (e.g., increased distraction), physical symptoms (e.g., appetite changes, stomachaches), mood shifts (e.g., fussiness or irritability), and increased comfort-seeking (e.g., staying close to caregivers).

Concussions in young children can have lasting effects on complex thinking, emotions, behavior, and academic development. Despite this, standardized diagnostic tools and guidelines for assessing concussions in very young children are lacking, accentuating the need for tailored diagnostic approaches. Increasing research and developing age-specific care protocols could lead to better outcomes for children who experience brain injury at an early age.

STUDY IMPLICATIONS

Although there is a high prevalence of brain injuries in young children, there is still a significant gap in research and standardized diagnostic tools compared to older children and adults. This gap presents challenges in accurately diagnosing and treating concussions in infants, toddlers, and preschoolers.

Findings from this article have relevance for educators, healthcare providers, and caregivers. There is a crucial need to improve identification of concussions in early childhood, to educate families and healthcare providers on how to monitor recovery and to create age-appropriate return-to-activities guidelines. Better recognition and treatment will help us understand how common concussions are and their effects, leading to better prevention and care for young children.

REFERENCE

Beauchamp, M. H., Anderson, V., Ewing-Cobbs, L., Haarbauer-Krupa, J., McKinlay, A., Wade, S. L., & Suskauer, S. J. (2024). Early childhood concussion. *Pediatrics*, *154*(5), e2023065484.

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