**Comprehensive Pediatric and Adolescent Concussion Management in the Primary Care Setting**

Tracy Sheets, BSN, RN, PNP-DNP Student

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**Introduction**

- An estimated 1.6-3.8 million sports and recreation-related traumatic brain injuries (TBI) occur every year in the United States.1
- Emergency department visits by children and adolescents for sport and recreation-related TBIs increased by ~62% and all TBI visits increased by ~57% from 2001-2009.1
- Concussions account for 8.9% of all high school athletic injuries.2
- Half of all concussions in 11- to 15-year-olds are not sport-related.3
- PCPs may lack skills and resources to provide care to children and adolescents with concussion. 4

**Three Primary Objectives**

- Implement standard education and anticipatory guidance at all well child/sports physicals for children 10 years and over.
- Design and implement an evidence-based algorithm including standardized clinical assessment tools.
- Implement a neurocognitive testing program for baseline and post-injury assessments.

**Methods**

- IRB exemption was obtained
- Surveys to providers before and after education and implementation
- Preventive education initiated at physicals
- Algorithm for concussion management in children was designed and implemented
- Standardized clinical assessment tools initiated
- Baseline and post-injury neurocognitive testing using the Immediate Post-Concussion Assessment and Cognitive Testing (ImPACT®)

**Evaluation**

- 11 baseline and 1 post-injury ImPACT® assessment were completed
- Preventive education for all children ≥ 10 yrs at well child exams beginning 11/1/2013
- Pre-project survey shows 100% providers felt an algorithm would be helpful and 5/6 providers plan to continue using algorithm
- 3/6 providers did not use a tool for assessment before the project and 5/6 will continue using the tools
- All providers felt ImPACT® was helpful

**Results**

- Algorithm was helpful for concussion management
- Post-Project Survey
  - Plan to continue using SCAT 3 and ChildSCAT
  - Will continue to use algorithm for managing children with concussion

**Practice Implications**

- Prevention and early recognition of concussion
- Follows evidence-based practice to optimize patient outcomes
- Allows the child to remain in the care of their primary care provider, when possible
- Increases provider comfort in caring for patients with concussion

**Conclusions**

- Anticipatory guidance should include concussion education at annual and pre-participation physicals for prevention and early recognition of concussion.
- Continued use of the algorithm is needed for data to confirm effectiveness.
- Overall, providers liked to use an algorithm and tools for management of the child with concussion.
- Implementing a comprehensive pediatric concussion management program can improve and standardize care for the child or adolescent diagnosed with concussion.

**References**


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