

SPARCS Database Analysis of Hip Reconstruction Incidence in Pediatric Cerebral Palsy Post-2014 AACPDM Guidelines

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INTRODUCTION: Children with Cerebral Palsy (CP), a neuromuscular disorder that often leads to hip subluxation due to muscle imbalances and spasticity, should have regular radiographic hip surveillance. Access to screening and surgical care for CP patients is influenced by socioeconomic factors, geographic location, and the availability of specialized healthcare services. We aimed to examine the effectiveness of the American Academy for Cerebral Palsy and Developmental Medicine (AACPDM) hip screening guidelines implemented in 2014 using hip reconstruction as a proxy for screening.

METHODS: A retrospective analysis was conducted to examine hip reconstruction procedure incidence for patients with CP included in the New York State Department of Health, Statewide Planning and Research Cooperative System (SPARCS) database from 2010-2019.

RESULTS:

The total number of hip reconstruction procedures performed increased by 16.2% after 2014. The number of procedures in the 12-18 age group experienced the greatest increase, followed by the 6-11 age group, and the <6 age group experienced a decrease in procedure incidence. The number of White, Asian, and Hispanic patients increased while the number of Black patients decreased. The median length of stay remained stable. The mean SDI for the periods before and after the guidelines did not change significantly. However, areas with high SDI may have had greater increases than areas with low SDI. Surgeries were increasingly covered by state and federal insurance, with a lesser proportion of self-pay and similar proportion of private insurers. The number of hip reconstruction procedures in New York City increased significantly, while non-NYC regions saw no change in procedure incidence. More femoral osteotomies were performed compared to open reduction-only procedures.

DISCUSSION AND CONCLUSION:

The implementation of the 2014 AACPDM hip screening guidelines is associated with an increase in hip-related surgical procedures among pediatric CP patients in New York State, with significant increases observed in older children, non-Black patients, publicly insured patients, and surgeries at New York City hospitals. These findings indicate that screening and treatment were augmented by the guidelines, but access to evidence-based care may not be equal across all children.