

Tracking the changes of hand deformity in children with Cerebral Palsy

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Cerebral Palsy (CP) is one of the most common and recognised physical disabilities in the world. Children with CP have individual and varied movement abilities due to the location of the damage of movement control centres in the brain. They often have problems with muscle tightness, lack of coordination and unstable joints. These problems combined with the child's environment, occupation and growth can lead to deformities of the hand. It is thought that hand deformities change over a child's life time and often gets worse as they get older. There is currently limited evidence regarding the changes of hand deformity in children with CP.

In 2012, Melissa Georgiades (Occupational Therapist) as part of her honours project through Edith Cowan University, worked in collaboration with Occupational Therapists and researchers from Princess Margaret Hospital (PMH) and The Centre for Cerebral Palsy (TCCP). Video footage collected at PMH and TCCP since 1990 was collated and participants were identified for inclusion that had at least three videos taken at least six months apart. The retrospective video footage of 26 cases was viewed by Melissa and two experienced Occupational Therapists, and then hand position was classified. The changes in classification of hand position were tracked over time to determine if there was a progression of deformity over time.

This research is the first to describe changes in hand deformity over time in children with CP. It demonstrates that hand deformity in children with spastic CP usually either remains unchanged or progresses to more wrist flexed postures. The research is also a guide for future studies considering prospective research design, larger sample size and routine time points for data collection. This research also adds to the body of evidence to guide practice, reinforcing that change can and does happen over time, and that monitoring changes in hand deformity is essential given the lifelong presentation of CP.