

## **CEREBRAL PALSY**

### **The importance of monitoring hips in Cerebral Palsy**

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The term 'cerebral palsy' (CP) refers to a range of clinical symptoms resulting from a lesions or abnormalities in the brain arising early in life- even as early as a foetus. CP is the most common cause of physical disability affecting children in developed countries. The prevalence rate of CP in developed countries is very similar around the world. It has remained stable over the last 30 years at 2.0-2.5 per 1000 live births - this equates to approximately 1 in 500 children having the condition. In Australia, a child is born with CP every 15 hours.

For an individual with CP, the original brain lesion that caused their CP remains the same- it does not get worse as children grow up. But CP practically affects posture and movement.

Unfortunately even though the actual original brain lesion doesn't get worse, children usually get progressively worse musculoskeletal (muscle and bone) function as they get older and grow into adulthood.

This is one of the great practical challenges in CP- maintaining and even trying to improve musculoskeletal function. For a child with CP and their family, it means trying to help that child become as mobile as possible as well as achieving the best function they can in their arms, legs and other musculoskeletal areas of the body. Improved physical mobility and function reduces the risk of problems linked with poor mobility such as obesity, skin ulcers, pain and bony weakness. As well as the physical health reasons, keeping or improving function is critical to help build a child's confidence and enhance emotional and mental well-being.

The hip joint is a frequent site of musculoskeletal problems, as the head of the femur (thigh bone) can progressively become displaced (shifted from its normal place) or even actually fully dislocated from the acetabulum (hip socket). The reported risk of hip displacement in children with CP varies greatly in different research studies (from 2% to 75% of all children with CP), but most studies show it to be a significant problem. It's an even greater problem for those children with CP who cannot walk.

The mechanism causing hip displacement in children with CP is not fully understood. As well the natural history of hip displacement in children with CP is also not fully understood yet. The hip joint in children with CP is thought to be normal at birth. In children with CP, hip displacement appears to be associated with muscle imbalance around the hip (muscles pulling unequally), and changes to the shape of the femur and acetabulum. As well, if a child can't stand, then the hip doesn't get weight put on it. Leg joints need weight on them if they are to operate properly.

Progressive displacement towards dislocation is 'silent', which means it often goes undetected until pain in the hip becomes the first sign. Unfortunately this can be too late and many of the management options are then no longer available because of the advanced state of the hip displacement or dislocation. That is, if the hip joint problem is identified too late

more complex surgery is required, with less optimal outcomes or multiple surgeries required to manage the problem.

Hip dislocation impacts on care and comfort for the child, as well as function. Dislocation may cause excessive pain and limit free movement at the joint. It can cause fixed postures, and problems with sitting and standing. It may lead to skin ulcers and even cause the body to become asymmetrical in both appearance and function.

Routine hip surveillance (monitoring) for children with CP has been conducted in all states of Australia since the since 1997. In 2011 the 'Consensus Statement on Hip Surveillance for Children with Cerebral Palsy: Australian Standards of Care' was developed. This is a practical guide developed by CP experts and clinicians, for use by clinicians to help them routinely include appropriate hip surveillance into their services. It is designed for the education and information of all health professionals involved in care of children with CP. The aim of the Consensus Statement is to allow for early identification of hip problems so that timely management can be implemented to prevent further progressive hip displacement or dislocation. It does not contain all of the answers, but it is an important step towards consistent care for hips in children with CP.

Hip surveillance involves hip X-Rays. Sometimes parents do like to know about how much radiation children receive with these X-Rays. These X-Rays are not done frequently, but are essential because clinical assessment alone is usually not enough to pick up hip displacement. The benefit of preventing the serious consequences of hip displacement or dislocation in CP is usually greater than any potential risk of X-Ray exposure.

Hip surveillance helps the clinicians and parents understand any potential risks to mobility for the child. It assists clinicians and parents to plan for ongoing hip management by providing reliable information on which to base hip management choices.

CP is a complex disorder with many issues for the child, parents and clinicians. Hip surveillance is an important part of good care in CP. Hip surveillance and the associated treatments can significantly enhance outcomes for children with CP.

The Consensus Statement on Hip Surveillance for Children with Cerebral Palsy: Australian Standards of Care has been endorsed by the Australian Academy of Cerebral Palsy and Developmental Medicine. Access to this document and more information can be obtained at <http://www.ausacpdm.org.au> . More information about cerebral palsy can be found at <http://www.cerebralpalsy.org.au> .