# A consensus discussion on the seated postural management of wind sweeping deformity (WS) in complex neuromotor disorder.

**Claire Higgins,** Physiotherapist Greenwich Children's Integrated Therapies Service, London

## **Summary:**

Clinical case studies will be presented to facilitate discussion around the conservative postural management of windswept hip deformity (WS) in seating. It is documented that WS is a 'severe problem that is difficult to treat, and it impairs the child's standing ability and interferes with comfort when lying and sitting'.

## Aims and objectives:

In the context of seating prescription participants will be able to:

- Acquire a working knowledge of the national CPIPs hip surveillance programme and how we monitor hip subluxation
- Acquire clinical perspective on the reality of WS as a progressive postural shift
- Define the current core clinical management approaches that support WS
- Distinguish between management approaches in the context of fixed or flexible postural adaptations
- Advocate the importance of multidisciplinary assessment in a unified approach to WS management over time
- Identify how co-existing clinical needs, competing demands and prescription within a framework of finite/limited resources exist as barriers to responsive management

# **Background:**

Children and young people (CYP) with complex neuromotor disorder are at risk of developing muscle contractures, WS, hip dislocation and scoliosis. This presents secondary to their neurological diagnosis as a result of spasticity (stiffness), muscle weakness, impaired selective motor control and significant difficulty working against the effects of gravity. Severity of motor disorder is associated with an increase in the incidence of WS and hip subluxation, which presents in most cases at Gross Motor function classification level 5 to some degree.

A national clinical consensus initiative, based on the original Swedish model, was developed to provide of framework of paediatric hip joint surveillance. The Cerebral Palsy Integrated pathway (CPIPs) supports Physiotherapists to measure standardised joint ranges from two years of age, offering a longitudinal record of posture and available movement as the CYP grows. Deviations from expected range, alongside accompanying radiological evidence of hip development, are used as markers to signpost for onward orthopaedic intervention and appropriate surgical intervention.

The use of supportive postural equipment is considered to be an integral component of the conservative therapeutic offer in the management of hip, leg, and spine position. The widely understood clinical aim of this intervention is to maintain symmetry for comfort, function, participation and to positively influence the trajectory of posture as the body grows and changes.

Evidence to support the use of postural management in seating as an effective strategy against the progression of WS is sparse. References citing specific approaches can be found in relation to commercial seating company opinion, but there is an identified gap in research to support these.

In addition to a lack of evidence-based guidelines, it is proposed that the reality of seating assessment and prescription for CYP with WS is open to fragmentation. Services that contribute to postural management can be housed in different organisations and locations, operating across separate clinical record systems, and led by clinicians that potentially hold conflicting opinions about the most appropriate course of action. Individual members of the multi-disciplinary team will hold variable skills, experience, and knowledge, each of which can fluctuate in importance to the CYP's unique needs, dependant on the stage of postural change. This fosters a potential situation where WS can be assessed and managed very differently according to geography, resources, and conjecture.

Clinical case studies can offer invaluable insight into the reality of the progression of WS over time and the decisions that are made to 'manage' change. For this breakout session clinical examples will be presented, in conjunction with delegates structured questionnaire feedback, to explore theoretical perspectives against some key practical observations that could be helpful in shaping future thinking and practice. Delegates are encouraged to come with particular CYP in mind so that common themes, challenges, and perceived successes can be shared as a homogenous collective, both from the responses to our questionnaire and to pose additional questions for further exploration.

### **Discussion:**

The vision for the breakout session will be to analyse the progression of WS as observed from the day-to-day perspective of practice in Special schools. There will be exploration of the interdependencies faced when presented with seating assessment and prescription for postural management of WS and these will be discussed in the context of proactive and reactive clinical thinking. As noted, the topic is complex and the session will focus on questions we need to be asking ourselves as practitioners, with the aim of identifying further research avenues to develop this area of practice.

#### References

Gunnar Hägglund, Henrik Lauge-Pedersen, Måns Persson Bunke, and Elisabet **Rodby-Bousquet** (References). 'Windswept hip deformity in children with cerebral palsy: a population-based prospective follow-up', J Child Orthop.Aug; 10(4): 275–279.

Måns Persson-Bunke, Gunnar Hägglund, Henrik Lauge-Pedersen (2006) 'Windswept hip deformity in children with cerebral palsy', Journal of Paediatric Orthopaedics; 15(5):335-8

Endsjo A. Windswept posture: Symptoms and treatment through wheelchair positioning, Permobil Blog. Available at: Windswept Posture: Symptoms and treatment through wheelchair positioning (permobil.com) (Accessed: 12.01.2023)

Porter D, Michael S, Kirkwood C (2008) 'Patterns of postural deformity in non-ambulant people with cerebral palsy: what is the relationship between the direction of scoliosis, direction of pelvic obliquity, direction of windswept hip deformity and side of hip dislocation?', Clinical Rehabilitation; 21(12): 1087–1096.

Ágústsson A, Sveinsson T, Pope P, Rodby-Bousquet E (2021) 'Postural asymmetries and assistive devices used by adults with cerebral palsy in lying, sitting and standing', Frontiers in Neurology; 12: 1-8.

Ágústsson A, Sveinsson T, Pope P, Rodby-Bousquet E (2019) 'Preferred posture in lying and its association with scoliosis and windswept hips in adults with cerebral palsy', Disability and rehabilitation; 41: 3198-3202

Hägglund G, Alriksson-Schmidt A, Lauge-Pedersen H, Rodby-Bousquet E, Wagner P, Westbom L (2014) 'Prevention of dislocation of the hip in children with cerebral palsy 20-year results of a population-based prevention programme', Bone Joint J;2014: 96-B:1546–52

Churchill B. (2020) Optimising Pelvic Stability in Wheelchair Sitting. Spex. Available at: Optimising Pelvic Stability in Wheelchair Sitting | Spex Seating (Accessed 12.01.2023)

Young N, Wright JG, Lam TP, et al. Windswept hip deformity in spastic quadriplegic cerebral palsy. Pediatr Phys Ther. 1998;10:94–100.

SCPE. Prevalence and characteristics of children with cerebral palsy in Europe. Dev Med Child Neurol. 2002;44:633–640

Palisano R, Rosenbaum P, Bartlett D, Livingston M (2007) Gross Motor Classification system, Expanded and revised. Canchild Centre for Childhood Disability research. www.canchild.ca

Physiotherapy for children and young people with spasticity (2014) NICE pathways, National Institute for Health and Care excellence.

Cerebral Palsy Integrated pathway (2014) Origins and Development, Core dataset and clinical assessment, NHS Scotland.

Email: <a href="mailto:claire.higgins1@nhs.net">claire.higgins1@nhs.net</a>