

A Pilot Study to Identify Sensory Integrative Dysfunction in Children with Bilateral Cochlear Implants

Stefanie Kruger^{1,3}, Susanne Smith Roley², Maretha Bekker³

¹*South African Institute for Sensory Integration, Gauteng, South Africa,*

²*Collaborative for Leadership in Ayres Sensory Integration(R), Southern California, USA,* ³*University of Pretoria, Gauteng, South Africa*

Rationale: Vestibular deficits in children with hearing impairments including the surgical impact of cochlear implants (CIs) have been well documented. Koester et al., 2014 found a consistent pattern of vestibular bilateral integration deficits in children from the USA with CIs. The need for further examination of sensory integrative functions in children with CIs during Occupational Therapy assessment and intervention planning was indicated. An additional study on children with CIs in Iran recommended that vestibular and motor evaluations should be prioritised for children with CIs, as well as interventions to improve balance and motor skills. This study provides the opportunity to examine these areas of SID in South African children with CIs.

Objective: To identify a pattern of SID in Children with Bilateral CIs in South Africa.

Method: Data from deidentified records from children 5 years to 8 years 11 months with bilateral CIs was obtained. Results from the Sensory Integration and Praxis Tests (SIPT) have been statistically analysed. Qualitative information from the sensory history and clinical observations have been considered.

Results: Preliminary results in South Africa supported American results. There appears to be a consistent pattern of SID in children with CIs namely Vestibular Bilateral Integration and Sequencing, with significantly depressed post-rotary nystagmus (PRN) scores. SA norms have been applied.

Conclusion: Occupational Therapists working with children with CIs have a crucial role to play in thoroughly evaluating sensory perception and motor skills including vestibular-related functions to design an effective intervention plan in order to facilitate participation and engagement in occupations.