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Selective dorsal rhizotomy as a treatment for spasticity in children in all gross motor functional classification system grades: observational study

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Selective dorsal rhizotomy (SDR) is traditionally viewed as a treatment option for gait disturbance resultant of diplegic cerebral palsy rather than spasticity in non-ambulant children.

Building on our large experience with intrathecal baclofen (ITB) implantation in 300 children over a 15 year period, we present our observed outcomes of SDR in 30 children GMFCS groups II-V. When the outcome of SDR is measured in terms of relief of spasticity rather than gait, SDR equates if not rivals the outcome of ITB (mean Ashworth reductions GMFCS II-2.1, III-2.9, IV-3.28, V-3.42). Additionally, where impaired pre-operatively, upper limb spasticity also improved. 32% had improvements in bladder function.

We advocate SDR in all GMFCS groups, especially groups IV-V. Advantages include equivalent efficacy to ITB without the additional morbidity of infection or catheter related complications, avoidance of both repeated hospital visits for ITB pump refills and replacement of the pump every 7 years. Although we present a limited experience with SDR and further data is being recorded, we advocate SDR, with its low complication rate as a valid alternative to ITB in this sub-group.