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DIFFERENTIAL SOMATOSENSORY EVOKED-RESPONSES IN SPASTIC CEREBRAL-PALSY - FINDINGS AT DORSAL RHIZOTOMY

### Permalink

<https://escholarship.org/uc/item/76h4222h>

### Journal

CLINICAL RESEARCH, 36(1)

### ISSN

0009-9279

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### Publication Date

1988

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Peer reviewed

- DIFFERENTIAL SOMATOSENSORY EVOKED RESPONSES IN SPASTIC CEREBRAL PALSY: FINDINGS AT DORSAL RHIZOTOMY. IT Lott,\*\* MS Kundi,\* LD Cahan,\* D McPherson,\*\* A Starr,\* Divisions of Neurology and Neurosurgery, University of California Irvine, Irvine, CA.

As part of a study into the efficacy of selective lumbar dorsal rhizotomy, we monitored somatosensory evoked potentials (SEPs) preoperatively and 6-7 days after surgery in 16 children. Ages ranged from 2-10 years in 10 males and 6 females. SEPs of upper and lower extremities were monitored at lumbar and cervical root entry zones and at C3, C4 and CZ. 7/16 had abnormal lower extremity cortical SEPs with either absent or severely altered wave forms. By contrast, of the 5 upper extremity SEPs which were carried out in these 7 patients, all were normal at the cortical level. Surprisingly, of the 9 patients with normal SEPs, all were premature. Over 70% of patients with abnormal SEPs were mentally retarded whereas only 23% were mentally retarded with normal SEPs. Following selective lumbar-dorsal rhizotomy in the 9 patients with normal cortical SEPs preoperatively, 3 had absent post-op responses on days 6-7. In addition to measuring cortical SEPs, lumbar root entry (LREs) potentials were also obtained. Of the 15 with normal pre-op LREs, 80% had intact findings postoperatively. We conclude: 1) 30-40% of children in our series with spastic cerebral palsy have a specific dysfunction in the spinal somatosensory pathways and 2) there is a strong correlation between mental retardation and abnormal SEPs in our series.