

**Division of Pediatric Orthopaedics**

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**NEUROMUSCULAR SCOLIOSIS**

Neuromuscular scoliosis includes spinal deformities in children with neurological or muscular diseases. Common conditions associated with this type of scoliosis include cerebral palsy, muscular dystrophy, spinal muscular atrophy, spina bifida and spinal cord trauma. Spinal deformities that result from neuromuscular disorders generally progress more rapidly than idiopathic scoliosis and are more difficult to manage without surgery.

Most children with neuromuscular scoliosis have weakness of the trunk muscles. For children confined to a wheelchair, progression of the curve may affect the ability to be comfortably seated, thereby affecting their quality of life. Seating modifications may help with positioning, but do not correct the underlying scoliosis. Bracing may also provide support for the trunk while the child is seated, but is usually not effective in stopping the progression of the curve over time.

There are various surgical techniques available to address neuromuscular scoliosis. Based on the underlying cause and severity of the spinal deformity, the treatment is individualized to the patient's needs.

In order to optimize outcome, several factors including patient's age, nutritional status current medications, respiratory and cardiac function are evaluated prior to surgical correction of the scoliosis. One surgical option is spinal fusion with instrumentation, which is often recommended in order to prevent progression, preserve ability to sit and improve the quality of the child's life. Ultimately, each patient's individualized need is taken into account when deciding on the appropriate treatment strategy for the underlying spinal deformity.