

### Management options at Cincinnati Children's

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To refer: fax completed referral form to 513-803-1111  
parent calls to schedule 513-636-4726

#### Selective Dorsal Rhizotomy Surgery

Cincinnati Children's is one of only a few pediatric medical centers to specialize in limited-access selective dorsal rhizotomy (SDR) surgery. This procedure is used to significantly reduce lower extremity spasticity in children with cerebral palsy. In most patients, particularly those with spastic diplegia, rhizotomy surgery permanently reduces spasticity and substantially improves motor function (such as sitting, standing, and walking). The procedure does not correct pre-existing muscle contractures or bone deformities; however, it can effectively prevent formation of orthopaedic deformities, thereby potentially reducing the need for muscle/tendon releases or hip reconstructive surgery. SDR does not correct baseline weakness, poor motor control, athetosis, or other motor problems sometimes associated with cerebral palsy.

The limited-access approach has advantages over traditional posterior rhizotomy in that only a small window of bone is created to perform the procedure, whereas traditional rhizotomy involves extensive laminectomies from L2-S1, resulting in a higher rate of postoperative spinal deformities such as kyphosis and scoliosis. In addition, the incision is much smaller, typically 1-1.5 inches, resulting in less postoperative pain/discomfort, less need for narcotic pain medications, and shorter hospital stays.

##### *When to refer your patient:*

Because rhizotomy surgery is irreversible, our team takes great care in selecting which patients will benefit from the procedure. We most often recommend SDR for children who:

- Are 2 years of age or older
- Have a history of prematurity
- Have a diagnosis of spastic diplegia, quadriplegia, or hemiplegia
- Have some form of independent mobility; for example, crawling or walking with or without an assistive device
- Have potential for improvement in functional skills

Patients will be screened:

- Family should be committed to frequent postoperative outpatient therapy for the child
- The child should be motivated and capable of participating in physical therapy 3-5 days/week for the first several months after surgery
- Diagnosis of Familial Spastic Paraplegia is an absolute contraindication

#### Baclofen Pump Therapy

Intrathecal baclofen therapy, known as ITB, is for patients with severe spasticity that is poorly controlled by oral medications. In ITB pump therapy, a small pump placed under the skin of the abdomen continuously infuses baclofen into the intrathecal space that surrounds the spinal cord. This efficient method of baclofen administration allows the drug to directly bathe the affected nerve roots, resulting in immediate, effective spasticity relief. Since baclofen does not have to circulate throughout the body to get to the spinal cord, much smaller amounts of the drug are needed, and side effects such as drowsiness are greatly reduced.

##### *When to refer your patient:*

- Severe spasticity that interferes with function or daily activities
- Severe spasticity or spasms that interfere with patient care or positioning

Patients will be screened:

- Show a positive response to an intrathecal baclofen injection in a standard screening test
- Have sufficient body size to support the pump (generally a weight of at least 28-30 lbs)