



Selective Dorsal Lumbar Rhizotomy

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Selective Dorsal Lumbar Rhizotomy (SDLR)

Selective Dorsal Lumbar Rhizotomy is a neurosurgical procedure developed to reduce abnormal muscle tone in patients with spasticity by selectively cutting the nerves which cause the spasticity. The selective dorsal lumbar rhizotomy procedure, which is performed twice a month at The Children's Hospital of Alabama, is primarily for patients with cerebral palsy.

Is your child a candidate for SDLR?

The ideal candidate for selective dorsal lumbar rhizotomy has spastic diplegia cerebral palsy and good passive range of motion. The spasticity limits function. The child is motivated to move and is able to follow directions and participate actively in therapy. The ideal candidate is over 2-3 years old and has a supportive family who will be committed to the intensive therapy program required following SDLR.

(Continued inside)

Pre-Operative Evaluation

Children who are candidates for the rhizotomy surgery are referred to the spasticity clinic by a physical therapist, an orthopedic surgeon or a pediatrician. A screening evaluation is completed in the spasticity clinic to determine if your child is a candidate for SDLR surgery. Your child will be seen by the pediatric neurosurgeon, orthopedic surgeon, rehabilitation medicine physician and physical therapist. Once the patient is selected for surgery, certain tests and procedures will need to be scheduled prior to the surgery date.



Pre-Operative Tests and Procedures

Prior to surgery, several tests or evaluations will need to be performed. An MRI (Magnetic Resonance Imaging) scan of the head and spine will be necessary to rule out any type of structural defect that may cause spasticity. Since the scan is an involved study, your child may need to be sedated.

Physical and Occupational Therapy are an integral part of the rhizotomy team. A time will be scheduled for a complete evaluation with the physical and occupational therapist, who will evaluate gross motor and fine motor function. Your child will be given a pre-operative exercise program to assist in strengthening his or her muscles prior to surgery. Optimally, this should occur at least six weeks prior to the surgery.

A pre-operative gait analysis will also be scheduled. Gait analysis is an objective assessment of your child's walking, using video cameras and computers. This assessment includes a physical therapy evaluation of gait, filming of your child walking and recording of muscle activity. It is performed before the rhizotomy procedure and again one year after the rhizotomy surgery to document improvement in gait.

Once these studies and consultations are scheduled (or completed), a surgical date will be set.



Hospitalization

Children undergoing the rhizotomy procedure are admitted to the hospital on the day of surgery, usually on a Wednesday. The average length of stay is approximately 3-5 days. The surgical procedure takes approximately 3-4 hours.

Your child will need to stay in the hospital 24-48 hours in the Pediatric Intensive Care Unit following surgery for monitoring and pain management. Pain will be managed by the insertion of an epidural catheter. Medication will be administered through the catheter to assist with pain control.

Your child will need to remain flat in bed for 3-5 days after the surgery. Your child will be seen daily by Physical Therapy/Occupational Therapy (PT/OT) beginning on the third day after surgery and every day until discharge. The PT/OT team will begin strengthening exercises and assist your child and you with positioning. Once the covering of the spinal cord has healed sufficiently (approximately 5 days), your child may start moving around. The therapist will adapt any equipment your child will need for easing movement and mobility. PT/OT will work closely with you, your therapists and your school system to provide the best possible follow-up care for your child.

Therapy

Reduction of spasticity following a Selective Dorsal Lumbar Rhizotomy is dramatic and requires intensive therapy for your child to achieve his or her maximal level of improvement. A strong commitment to the therapy needs of your child is necessary to ensure an optimal outcome. PT/OT will need to see your child twice a day for 2 weeks, then 3-5 times per week for the first 3-6 months following surgery. During that time, therapists will work intensely to strengthen muscles and improve daily function.



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