

## Selective Dorsal Rhizotomy (SDR) at Alder Hey Children's Hospital

Spasticity is a condition that affects the muscles, making them more stiff and rigid than usual, It may be accompanied by other problems such as uncontrolled movements, spasms and pain.

SDR is a Neurosurgical technique used to treat spasticity in the lower limbs. This is a complex procedure. It requires a pre and post-operative programme of exercise and activity, monitored by a physiotherapist.

The SDR surgery is now commissioned by NHS England; however there is still a selection criteria to follow before selection.

**Miss Pettorini is the Neurosurgeon who performs the Selective Dorsal Rhizotomy at Alder Hey.**

### ***What are the aims of SDR surgery?***

- To reduce spasticity
- To improve function
- To improve walking (in those who can)
- To increase range of motion and improve body alignment
- To improve ease of cares and dressing



### ***What does the procedure involve?***

This procedure aims to tackle the cause rather than the effects of spasticity. Muscles send information along sensory nerve fibres to the spinal cord to control their own tone and in neighbouring muscles. This is usually a helpful reflex. The brain informs the spinal cord how much tone or tightness each muscle should have. However, in cerebral palsy this communication route from the brain to the spinal cord does not function effectively. It is this loss of communication which contributes to spasticity. The muscles and sensory nerves then become over-active, and the reflexes become too strong and unhelpful. Identifying the correct sensory nerve fibres and 'cutting' them will consequently reduce muscle tone and tightness.

During the surgical procedure, the sensory nerve roots are identified using neurophysiological monitoring. The ones that generate unusual electrical activity are considered to be those which contribute to too much muscle tone. The remaining nerves which carry the correct messages will remain in-tact.

### ***How long does the surgery take?***

The patient will spend approximately 3-4 hours in the theatre department.

### ***What care will my child need after the operation?***

Provision of physiotherapy will vary for each child. It is important that an exercise programme is in place prior to the procedure, and advice will be given by the child's physiotherapist regarding which exercises to practise in the post-operative period. Participation in an activity or structured exercise is necessary each day following the operation. Patients may be expected to be an inpatient in the hospital to up to 3 weeks for physiotherapy and hydrotherapy.

### **Meet the Team:**

The spasticity service offered at Alder Hey is excellent and they have a very hard working, highly dedicated team that will go above and beyond for all their patients needs, ensuring they have the best patient/family experience possible. The team are always training and working hard to ensure the best possible care is given.

**If you are interested in learning more about SDR at Alder Hey Children's Hospital, please contact Natasha Jacobsen, SDR coordinator on 0151 252 5025.**