SDR Post-Operative Information for Physiotherapists

Pre-Operative Discussions

It is recommended that the local physiotherapy service have sound agreement and clarity with the child and family being put forward for SDR on what physiotherapy provision they can expect post operatively. If the child is accepted for the procedure it is recommended that the physiotherapist, child and family begin a structured home exercise programme based on the activities they will be asked to practise during their 3 week course of rehab (set out below).

The Post-Operative Schedule in Leeds

The SDR procedure usually takes around 3-4 hours. Post operatively the child will be on HDU with an epidural and 4 hourly position changes. On day 2 they will be transferred to the paediatric neuroscience ward where they will remain on bed rest for 2 days with close monitoring of their pain and adequate analgesia provided.

On day 4 the physiotherapist will teach parents how to move and handle their child into and out of a wheel chair to facilitate transportation to the rehab department. They will usually be discharged on day 4 post-operatively, staying in accommodation locally. They will return for daily weekday physiotherapy for 3 weeks. Once in the department the child and their family will be taught a basic strengthening programme.

The child and their family will remain with the rehab team for 3 weeks and receive daily physiotherapy input.

Inpatient Physiotherapy Programme

- Work in four point and high kneeling
- Facilitated transfers
- Work on weight transference and side stepping
- Targeted strengthening
- Gait re-education
- Education regarding home exercise programme.

Normal movement patterns will be facilitated and encouraged in all activities. Adjuncts to therapy may also be used such as treadmill training and multi-gym equipment where appropriate.

Post-operative precautions for the first 6 weeks include:

1. No passive hip flexion past 90 degrees. Patient can perform this activity to own tolerance.
2. No passive trunk rotation/lateral flexion into extreme ranges. The patient can perform this activity to own tolerance.
3. No vigorous hamstring stretches. Should be limited by back pain.
4. Due to initial weakness orthotic devices should be worn during standing activities unless otherwise stated.
5. Sensory changes to feet and ankles are expected especially hypersensitivity on plantar aspect of feet. Usually resolves 6-8 weeks post op.
6. No aquatic therapy for first 6 weeks or until wound is healed.
7. No Functional Electrical Stimulation for first 6 weeks.
8. No Hippotherapy for first 6 weeks.

9. Different movement patterns and uncovered weakness may be present and cause frustration and mood swings for the child.
10. A lump over T12 or L1 may appear as the post-operative oedema reduces. This is absolutely normal and no cause for concern.

Post Discharge Recommendations

The child and their family will be provided with a home exercise programme. A copy of this programme will be sent to their local physiotherapist along with any post-operative specific advice such as the need for serial casting or alteration of an orthotics prescription.

It is advised that the local physiotherapy team make contact with their patient as soon as possible post discharge to ensure the family understand the programme they have been given and the physiotherapist can address any concerns or difficulties that have arisen since discharge.

An improvement in GMFM post SDR surgery is dependent on the access to post-operative physiotherapy. The NHS England recommendations that follow are for guidance and local provision may vary according to access to local services and a child's GMFCS level. The below provision will be in **addition** to a child's current local physiotherapy provision e.g. annual assessments for equipment, quarterly orthotic review, orthopaedic assessment, annual lower limb assessment and wheelchair assessment. Now that funding through NHS England is agreed, local therapy teams will receive additional funding to meet this requirement, so these guidelines should be adhered to where possible. Input can be provided in a flexible manner to meet the child's needs, ie access to hydrotherapy, group sessions, blocks of therapy or some sessions with therapy assistants. Therapists should utilise the funds in the best way to meet the child's needs.

GMFCS Level II

- Hospital discharge to 4 months post-op: 2 times per week
- 4 to 6 months post-op: once per fortnight
- 6-12 months: once every 3-4 weeks
- 12-24 months post-op: monthly or as required

Therapy time for year one – 47.3 hours per child **Total 0.03 WTE**
Therapy time for year two - 12 hours per child **Total 0.006 WTE**

GMFCS Level III

- Hospital discharge to 4 months post-op: 3 times per week
- 4 to 6 months post-op: once per week
- 6-12 months: once per fortnight
- 12-24 months post-op: once per 2-4 weeks or as required

Therapy time for year one – 73.1 hours **Total 0.04 WTE**
Therapy time for year two - 25.8 hours **Total 0.01 WTE**

The Leeds Children's Hospital Team will review the child at 6months, 12 months and 24 months. Local services may then adjust frequency of intervention based on recommendations from these reviews.

Equipment Needs
Post SDR a child may have a drop in function and therefore require access to additional equipment e.g. Kaye walker/tripods/standing frame/orthotics. Children will require a buggy or wheelchair in the early stages post SDR in order to attend therapy sessions.

Orthotics
Post SDR each child will require ongoing orthotic provision. It is likely that the child's prescription may remain the same initially, but will require review post operatively. Prior to surgery children benefit from well-fitting AFO's in order to complete their early rehab post operatively.

School
It is expected that the child should return to their pre-operative level of function within the first 4 weeks however, this may vary and children may take longer to return to their pre-operative levels of endurance. Some children may find full days/weeks at school difficult to start with and a phased return may be indicated.

Home Programmes
Should focus on:

- Strengthening of trunk, pelvis and lower limbs. Specifically work on isolated strength and control of hip adductors, hip extensors and quadriceps.
- Walking as much as possible with reduced use of wheelchairs/buggies.
- Use of postural walkers with swivel wheels to strengthen child's postural control. May require folding seat if wheelchair time reduced.
- Night-time maintenance of joint ranges with night AFO's and knee gaiters.
- Development of isolated movements in lower limbs eg, active dorsiflexion.
- Improvement of postural alignment in all antigravity positions.
- Gait training and re-education with focus on alignment, weight shifting and stride length.
- Endurance training and speed when appropriate.

Where a child's abilities plateau but there is an expectation that they have further potential to improve, please contact the Leeds Spasticity Management Team for advice.

For further information please contact:

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