

Strengthening Program



Muscle Weakness

Muscle weakness can be a significant problem for children with Cerebral Palsy (CP). Muscle weakness is a secondary consequence of CP and impacts not only on a child's ability to move but on their ability to participate fully in activities of daily living. It is well documented that children with CP do not move as much as their typically developing peers and as such their muscles do not just become weak, they fail to develop normally. Muscle strengthening is therefore an important part of treatment for children with cerebral palsy.



Strengthening Programs

The aim of a strengthening program is to increase muscle strength and motor activity in the affected limbs. Although your therapist will develop a program that is tailored specifically to your child's needs, some general principles to follow include:

- Programs may start at around 7 to 8 years of age, although younger children who are able to accept and follow directions can also undertake strengthening programmes.



- Proper technique is imperative. The technique for each exercise needs to be mastered before weights or objects are used. Performing exercises in front of a mirror is a great way of ensuring correct technique. These exercises should not be done when the child is tired or fatigued as it may result in incorrect technique and injury.
- Exercises should be completed through the full range of motion at each joint to develop strength through the full range and prevent loss of flexibility.
- Strengthening programmes should include:
 - **2 to 3 sets**
 - **of 8 to 15 repetitions (reps)**
 - **done 2 to 3 times per week**
 - on non-consecutive days
 - and continue for at least **8 weeks**.
- A period of rest should occur between each set for a particular muscle to allow recovery.
- Weights or objects should be added gradually as strength improves. It is recommended that weight can be added in **5% to 10%** increments when 8 to 15 reps are mastered.



- For children, rice filled plastic bags, Theraputty and Theraband/elastic tubing can be used for resistance.
- Movements during strengthening exercises should be slow and controlled. Explosive, rapid movement is not recommended.
- An exercise should cease if pain is experienced. Exercises which cause pain, including into the next day should be excluded in the next session.
- Touching the muscles which are working during each exercise may tell the child if they are doing the exercise correctly.
- Efforts should be made to make the strengthening program fun using a variety of interesting exercises, activities and tasks, using charts for progress and allowing the child to choose type and order of exercises.
- Evidence shows that gains in strength can be lost after 6 weeks if training is discontinued.



Program Intensity/Duration

The strengthening program intensity and duration will vary from child to child according to their specific needs and progress being made. Your therapist will regularly review your child's program to ensure that the exercises remain appropriate and are being performed correctly. You will be given instructions and diagrams of the exercises along with specific direction on the amount and repetitions that should be completed for each exercise.

It is important that you complete the strengthening program with your child only as advised by your therapist. Please do not alter the program without discussion with your child's therapist.





This information sheet is for education purposes only. Please consult with your doctor or other health professional to make sure this information is right for your child.



Contact Us

Please contact your therapist if you have any questions or a concern regarding your child's strengthening program.

