



How to support children with Spastic Hemiplegic Cerebral Palsy

What kind of treatment could help children with spastic hemiplegia?

Base on the severity and functional status of individual child, there are various possible treatment modalities:

1. Rehabilitative therapies to maintain and improve children's mobility, muscle strength and function.
2. Rehabilitative equipment such as orthosis and splints, to maintain children's muscle length and to prevent contracture.
3. To reduce muscle tone :

Intramuscular injection of Botulinum toxin may be helpful to temporarily reduce muscle tone by preventing nerve-muscle transmission. The effective period is generally 3 to 6 months. Rehabilitation is important during this period to help children to lengthen their muscle and learn new skills, e.g. to train the upper limbs for a more mature hand grasp or to train the lower limbs for a better walking pattern.

4. Orthopaedic intervention such as soft tissue and bone surgery might be helpful for children with soft tissue contractures or joint deformities. It is usually considered in older children with a more mature skeletal development.



Can children with spastic hemiplegia walk?

Most children with spastic hemiplegia can walk and maneuver stairs by themselves while some of them can run and even jump. However, as they have increased muscle tone and poor control on one side of body, it affects their walking pattern, strength, balance and coordination, which also affects their participation in physical activities. Therefore, it is necessary to provide more training on the affected limbs.

How to improve children's unilateral body control?

1. Encourage children to use the affected arm and leg as much as possible in their daily activities.
2. Encourage children to move and pose in a more symmetrical manner, e.g. children should be corrected if they lean towards one side when doing table tasks.
3. Children need strong muscles for motor activities to improve their physical condition, the following aspects are essential:
 - ✧ Muscle strengthening targeting for specific weak muscle groups
 - ✧ Coordination training for different joints
 - ✧ Balance control training

How to tackle the problem resulting from the increased muscle tone over the affected side?

Increased muscle tone can lead to soft tissue tightness and contracture. It is important to maintain flexibility and muscle length for better joint alignment and prevent contracture. This can be attained through different methods of stretching:



- Caretakers can apply manual stretching for young children
- Older children can learn self-stretching or by stand-stretch by own weight
- Children may need to wear different splints and orthosis as required at different time of the day. For instance, wearing ankle splint at night to provide a sustained stretch while sleeping, or use of orthosis when indicated during walking

What are the benefits of wearing orthosis? What should caretakers be aware of?

1. Children may need to wear orthosis to improve the walking pattern and stability, they may need to wear hand splints to improve hand function.
2. It is recommended to explain to children on the benefits of the orthosis, this can help to increase their acceptance and compliance in using orthosis on daily basis.
3. Pay attention to any discomfort when children wear the orthosis. Parents should check whether there is any pressure point to avoid damage to skin.

How to increase physical activities of these children?

1. To be more effective and practical, try to incorporate exercises into children's daily life, such as carry their own bags, walking and climbing stairs under the supervision of caretakers.
2. Encourage children to join and participate in games and physical activities in the community as far as possible, e.g. dance class, gym or swimming class.
3. For children who have received botox injection or orthopaedic surgery, intensive physical rehabilitation is essential.



Children with physical impairment need to have therapy everyday, should caretakers decrease their play time?

Children learn about themselves and the world through play. During play, they experience a sense of joy, pleasure and freedom. Therefore, caretakers should play with children everyday in different time. It is a good opportunity for children to learn, whereas caretakers can enjoy their interaction with children at the same time.

Children have weak fine motor control and bilateral coordination affecting their handling of toys, what should caretakers do?

- Encourage children to use both upper limbs, e.g. crawling, climbing up the jungle gym, holding the ropes of swing, throwing balls, holding the handrails during cycling.
- Use palm and finger tip of the affected hand to touch materials with different textures, e.g. soft, hard, smooth or rough texture.
- Provide opportunity for using the affected hand, e.g. raising hand in name calling, extending fingers with the palm facing up, grasping large cubes, holding drum stick or ball etc.
- Encourage children to manipulate objects with both hands:
 - ✧ Symmetrical hand use, e.g. clapping hands, washing hands, separating or assembling snap-lock beads
 - ✧ Stabilize an object by affected hand, while using the other hand for manipulation, e.g. getting the lid off a container, unscrewing bottle cap, winding up toys



Should caretakers help young children with physical impairment to finish all the self-care tasks?

Self-care skill is one of the most important developmental domains in children. Self-care skills training can enhance their fine motor skills, promote independence and self-esteem. Caretakers can consult Occupational Therapist to set realistic goals according to their children's motor and cognitive abilities. They should also provide a safe environment for children to participate in self-care activities.

How to promote children's self-care skills?

- Encourage children using both hands while eating:
 - ✧ For those children with weak control of the affected hand, the affected hand should stabilize the bowl so as to maintain a symmetrical posture
 - ✧ For those children with better control of the affected hand, they could use the affected hand to grasp the utensil in eating to improve the control
 - ✧ Hold bilateral handle cup with both hands for drinking
- Let children perform self-care tasks according to their ability in optimal position, e.g. taking off shoes and socks by sitting on the floor with the back leaning against the wall.
- Encourage children using both hands in daily living activities, e.g. holding cup, wringing towel, cleaning table and tidying up etc.
- During bath time, encourage them to use the affected hand with the palm opening up to spread liquid soap on their body.



What should caretakers do when taking care of their children at home?

- Carry out stretching exercise every day and follow the regime of splintage during day or night so as to maintain their range of motion of upper limb joints.
- Remind children to put the affected hand on table surface when performing table tasks.



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