

## **Botulinum Toxin Injections General Stretching / Home Exercise Program**

Botulinum toxin (BOTOX®) injections have been chosen for your child as a tool for spasticity management. To further manage the spasticity in your child's upper extremities and/or lower extremities it is important to emphasize a home stretching program. The following is a general guideline for parents or caregivers to follow at home after your child has received BOTOX® injections. It has been suggested that stretching the spastic or tight muscle injected with Botulinum toxin will further enhance the benefits of Botulinum toxin on the spastic muscle. The following shows different muscle groups which are typically spastic or tight in the child with cerebral palsy and provides some suggestions for parents / caregivers to stretch at home. A home program should be started 1-2 days after BOTOX® injection to the child's tolerance. (The child may experience some muscle soreness for 1-2 days following injection.)

**Hip Flexors:** muscles which aid in hip flexion and are located over the front aspect of both hip joints.

1. passively stretch these muscles by placing the child on his/her stomach while playing, doing homework or sleeping. Work up to 1-2 hours per day.
2. passively stretch these muscles with the child lying on his/her side, moving the free leg back, extending the hip to the end range, hold for 10 seconds and relax. Repeat 5 times to each leg 1-2x daily.
3. If the child can achieve tall kneeling, have the child assume this position and incorporate during play.

**Hip Adductors:** muscles which draw the legs together and are located between the thighs. Children with CP may present with "scissoring" of the legs when placed in a weightbearing position or while lying on their back if these muscles are spastic/tight. This may cause dressing or changing diapers difficult for the parent or caregiver.

1. passively stretch these muscles when dressing or changing the child's diaper or clothes by placing the child on his/her back and gently spreading the knees apart abducting the hips to end range, hold for 10 seconds and repeat 5 times.
2. when carrying the child, place child on parent/caregiver's hips with legs apart to stretch the inner thigh muscles.

**Knee Flexors:** these are the muscles which run behind the knee and aid in bending or flexing the knee.

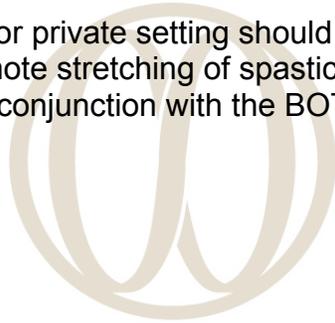
1. if the child is able to sit unsupported, place in seated position with knees

extended (long sitting) and incorporate this position with play activities (i.e. tossing or rolling a ball, stacking blocks, etc.)

**Ankle Plantar Flexors:** these muscles are the muscles which flex the foot downward and run behind the ankle/calf. Often if these muscles are tight or spastic in the child with CP, the child will present up on their toes when placed in standing or a weightbearing position.

1. passively stretch these muscles by placing the forearm along the bottom of the child's foot and grasping the heel of the foot gently flex the foot upward stretching the muscles behind the ankle/calf. Hold for 10 seconds and repeat 5 times 1-2x daily.
2. child can weightbear on a wedge or incline to stretch behind the ankle/calf.

\*Physical therapy in the school or private setting should be incorporated along with a home exercise program to promote stretching of spastic/tight muscles while strengthening weak muscles in conjunction with the BOTOX® injections.



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