

Dystonia in children. Is it curable?

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According to WHO Dystonia is defined as a movement disorder where the muscles contract hysterically. The muscle contraction causes the affected body part to curl involuntarily, resulting in tedious movements or abnormal postures. Dystonia affects one muscle or whole body in children. Dystonia starts in foot, leg, hand or arm that is

twisted and may get hurt when they try to use it. It can be caused by an inherited gene, birth trauma OR associated medical condition but in most of the cases it is idiopathic.

Dystonia is a neurological condition; where the problem begins in the brain, which sends abnormal signals to muscles in the body, which cause the uncontrolled movements. What causes the brain to send these signals is not fully understood. However dystonia can be caused by both genetic and environmental factors.

Sometimes, children with dystonia have other neurological problems that may affect a child's ability to think. In some cases, only muscles and movement are affected.

Treatment for dystonia

Dystonia is treated based on the type and severity of the condition, and individual. Some respond well to various treatment modalities.

There are three ways to treat dystonia:

- Oral medication
- Injections
- Physical therapy

Oral medications are often the mainstay for managing dystonia in children. Children respond well and can tolerate higher doses of anticholinergics than adults, but the effect may be short-lived or the medication may cause side effects such as drowsiness, drooling, poor trunk and difficulty in concentration. Mood and behavioral disturbances may further limit the use of drugs. There is no ideal drug to treat dystonia but often a combination of several drugs and other therapies can be effective in management of this problem. Drugs used are:-

Levodopa and carbidopa: Most of the children with dystonia are first given a trial of a drug called levodopa (L-dopa). Levodopa frequently works well at restoring muscle control for dopa-

responsive dystonia (DRD). Some patients with other types of dystonia can also have improvement with this medicine.

Sometimes, levodopa is used in combination with carbidopa. Both these drugs increase dopamine concentration in the brain. Dopamine is a neurotransmitter that regulates movement.

These drugs may produce side effects such as skin flushing, Hypotension and nausea, among others.

The other oral drugs used are trihexyphenidyl and other anticholinergic medicines, which act on neurotransmitters, baclofen a muscle relaxant, clonazepam a benzodiazepine that acts as a muscle relaxant and sedative.

Injections of Botulinum toxin (Botox) in children, botulinum toxin is used in generalized dystonia patients when targeting a certain part of the body. It is often used when there is spasticity as well as dystonia, particularly in the legs. Spasticity means muscles tightening or contracting. The effect of Botox injections usually lasts about 3 to 4 months. After this, more injections will be needed. If too many places are injected, for example, the child can temporarily lose control of movement altogether, blurred vision, drooping eyelids, difficulty in swallowing, fatigue etc.

It can also be treated under the guidance of a physical therapist and a physician; an individual may learn to recognize compensatory movements and habits that may have developed as a result of the dystonia. Physical therapy may improve the benefits from other medical treatments, such as oral medications and/or botulinum toxin injections.

Physical therapy is a slow process that should be approached with obligation and confidence. Results may not be immediately apparent, but a physical therapy can influence many aspects of daily living. Under the guidance of a therapist and physician, physical therapy and stress management can help attain increased awareness and control of one's movements, environment, and symptoms as well as address secondary complications that may result from the dystonia. Some of the daily activities and slow exercises can improve the muscle movements. A physical therapist or physician is likely to demonstrate and prescribe exercises to stretch muscles and increase flexibility. Various types of strengthening exercises may be recommended to build up underused muscles and prevent weakening of the bones.

Most of the cases in children suffering from dystonia can be

cured by physical therapy without any of the side effects like oral drugs or injections of Botulinum toxin (Botox). There shouldn't be any of the stress on the muscle where as in such a way that it should be taken care under only the physical therapists or any of the physicians.

References

1. Shchekolova NB, Mudrova OA, Kozyukov VG, Belokrylov NM, Nenakhova YV, Taskaev AL. The comprehensive pathogenetic approach to the neuro-orthopedic rehabilitation of the children of different age presenting with cerebral palsy. *Vopr Kurortol Fizioter Lech Fiz Kult.* 2016;93(1):30-36.
2. Lumsden DE, Kaminska M, Tomlin S, Lin JP. Medication use in childhood dystonia. *Eur J Paediatr Neurol.* 2016;S1090-3798(16)00036-2. doi: 10.1016/j.ejpn.2016.02.003.
3. Bertucco M, Sanger TD. Current and emerging strategies for treatment of childhood dystonia. *J Hand Ther.* 2015;28(2):185-93. doi: 10.1016/j.jht.2014.11.002.
4. Bonouvrié L, Becher J, Soudant D, Buizer A, van Ouwerkerk W, Vles G, et al. The effect of intrathecal baclofen treatment on activities of daily life in children and young adults with cerebral palsy and progressive neurological disorders. *Eur J Paediatr Neurol.* 2016;S1090-3798(16)00046-5. doi: 10.1016/j.ejpn.2016.02.013.
5. Spader HS, Bollo RJ, Bowers CA, Riva-Cambrin J. Risk factors for baclofen pump infection in children: a multivariate analysis. *J Neurosurg Pediatr.* 2016;1-7.
6. Baizabal-Carvallo JF, Jankovic J. Movement disorders induced by deep brain stimulation. *Parkinsonism Relat Disord.* 2016;25:1-9. doi:10.1016/j.parkreldis.2016.01.014.