

MANAGEMENT OF CEREBRAL PALSY



What is Cerebral Palsy and how is it treated?

Cerebral palsy (CP) is a group of neurologic (brain) disorders that affects the way the brain communicates with the muscles. CP is usually caused by an injury or damage to the brain. This causes lifelong difficulty with movement and balance. While there is no cure for cerebral palsy, the symptoms can be treated. The treatment of cerebral palsy is based on the severity of the symptoms and the areas of the body involved. The goal of all treatment is to promote the child's development, range of motion, movement and level of comfort. Read below for several different treatment options:

Therapies

Physical, occupational, speech and other therapies are some of the most important ways to promote the development of a child with CP. Physical therapy helps strengthen areas with low muscle tone and stretch areas with high muscle tone. It promotes flexibility and movement. Occupational therapy can help with more controlled fine motor movements and other activities of daily living, such as feeding, dressing, and writing. Speech therapy can help with speech, communication and feeding difficulties.

Bracing

Braces are often utilized over joints to help stretch muscles and support joints. They can be made for use in almost any joint. The most common type of brace is an ankle-foot orthotic (AFO), used to promote stretch of the Achilles tendon and prevent toe-walking.

Serial casting

Serial casting involves repeated casting of joints at incremental increasing angles in order to stretch muscles for long periods of time.

Medications

Oral medications include baclofen, Dantrolene or benzodiazepines (such as clonazepam). They are used to relax the muscles and promote movement. They require multiple doses daily and their most common side effect is sleepiness.

Baclofen can also be given intrathecally (directly into the spinal canal) through a surgically implanted pump and catheter. This allows for a continuous infusion of

medication. The medication dosage can easily be modified by a medical provider without pain. The medication in the pump will need to be refilled through a needle insertion on a regular basis.

Botox injections

Botulinum toxin (Botox) is injected directly into a muscle group. Botox is a purified substance derived from bacteria, which works by blocking the signal from the nerve that tells a muscle to tighten. This temporarily relaxes the muscle and allows it to stretch. It requires injections to be repeated every few months and may require several injections depending on the area of treatment. If multiple areas are being treated the child is often medically sedated at the hospital to lessen the emotional trauma and pain of numerous injections.

Electrical stimulation

Neuromuscular electrical stimulation (NMES) is used in an effort to increase muscle strength in children with CP. During NMES, electrical impulses are used at high intensity to generate muscle contraction. In another stimulation method called threshold electrical stimulation (TECS), the stimulation is of low intensity and does not generate muscle contraction.

Surgery

Orthopedic surgeons, physical medicine and rehabilitation physicians, and neurosurgeons can be an important part of the comprehensive care team for a child with CP. Sometimes spasticity can limit movement in joints despite treatment and surgery is needed. Surgery may be used to help stabilize a curving spine, repair dislocated hips, or release tendons that limit movement in a joint. Selective dorsal rhizotomy (SDR) is a surgical procedure performed on the spinal cord. The nerves are separated and tested through electronic stimulation. The nerves that lead to too much muscle tone are then cut. It is important to discuss the possible benefits and risks of surgery in detail with your care team.

References and further resources

http://www.ninds.nih.gov/disorders/cerebral_palsy/detail_cerebral_palsy.htm
http://kidshealth.org/parent/medical/brain/cerebral_palsy.html
<http://cerebralpalsy.org/>

