

■ Cerebral Palsy ■

Cerebral palsy is the term for a group of conditions that cause abnormal development or damage to parts of the brain that control muscle functions and movement, such as strength or walking. It is usually present at birth. Children with cerebral palsy have a lack of muscle control and other disabilities that are generally present for life. However, the disabilities are not always severe and generally do not get worse. A team approach to health care is best for children with cerebral palsy.

What is cerebral palsy?

- Cerebral palsy (CP) is a term used to describe damage to the brain that has occurred early in its development due to a number of causes. The damage usually occurs before birth but sometimes occurs during birth. Recognized causes include premature birth, infections, metabolic or hormonal diseases, genetic diseases, and bleeding or clotting within the brain. Pinpointing the cause is an important goal of your child's diagnosis.
- The motor disorders (affecting strength and body movement) and other disabilities resulting from CP vary a lot. Some children with CP have normal intelligence with relatively minor muscle and movement problems. Others need a wheelchair or have reduced intelligence or other medical problems.
- Depending on your child's needs, several professionals will be involved in his or her care.
- While it is true that CP can be caused by lack of oxygen during a difficult labor and delivery, this is not the case in most children.

What does it look like?

The main abnormalities caused by cerebral palsy are poor muscle strength and control over movement of various parts of the body (motor function). Generally, the damage to your child's brain remains the same over time—it doesn't get any worse as your child grows.

Several types of motor disorder are possible, depending on the exact brain injury. Some children have mild or minimal muscle problems, while others have severe disabilities.

- *Spastic hemiplegia.* Some children with CP have weakness in the muscles on one side of the body. Your child will use one hand much more often than the other. Walking is delayed and is better on one side. Uncontrolled tightness of the muscles (spasticity) is common. About

one third of children with spastic hemiplegia develop epilepsy, and about one fourth have reduced intelligence.

- *Spastic diplegia.* Children with this type have decreased movement and increased muscle tightness more in the legs than arms. The legs may be very weak and reduced in size, while the upper body develops more normally. Intelligence is usually normal; the risk of epilepsy is low.
- *Spastic quadriplegia.* The most severe type is weakness in the muscles of both arms and legs. Children with this form of CP have high rates of mental retardation and epilepsy. Many other problems are possible, such as difficulty swallowing and severe tightening of muscles, leading to permanent deformity.
- *Athetoid cerebral palsy.* This is a less common pattern in which the muscles are initially weak and floppy, rather than too tight. With time, the limbs become rigid and tight, with abnormal positioning. Feeding and speech problems are common. Intelligence is often normal, and the risk of seizures is low.

Every child with CP is different! Your child may have a mix of these patterns. Careful diagnosis is needed to determine the extent and cause of your child's disabilities.

What are some possible complications of cerebral palsy?

Complications vary a lot, depending on your child's situation. For example, muscle tightness can lead to permanent deformity (contractures). Contractures cause limited movement around the joints, for example, inability to straighten the arm or leg completely. Swallowing problems can lead to pneumonia. Many other complications are possible.

The original damage caused by CP doesn't change much over time. However, muscle tightness may cause contractures, which further limit movement. Good physical therapy can reduce this risk.

How is cerebral palsy diagnosed?

Diagnosis is a key first step in managing CP. Often the abnormalities are not seen at birth but become apparent as your baby develops. Your child will undergo a complete evaluation to assess the extent of his or her disabilities and to make sure that CP is the correct diagnosis.

- Magnetic resonance imaging (MRI) scans or other imaging tests that show a picture of the brain will be performed to determine the extent and location of the injury to your child's brain.
- Other tests may be recommended, depending on your child's situation. Genetic testing is especially important if a genetic (inherited) cause of CP is suspected.

How is cerebral palsy treated?

Unfortunately, there is no cure for CP. The brain damage causing your child's disability is permanent.

However, many treatments and other kinds of help are available for children with CP. The results are best when a team of health professionals from different fields is involved in your child's care. The team may include doctors from various specialties (an orthopedic surgeon, a neurologist), physical therapists, occupational therapists, and others.

You'll receive training in special ways of caring for your child with CP that limit the impact of his or her muscle disorder. Some of the different treatments are:

- Stretching exercises, directed by a physical therapist, to help prevent permanent muscle deformities (contractures).
- Assistive devices or aids that may be used to help your child get around, such as braces, walkers, or a wheelchair.
- Surgery is sometimes recommended to loosen tight muscles, particularly around the hip or Achilles' tendon.
- Medications may help to reduce muscle tightness.
- Other types of devices may be used to improve communication skills. Many children with CP can benefit from special education and other educational services. A psychologist or other mental health professional can be helpful as well.

Your child will receive close follow-up to prevent and/or treat some of the medical problems that can occur in CP.

When should I call your office?

Call our office if you have any questions about caring for your child with CP. Our office can help to put you in touch with appropriate specialists or community resources.

Where can I get more information about cerebral palsy?

Here are a few contacts to get you started in learning what your family needs to know about living with CP:

- The National Institute of Neurological Disorders and Stroke. Information and publications are available on the Internet at www.ninds.nih.gov.
- United Cerebral Palsy. On the Internet at www.ucp.org or call (1-800) 872-5827.
- March of Dimes Birth Defects Foundation. On the Internet at www.marchofdimes.com or call 1-888-MODIMES (663-4637).