



## Cerebral Palsy

### ◆ Definition ◆

Cerebral palsy is a condition caused by damage to the brain, usually occurring before, during or shortly following birth. "Cerebral" refers to the brain and "palsy" refers to a disorder of movement or posture. Cerebral palsy is neither progressive nor communicable. It is also not "curable" in the accepted sense, although education, therapy, and applied technology can help persons with cerebral palsy lead productive lives. It is not a disease and should never be referred to as such. It can range from mild to severe.

The causes of cerebral palsy include illness during pregnancy, premature delivery, or lack of oxygen supply to the baby. It may occur early in life as a result of an accident, lead poisoning, viral infection, child abuse, or other factors. Chief among the causes is an insufficient amount of oxygen or poor flow of blood reaching the fetal or newborn brain. This can be caused by premature separation of the placenta, an awkward birth position, labor that goes on too long or is too abrupt, or interference with the umbilical cord. Other causes may be associated with premature birth, RH or A-B-O blood type incompatibility between parents, infection of the mother with German measles or other viral diseases in early pregnancy, and microorganisms that attack the newborn's central nervous system. Lack of good prenatal care may also be a factor. A less common type is acquired cerebral palsy: Head injury is the most frequent cause, usually the result of motor vehicle accidents, falls, or child abuse.

### ◆ Incidence ◆

Between 500,000 - 700,000 Americans have some degree of cerebral palsy. About 3,000 babies are born with the disorder each year, and another 500 or so acquire it in the early years of life.

### ◆ Characteristics ◆

There are three main types of cerebral palsy: spastic—stiff and difficult movement; athetoid—involuntary and uncontrolled movement; and ataxic—disturbed sense of balance and depth perception. There may be a combination of these types for any one individual. Other types do occur, although infrequently.

Cerebral palsy is characterized by an inability to fully control motor function. Depending on which part of the brain has been damaged and the degree of involvement of the central nervous system, one or more of the following may occur: spasms; tonal problems; involuntary movement; disturbance in gait and mobility; seizures; abnormal sensation and perception; impairment of sight, hearing, or speech; and mental retardation.

### ◆ Developmental, Educational, and Employment Implications ◆

Early identification of cerebral palsy can lessen developmental problems and lead to appropriate intervention when it helps the most. Early intervention programs are family-centered, and professionals and families work together with the child in specific activities. Educators, physical and occupational therapists, social workers, speech-language pathologists, psychologists, and physicians can assist families by providing information and education.

Activities for children with cerebral palsy may include:

- speech and language therapy;
- occupational therapy;
- physical therapy;
- medical intervention;
- family support services;
- early education; and
- assistive technology.

# Cerebral Palsy

As a child gets older and begins formal schooling, the intensity of services will vary from individual to individual. Persons with cerebral palsy are usually able to attain a substantial degree of independence but, in some cases, may need considerable assistance. Services for the school-age child may include continuing therapy, regular or special education, counseling, technical support, community integration opportunities, recreation, and possible personal attendants. A key factor seems to be a supportive family. People extensively affected by cerebral palsy can still be highly functional and independent. The HEATH Resource Center (the clearinghouse on postsecondary education for individuals with disabilities) states that a significant number of students with cerebral palsy are enrolled in colleges and universities.

Important advances have taken place in the last 15 years which have had a great effect on the long-term well-being of children born with cerebral palsy. Advanced technology, including computers and engineering devices, has been applied to the needs of persons with cerebral palsy. Technological innovations have been developed in the areas of speech and communication, self-care, and adapting living arrangements and work sites. The future may bring even more significant applications.

Another important development has been the increased ability of persons with disabilities, including those who have cerebral palsy and other severe disabilities, to live independently in the community. Adults with cerebral palsy are now living, with or without assistance, in their own apartments or townhouses. Independent Living Centers have also proven to be important resources for persons with disabilities.

## ◆ Resources ◆

Geralis, E. (1998). *Children with cerebral palsy: A parent's guide* (2nd ed.). Bethesda, MD: Woodbine House. (Telephone: 1-800-843-7323.)

Weiss, S. (1993). *Each of us remembers: Parents of children with cerebral palsy answer questions*. Washington, DC: United Cerebral Palsy Associations, Inc. (See UCPA telephone number and address below.)

## ◆ Organizations ◆

United Cerebral Palsy Associations, Inc.  
1660 L Street, N.W., Suite 700  
Washington, D.C. 20036  
(202) 776-0406; (202) 973-7197 (TTY)  
(800) 872-5827 (V/TTY)  
E-mail: [ucpanatl@ucpa.org](mailto:ucpanatl@ucpa.org)  
Web: [www.ucpa.org](http://www.ucpa.org)

Independent Living Research Utilization Project  
The Institute for Rehabilitation and Research  
2323 South Sheppard, Suite 1000  
Houston, TX 77019  
(713) 520-0232; (713) 520-5136 (TTY)  
E-mail: [ilru@ilru.org](mailto:ilru@ilru.org)  
Web: [www.ilru.org](http://www.ilru.org)

Easter Seals—National Office  
230 West Monroe Street, Suite 1800  
Chicago, IL 60606-4802  
(312) 726-6200; (312) 726-4258 (TTY)  
1-800-221-6827  
E-Mail: [info@easter-seals.org](mailto:info@easter-seals.org)  
Web: [www.easter-seals.org](http://www.easter-seals.org)

National Rehabilitation Information Center  
(NARIC)  
1010 Wayne Avenue, Suite 800  
Silver Spring, MD 20910-5632  
(301) 562-2400 (V); (301) 495-5626 (TTY)  
(800) 346-2742  
Web: [www.naric.com](http://www.naric.com)

FS2, April 2000

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## Cerebral Palsy

### ◆ Jennifer's Story ◆

Jen was born 11 weeks early and weighed only 2½ pounds. The doctors were surprised to see what a strong, wiggly girl she was. But when Jen was just a few days old, she stopped breathing and was put on a ventilator. After 24 hours she was able to breathe on her own again. The doctors did a lot of tests to find out what had happened, but they couldn't find anything wrong. The rest of Jen's time in the hospital was quiet, and after two months she was able to go home. Everyone thought she would be just fine.

At home, Jen's mom noticed that Jen was really sloppy when she drank from her bottle. As the months went by, Jen's mom noticed other things she didn't remember seeing with Jen's older brother. At six months, Jen didn't hold her head up straight. She cried a lot and would go stiff with rage. When Jen went back for her six-month checkup, the doctor was concerned by what he saw and what Jen's mom told him. He suggested that Jen's mom take the little girl to a doctor who could look closely at Jen's development. Jen's mom took her to a *developmental specialist* who finally put a name to all the little things that hadn't seemed right with Jen—*cerebral palsy*.

### ◆ What is CP? ◆

*Cerebral palsy*—also known as *CP*—is a condition caused by injury to the parts of the brain that control our ability to use our muscles and bodies. *Cerebral* means having to do with the brain. *Palsy* means weakness or problems with using the muscles. Often the injury happens before birth, sometimes during delivery, or, like Jen, soon after being born. CP can be mild, moderate, or severe. Mild CP may mean a child is clumsy. Moderate CP may mean the child walks with a limp. He or she may need a special leg brace or a cane. More severe CP can affect all

parts of a child's physical abilities. A child with moderate or severe CP may have to use a wheelchair and other special equipment. Sometimes children with CP can also have learning problems, problems with hearing or seeing (called *sensory problems*), or mental retardation. Usually, the greater the injury to the brain, the more severe the CP. However, CP doesn't get worse over time, and most children with CP have a normal life span.

### ◆ How Common is CP? ◆

About 500,000 people in America have some form of CP. Each year 8,000 infants and nearly 1,500 preschool-age children are diagnosed with CP.

### ◆ What Are the Signs of CP? ◆

There are three main types of CP:

- *Spastic CP* is where there is too much muscle tone or tightness. Movements are stiff, especially in the legs, arms, and/or back. Children with this form of CP move their legs awkwardly, turning in or scissoring their legs as they try to walk. This is the most common form of CP.
- *Athetoid CP* (also called *dyskinetic CP*) can affect movements of the entire body. Typically, this form of CP involves slow, uncontrolled body movements and low muscle tone that makes it hard for the person to sit straight and walk.
- *Mixed CP* is a combination of the symptoms listed above. A child with mixed CP has both high and low tone muscle. Some muscles are too tight, and others are too loose, creating a mix of stiffness and involuntary movements.

More words used to describe the different types of CP include:

- *Diplegia*—This means only the legs are affected.

- *Hemiplegia*—This means one half of the body (such as the right arm and leg) is affected.

- *Quadriplegia*—This means both arms and legs are affected, sometimes including the facial muscles and torso.

#### ✧ What About Treatment? ✧

With early and ongoing treatment the effects of CP can be reduced. Many children learn how to get their bodies to work for them in other ways. For example, one infant whose CP keeps him from crawling may be able to get around by rolling from place to place.

Children younger than three years old can benefit greatly from *early intervention services*. Early intervention is a system of services to support infants and toddlers with disabilities and their families. For older children, *special education and related services* are available through the public school to help each child achieve and learn.

Typically, children with CP may need different kinds of therapy, including:

- *Physical therapy (PT)*, which helps the child develop stronger muscles such as those in the legs and trunk. Through PT, the child works on skills such as walking, sitting, and keeping his or her balance.

- *Occupational therapy (OT)*, which helps the child develop fine motor skills such as dressing, feeding, writing, and other daily living tasks.

- *Speech-language pathology (S/L)*, which helps the child develop his or her communication skills. The child may work in particular on speaking, which may be difficult due to problems with muscle tone of the tongue and throat.

The child may also find a variety of special equipment helpful. For example, braces (also called AFOs) may be used to hold the foot in place when the child stands or walks. Custom splints can provide support to help a child use his or her hands. A variety of therapy equipment and adapted toys are available to help children play and have fun while they are working their bodies. Activities such as swimming or horse-back riding can help strengthen weaker muscles and relax the tighter ones.

New medical treatments are being developed all the time. Sometimes surgery, Botox injections, or other medications can help lessen the effects of CP, but there is no cure for the condition.

#### ✧ What About School? ✧

A child with CP can face many challenges in school and is likely to need individualized help. Fortunately, states are responsible for meeting the educational needs of children with disabilities.

For children up to age three, services are provided through an early intervention system. Staff work with the child's family to develop what is known as an Individualized Family Services Plan, or IFSP. The IFSP will describe the child's unique needs as well as the services the child will receive to address those needs. The IFSP will also emphasize the unique needs of the family, so that parents and other family members will know how to help their young child with CP. Early intervention services may be provided on a sliding-fee basis, meaning that the costs to the family will depend upon their income.

For school-aged children, including preschoolers, special education and related services will be provided through the school system. School staff will work with the child's parents to develop an Individualized Education Program, or IEP. The IEP is similar to an IFSP in that it describes the child's unique needs and the services that have been designed to meet those needs. Special education and related services, which can include PT, OT, and speech-language pathology, are provided at no cost to parents.

In addition to therapy services and special equipment, children with CP may need what is known as *assistive technology*. Examples of assistive technology include:

- *Communication devices*, which can range from the simple to the sophisticated. Communication boards, for example, have pictures, symbols, letters, or words attached. The child communicates by pointing to or gazing at the pictures or symbols. Augmentative communication devices are more sophisticated and include

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## Tips for Parents

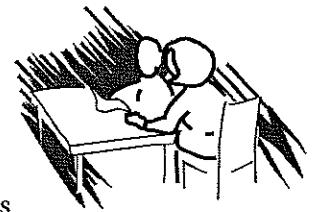


- Learn about CP. The more you know, the more you can help yourself and your child. See the list of resources and organizations at the end of this publication.
- Love and play with your child. Treat your son or daughter as you would a child without disabilities. Take your child places, read together, have fun.
- Learn from professionals and other parents how to meet your child's special needs, but try not to turn your lives into one round of therapy after another.
- Ask for help from family and friends. Caring for a child with CP is hard work. Teach others what to do and give them plenty of opportunities to practice while you take a break.
- Keep informed about new treatments and technologies that may help. New approaches are constantly being worked on and can make a huge difference to the quality of your child's life. However, be careful about unproven new "fads."
- Learn about assistive technology that can help your child. This may include a simple communication board to help your child express needs and desires, or may be as sophisticated as a computer with special software.
- Be patient, keep up your hope for improvement. Your child, like every child, has a whole lifetime to learn and grow.
- Work with professionals in early intervention or in your school to develop an IFSP or an IEP that reflects your child's needs and abilities. Be sure to include related services such as speech-language pathology, physical therapy, and occupational therapy if your child needs these. Don't forget about assistive technology either!



## Tips for Teachers

- Learn more about CP. The resources and organizations at the end of this publication will help you.
- This may seem obvious, but sometimes the "look" of CP can give the mistaken impression that a child who has CP cannot learn as much as others. Focus on the individual child and learn firsthand what needs and capabilities he or she has.
- Tap into the strategies that teachers of students with learning disabilities use for their students. Become knowledgeable about different learning styles. Then you can use the approach best suited for a particular child, based upon that child's learning abilities as well as physical abilities.
- Be inventive. Ask yourself (and others), "How can I adapt this lesson for this child to maximize *active, hands-on* learning?"
- Learn to love assistive technology. Find experts within and outside your school to help you. Assistive technology can mean the difference between independence for your student or not.
- Always remember, parents are experts, too. Talk candidly with your student's parents. They can tell you a great deal about their daughter or son's special needs and abilities.
- Effective teamwork for the child with CP needs to bring together professionals with diverse backgrounds and expertise. The team must combine the knowledge of its members to plan, implement, and coordinate the child's services.



voice synthesizers that enable the child to "talk" with others.

- *Computer technology*, which can range from electronic toys with special switches to sophisticated computer programs operated by simple switch pads or keyboard adaptations.

The ability of the brain to find new ways of working after an injury is remarkable. Even so, it can be difficult for parents to imagine what their child's future will be like. Good therapy and handling can help, but the most important "treatment" the child can receive is love and encouragement, with lots of typical childhood experiences, family, and friends. With the right mix of support, equipment, extra time, and accommodations, all children with CP can be successful learners and full participants in life.

#### ◆ Resources ◆

Geralis, E. (1998). *Children with cerebral palsy: A parents' guide* (2<sup>nd</sup> ed.). Bethesda, MD: Woodbine House. (Telephone: 1-800-843-7323.)

Nolan, C. (1987). *Under the eye of the clock*. New York, NY: St. Martin's Press.

Videos to rent: *My Left Foot* and *Gaby: A True Story*.

#### ◆ Organizations ◆

United Cerebral Palsy Associations, Inc.  
1660 L Street, NW, Suite 700, Washington DC 20036. Telephone: (800) 872-5827 (V/TTY); (202) 776-0406; (202) 973-7197 (TTY).  
E-mail: ucpanatl@ucpa.org  
Web: www.ucpa.org

### Cerebral Palsy as an "Orthopedic Impairment"

*The Individuals with Disabilities Education Act (IDEA) guides how early intervention services and special education and related services are provided to children with disabilities. Under IDEA, cerebral palsy is considered an "orthopedic impairment," which is defined as . . .*

*" . . . a severe orthopedic impairment that adversely affects a child's educational performance. The term includes impairments caused by congenital anomaly (e.g. clubfoot, absence of some member, etc.), impairments caused by disease (e.g., poliomyelitis, bone tuberculosis, etc.), and impairments from other causes (e.g., cerebral palsy, amputations, and fractures or burns that cause contractures)." 34 Code of Federal Regulations §300.7(c)(9)*

Easter Seals—National Office  
230 West Monroe Street, Suite 1800, Chicago, IL 60606-4802. Telephone: (800) 221-6827; (312)726-6200; (312) 726-4258 (TTY).  
E-mail: info@easter-seals.org  
Web: www.easter-seals.org

NICHCY *State Resources Sheets* list organizations in the state addressing cerebral palsy, assistive technology, and other disability-related issues and concerns.

#### ◆ Other Web Sites ◆

[www.ninds.nih.gov](http://www.ninds.nih.gov)—site of the National Institute of Neurological Disorders and Stroke at the National Institute of Health

[www.dreamms.org](http://www.dreamms.org)—a non-profit information clearinghouse on assistive technology

[www.Lburkhart.com](http://www.Lburkhart.com)—ideas and instructions for adapting toys for use by children with CP

[www.augcomm.com](http://www.augcomm.com)—a site dedicated to augmentative/alternative communication device users



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