

## ***Guidelines for Parents of CP Children***

### ***Cerebral Palsy:***

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.

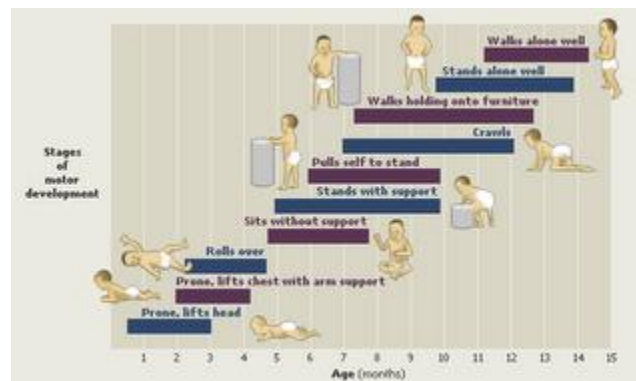
Often the injury happens

- before birth,
- sometimes during delivery,
- Or soon after being born.

### ***Symptoms:***

Physical symptoms typically appear in the first few years of life. Infants with cerebral palsy are frequently slow to reach developmental milestones such as

- Learning to roll over,
- Sit,
- Crawl,
- Smile,
- Walk.

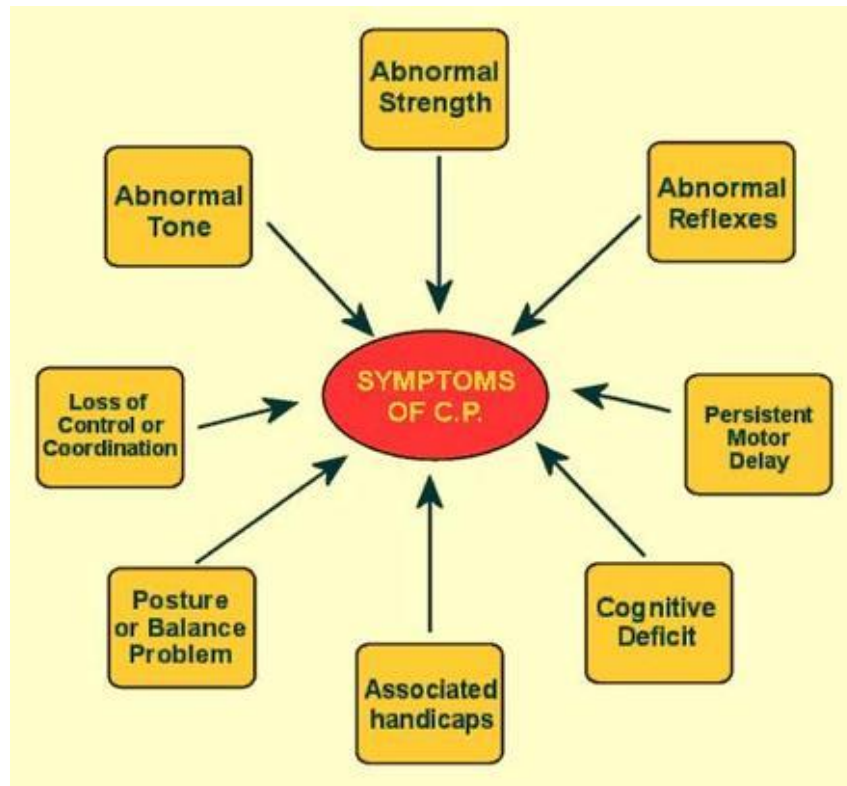


### ***Signs of cerebral palsy may include the following:***

The signs of cerebral palsy differ from person to person and may change over time

- child is slow to reach developmental milestones such as learning to roll over, sit up, crawl, smile, or walk

- weakness in one (hemiplegia) or more limbs (arms or legs)
- standing and walking on tiptoe
- difficulty with fine motor tasks (such as writing or using scissors)
- difficulty maintaining balance
- walking with an abnormal gait, with one foot or leg dragging
- involuntary movements
- excessive drooling



### ***What causes Cerebral Palsy?***

Several of the causes of cerebral palsy that have been identified through research are:

- head injury,
- jaundice,
- Rh incompatibility,
- rubella (German measles)
- conditions relating to premature birth
- and stroke (caused by a variety of conditions, some causes unknown)

## ***Severity:***

According to the severity level CP can be categorized as

- Mild,
- Moderate,
- Severe
- Profound

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.

Cerebral palsy does not always cause serious disabilities. 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.

Stroke in young children often results in a movement disorder very similar to that resulting from cerebral palsy.

## ***How is Cerebral Palsy diagnosed?***

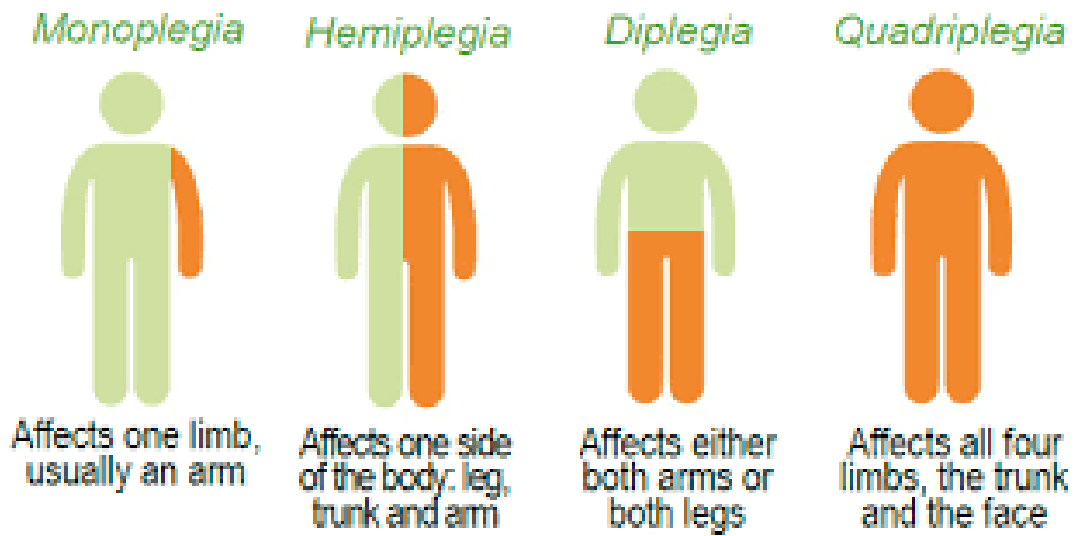
Doctors diagnose cerebral palsy by:

- testing motor skills and reflexes,
- looking into medical history, and
- Employing a variety of specialized tests.

Although its symptoms may change over time, cerebral palsy by definition is not progressive, so if a patient shows additional medical issues, the problem may be something other than cerebral palsy.

## ***Types of cerebral Palsy***

- Spastic Cerebral Palsy:
  - Spastic Quadriplegia,
  - Spastic Diplegia,
  - Spastic Hemiplegia
- Athetoid Cerebral Palsy (Dyskinetic)
- Ataxic Cerebral Palsy
- Hypotonic cerebral palsy
- Mixed



## MOTOR TYPES

**SPASTIC:** 70-80%.  
Most common form.  
Muscles appear stiff and tight. Arises from Motor Cortex damage.



**DYSKINETIC:** 6%.  
Characterised by involuntary movements.  
Arises from Basal Ganglia damage.






**MIXED TYPES:**  
Combination damage.

**ATAXIC:** 6%  
Characterised by shaky movements. Affects balance and sense of positioning in space. Arises from Cerebellum damage.

### ***The movement problem***

The Gross Motor Function Classification System (GMFCS) is used to describe the range of abilities in gross motor function seen in children with cerebral palsy.

- It describes five levels of motor function, with an emphasis on abilities and limitations in the areas of sitting, standing, and walking.
- Children with GMFCS levels I and II walk independently
- Children with GMFCS level III require a hand-held mobility aid such as crutches or a walker and may use a wheelchair for distances.
- Children with GMFCS levels IV and V have more limitations in self-mobility and require a wheelchair.
- GMFCS level can be accurately assessed from the time a child is two years of age.
- Knowing a child's GMFCS level can help the orthopaedic team predict the likelihood a child will have certain orthopedic problems as they grow.

	<p><b>GMFCS Level I</b></p> <p>Children walk indoors and outdoors and climb stairs without limitation. Children perform gross motor skills including running and jumping, but speed, balance and co-ordination are impaired.</p>
	<p><b>GMFCS Level II</b></p> <p>Children walk indoors and outdoors and climb stairs holding onto a railing but experience limitations walking on uneven surfaces and inclines and walking in crowds or confined spaces.</p>
	<p><b>GMFCS Level III</b></p> <p>Children walk indoors or outdoors on a level surface with an assistive mobility device. Children may climb stairs holding onto a railing. Children may propel a wheelchair manually or are transported when traveling for long distances or outdoors on uneven terrain.</p>
	<p><b>GMFCS Level IV</b></p> <p>Children may continue to walk for short distances on a walker or rely more on wheeled mobility at home and school and in the community.</p>
	<p><b>GMFCS Level V</b></p> <p>Physical impairment restricts voluntary control of movement and the ability to maintain antigravity head and trunk postures. All areas of motor function are limited. Children have no means of independent mobility and are transported.</p>

**Complications:**

- Tightnes
- Spasm
- Contractures & Deformities
- Joint Stiffness
- Irritation and mood swinging (Emotional Sway)
- Secondary respiratory complications
- Pressure sores

### ***Will my child's condition worsen?***

No, the damage done to the brain does not become worse. However, as your child grows, it may seem that your child's condition is changing or becoming worse. It may seem this way for a number of reasons.

The bones in children with cerebral palsy grow more quickly than the muscles. Muscles are stimulated to grow in length by moving and being stretched. This normally occurs throughout the day during a child's activities and play time. In children with cerebral palsy, decreased control of muscles and increased muscle stiffness prevent muscles from moving through their full range of motion as easily or as often as other children. Because the bones grow faster than the muscles, the muscles become tight. This is especially true during growth spurts. A problem such as toe walking may become more apparent as the muscles in the heel cord become increasingly tight.

As children grow, their bones develop and change as they begin to use their muscles to move, particularly with standing and walking. This is called bone remodeling. Because children with cerebral palsy have decreased control of their muscles, have stiffness in their muscles, and/or are delayed in their independent mobility, bone development may not occur as expected. In addition, when bones do not develop as expected, the forces going through a child's bones when they stand and move are different. These abnormal forces can cause the bones to "remodel" in a way that is not typical. These changes in the bone may become more noticeable as your child grows. To prevent deformities, equipment that supports posture and function may be recommended, from an early age, based on your child's needs. Examples of equipment include orthotics, mobility aids such as a walker or crutches, standing frames, and wheelchairs with special seating.

The muscles of young children are much larger compared to the size of their body than adolescents or adults. As they grow and gain weight, the force produced by the muscles does not increase as much as their size. This means that standing and walking may require more energy as children grow and become more difficult. For this reason, children should maintain a healthy body weight.

### ***How is Cerebral Palsy treated?***

There is no standard therapy that works for all children with cerebral palsy. Some of the therapies used to treat children with cerebral palsy include:

- Physical therapy,
- occupational therapy,
- sensory integration therapy
- hydrotherapy
- oral medications
- botulinum toxin
- speech therapy,
- behavioral therapy,
- drugs used to control seizures and muscle spasms,
- special braces or orthotics can compensate for muscle imbalance,
- splinting to improve muscle function,
- orthopedic surgery to correct contractures or improve function
- counseling for emotional and psychological needs

### ***Rehabilitation:***

- Children with cerebral palsy need prolonged treatment.
- It is better to keep them in special institutions where cerebral palsy children can have physiotherapy and occupational therapy can be given along with special education.
- They are also given pre-vocational training.
- They are also trained in ADL's (activities of daily living skills) and IADL's (instrumental activities of daily living skills)
- Training in self help skills

### ***Speech & Language Therapy:***

- Children with problems in speech and hearing require the services of an audiologist and a speech therapist.



- Communication skills may mean talking, using sign language, or using communication aid.

### ***Occupational Therapy and Sensory Integration Therapy:***

- An occupational therapist trains the child for daily activities and for sensory-perceptual-motor coordination.
- They usually work with children on better ways to use their arms, hands and upper body.
- Helps children to find right special equipment to make some everyday jobs little easier.

### ***Recreational Therapy and sports:***

- Recreational therapists help kids with cerebral palsy have fun.
- They work with children on **sports** skills or other leisure activities like dancing etc.