

# CEREBRAL PALSY

- Cerebral palsy is a group of disorders that can involve brain and nervous system functions, such as movement, learning, hearing, seeing, and thinking.
- It is a noncurable and nonfatal condition due to damage of the growing brain before or during birth.
- Approximately 2 per 100 live birth is having this problem

A black and white photograph showing a pair of baby feet held gently in the palms of an adult's hands. The feet are positioned centrally, with the toes pointing towards the viewer. The background is a soft, out-of-focus texture, likely a blanket or bedsheet. The overall mood is tender and protective.

**New Data Show**

**1 in 278 Children  
Have Cerebral Palsy**

# Causes

- Cerebral palsy is caused by injuries or abnormalities of the brain. Most of these problems occur as the baby grows in the womb, but they can happen at any time during the first 2 years of life, while the baby's brain is still developing.
- In some people with cerebral palsy, parts of the brain are injured due to low levels of oxygen (hypoxia) in the area

- Cerebral palsy may also occur during early infancy as a result of several conditions, including:

**Bleeding in the brain**

**Brain infections (encephalitis, meningitis, herpes simplex infections)**

**Head injury**

**Infections in the mother during pregnancy (rubella)**

**Severe jaundice**

- In some cases the cause of cerebral palsy is never determined.

# Types

- There are mainly four types of cerebral palsy based on the movement dysfunction:
  1. **Spastic cerebral palsy** in which the sudden, involuntary movements are seen in the patient. These movements are stiff and difficult.
  2. **Athetoid** characterized with uncontrolled, slow, writhing movements.
  3. **Ataxic cerebral palsy** in which irregular muscle coordination and lack of balance can be noticed.
  4. **Mixed cerebral palsy**, which is a combination of two or more types.

**ARM AND LEG  
ON ONE SIDE  
(HEMIPLEGIC)**

arm bent;  
hand  
spastic  
or floppy,  
often of  
little use

She walks  
on tiptoe  
or outside  
of foot on  
affected  
side.



this side  
completely  
or almost  
normal

**BOTH LEGS ONLY  
(PARAPLEGIC)  
or with slight  
involvement elsewhere  
(DIPLEGIC)**

upper body  
usually  
normal or  
with very  
minor signs

Child may  
develop  
contractures  
of ankles  
and feet.



**BOTH ARMS AND  
BOTH LEGS  
(QUADRIPEGIC)**

When he walks, his  
arms, head, and  
even his mouth may  
twist strangely.

Children with all  
4 limbs affected  
often have such  
severe brain damage  
that they never  
are able to walk.

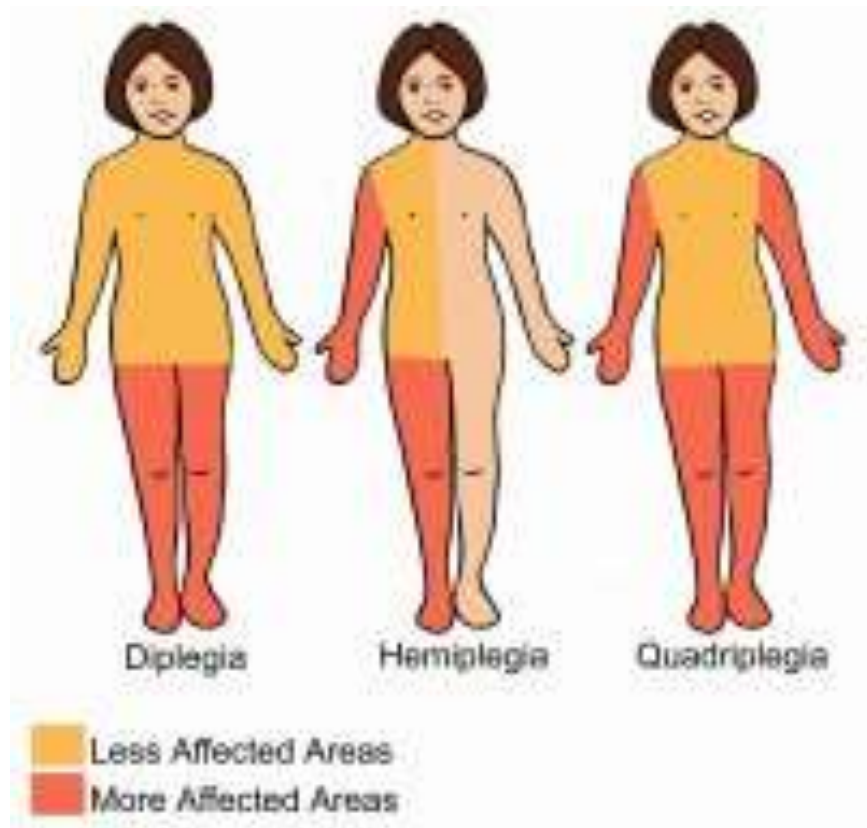
The knees press  
together.

legs and feet  
turned inward



# Cerebral Palsy: Topographic

- Monoplegic
- Paraplegic
- Hemiplegic
- Triplegic
- Quadraplegic
- Diplegic





# SYMPTOMS

- Symptoms of cerebral palsy can be very different between people with this group of disorders. Symptoms may:
  - Be very mild or very severe
  - Only involve one side of the body or both sides
  - Be more pronounced in either the arms or legs, or involve both the arms and legs

- Symptoms are usually seen before a child is 2 years old, and sometimes begin as early as 3 months. Parents may notice that their child is delayed in reaching, and in developmental stages such as sitting, rolling, crawling, or walking.
- There are several different types of cerebral palsy. Some people have a mixture of symptoms.

# Symptoms of spastic cerebral palsy, the most common type, include:

- Muscles that are very tight and do not stretch. They may tighten up even more over time.
- Abnormal walk (gait): arms tucked in toward the sides, knees crossed or touching, legs make "scissors" movements, walk on the toes
- Joints are tight and do not open up all the way (called joint contracture)
- Muscle weakness or loss of movement in a group of muscles (paralysis)
- The symptoms may affect one arm or leg, one side of the body, both legs, or both arms and legs

The following symptoms may occur in other types of cerebral palsy:

- Abnormal movements (twisting, jerking, or writhing) of the hands, feet, arms, or legs while awake, which gets worse during periods of stress
- Tremors
- Unsteady gait
- Loss of coordination
- Floppy muscles, especially at rest, and joints that move around too much

## Other brain and nervous system symptoms:

- Decreased intelligence or learning disabilities are common, but intelligence can be normal
- Speech problems (dysarthria)
- Hearing or vision problems
- Seizures

## **Eating and digestive symptoms:**

- Difficulty sucking or feeding in infants, or chewing and swallowing in older children and adults
- Problems swallowing (at all ages)
- Vomiting or constipation

## **Other symptoms:**

- Increased drooling
- Slower than normal growth
- Irregular breathing
- Urinary incontinence



# Diagnosis

- Blood tests
- CT SCAN of head
- Electroencephalogram (EEG)
- Hearing screen
- MRI of the head
- Vision testing



# Management

**There is no cure for cerebral palsy. The goal of treatment is to help the person be as independent as possible.**

Treatment requires a team approach, including:

- Primary care doctor
- Dentist (dental check-ups are recommended around every 6 months)
- Social worker
- Nurses
- Occupational, physical, and speech therapists
- Other specialists, including a neurologist, rehabilitation physician, pulmonologist, and gastroenterologist

- Self and home care include:

- Getting enough food and nutrition
- Keeping the home safe
- Performing exercises recommended by the health care providers
- Practicing proper bowel care (stool softeners, fluids, fiber, laxatives, regular bowel habits)
- Protecting the joints from injury



- Putting the child in regular schools is recommended, unless physical disabilities or mental development makes this impossible. Special education or schooling may help.
- The following may help with communication and learning:
  - Glasses
  - Hearing aids
  - Muscle and bone braces
  - Walking aids
  - Wheelchairs



- **Physical therapy**, occupational therapy, orthopedic help, or other treatments may also be needed to help with daily activities and care.
- **Medications** may include:
  - Anticonvulsants to prevent or reduce the frequency of seizures
  - Botulinum toxin to help with spasticity and drooling
  - Muscle relaxants (baclofen) to reduce tremors and spasticity
- **Surgery** may be needed in some cases

# Nursing management

1. Increasing mobility and minimizing deformity
2. Maximizing growth and development
3. Protecting the child from physical injury
4. Teaching the parents and family members

**THANK  
YOU**

