

# What is Cerebral Palsy?

Cerebral palsy is a physical disability that affects movement and posture.

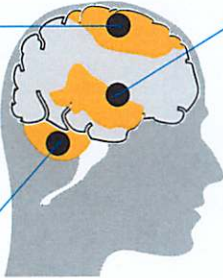
It is the most common physical disability in childhood.

You can help advance our knowledge and research into cerebral palsy by joining a Cerebral Palsy Register. Find out more at <http://en.worldcpday.org/cpregristers>

**17 million**  
people with cerebral palsy  
worldwide

## 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.

## PARTS OF THE BODY

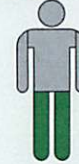
Cerebral palsy can affect different parts of the body

**QUADRIPLEGIA/ BILATERAL:**



Both arms and legs are affected. The muscles of the trunk, face and mouth are often also affected.

**DIPLEGIA/ BILATERAL:**



Both legs are affected. The arms may be affected to a lesser extent.

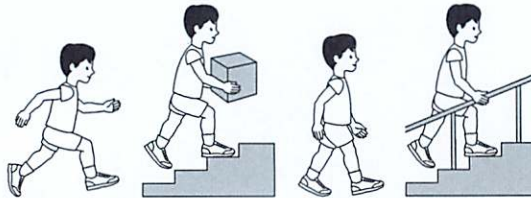
**HEMIPLEGIA/ UNILATERAL:**



One side of the body (one arm and one leg) is affected

## GROSS MOTOR SKILLS

The gross motor skills (e.g. sitting and walking) of children and young people with cerebral palsy can be categorised into 5 different levels using a tool called the Gross Motor Function Classification System (GMFCS) developed by CanChild in Canada.



GMFCS Level I

GMFCS Level II



GMFCS Level III

GMFCS Level IV

GMFCS Level V

Source: Professor I K Graham, Royal Children's Hospital, Melbourne, Australia

## MANUAL ABILITY

At least two thirds of children with cerebral palsy will have movement difficulties affecting one or both arms. Almost every daily activity can be impacted.



## ASSOCIATED IMPAIRMENTS

Children with cerebral palsy may also have a range of physical and cognitive impairments.

1 in 3  
is unable to walk



1 in 4  
is unable to talk



3 in 4  
experience pain



1 in 4  
has epilepsy



1 in 4  
has a behaviour disorder



1 in 2  
has an intellectual impairment



1 in 10  
has a severe vision impairment



1 in 4  
has bladder control problems



1 in 5  
has sleep disorder



1 in 5  
has saliva control problems



## World Cerebral Palsy Day [worldcpday.org](http://worldcpday.org)

Proudly supported by The Allergan Foundation

References: Novak I, Hines M, Goldsmith S, Barclay R (2012). Clinical prognostic messages from a systematic review on cerebral palsy. *Pediatrics*. Nov 2012;130(5). Palisano R, Rosenbaum P, Walter S, Russell D, Wood E & Galuppi B (1997). Development and validation of a Gross Motor Function Classification System for children with Cerebral Palsy. *Developmental Medicine and Child Neurology*, 39, 214-223. CanChild Centre for Childhood Disability Research [www.canchild.ca](http://www.canchild.ca). Australian Cerebral Palsy Register Report 2013 [www.cpregrister.com](http://www.cpregrister.com).



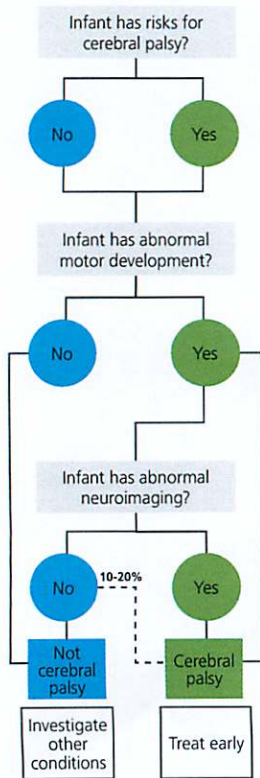
# Cerebral Palsy

## DIAGNOSIS AND TREATMENT

Cerebral palsy is a physical disability that affects movement and posture.

**17 million**  
people with cerebral palsy  
worldwide

### DIAGNOSIS



#### Risks for Cerebral Palsy

Risk Factor	CP Risk
Maternal Risks (thyroid, pre-eclampsia, bleeds, infection, IUGR, placental abnormalities, multiples)+/-	
<b>Born Premature</b>	
• <28 weeks	10.0%
• 28-31 weeks	5.0%
• 31-37 weeks	0.7%
<b>Term Born</b>	
• Encephalopathy	12.0%
• Healthy, no known risks	0.1%

#### Assessing Motor Development

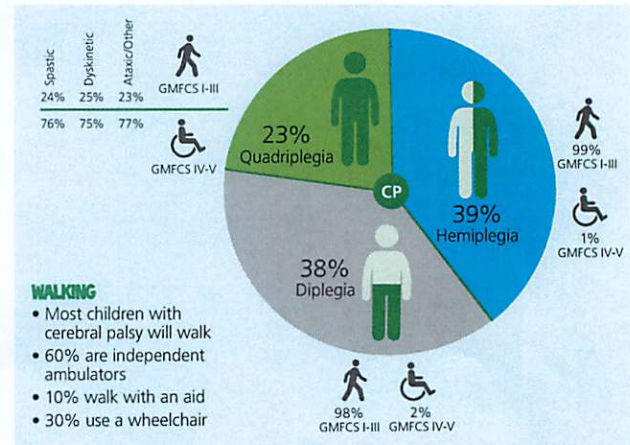
Age: <20 weeks (corrected)	Age 6-12 months
General Movements Assessment. 95% predictive.	Developmental Assessment of Young Children (DAYC). 83% predictive.
Hammersmith Infant Neurological Assessment (HINE). Helps predict severity.	Hammersmith Infant Neurological Assessment (HINE). 90% predictive.

#### Neuroimaging

Abnormal Neuroimaging	% of all CP
• Periventricular white matter injury	19%
• Cerebral malformation	11%
• CVA	11%
• Grey matter injury	22%
• Intracranial haemorrhage	3%
• Infection	2%
• Non-specific	19%
• Normal	13%

### PROGNOSIS

Cerebral palsy can affect different parts of the body:



#### LIFE-LONG

Cerebral palsy is a life long disability. Disability may increase with age, and ageing may occur earlier.



#### SEVERITY

Predictions of severity are most accurate at 2 years of age.



**PAIN, BEHAVIOUR AND SLEEP DISORDERS** in people with cerebral palsy are under-recognised. Assess and treat.



#### TREATMENT

Without rehabilitation and orthopaedic management, a person with cerebral palsy can deteriorate physically.

### ASSOCIATED CONDITIONS AND EVIDENCE-BASED TREATMENT

CP is almost always accompanied by a number of associated conditions and these can be as disabling as the physical condition.

PAIN	INTELLECTUAL DISABILITY	NON-AMBULANT	HIP DISPLACEMENT	NON-VERBAL	EPILEPSY
<b>3 in 4</b>	<b>1 in 2</b>	<b>1 in 3</b>	<b>1 in 3</b>	<b>1 in 4</b>	<b>1 in 4</b>
Treat to prevent sleep & behavioural disorders	Poorer prognosis for ambulation, continence, academics	Independent sitting at 2yrs predicts ambulation	6-12 monthly hip surveillance using x-ray	Augment speech early	Seizures will resolve for 10-20%
BEHAVIOUR DISORDER	BLADDER INCONTINENCE	SLEEP DISORDER	BLINDNESS	NON-ORAL FEEDING	DEAFNESS
<b>1 in 4</b>	<b>1 in 4</b>	<b>1 in 5</b>	<b>1 in 10</b>	<b>1 in 15</b>	<b>1 in 25</b>
Treat early & ensure pain is managed	Conduct investigations & allow more time	Conduct investigations & ensure pain is managed	Assess early & accommodate	Assess swallow safety & monitor growth	Assess early & accommodate

World Cerebral Palsy Day [worldcpday.org](http://worldcpday.org)



The content for this infographic was drawn from:  
1. McIntyre, S., Morgan, C., Walker, K. & Novak, I. (2011). Cerebral palsy—don't delay, Developmental Disabilities Research Reviews, Volume 17, Issue 2, pages 114–129. 2. Novak, I. (2014). Evidence-based diagnosis, health care, and rehabilitation for children with cerebral palsy, Journal of Child Neurology, 22 June 2014