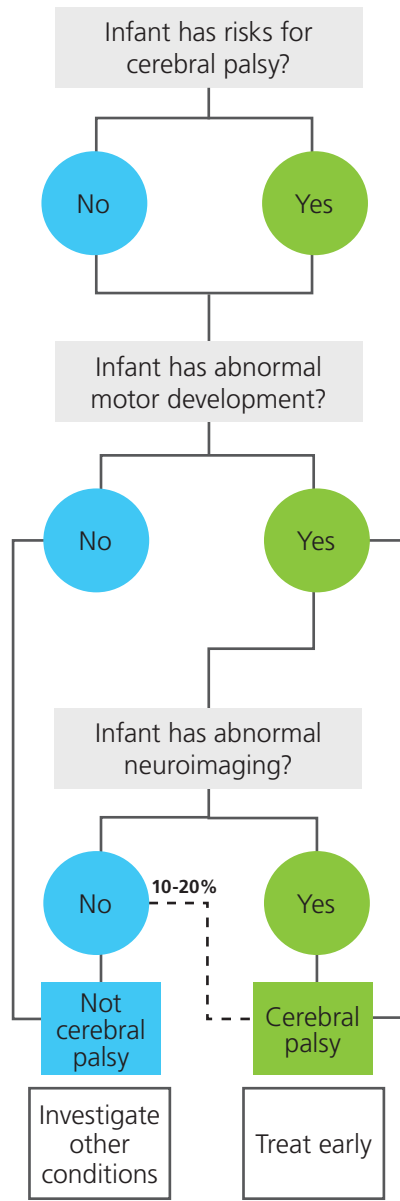# Cerebral Palsy
DIAGNOSIS AND TREATMENT

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

17 million
people with cerebral palsy worldwide

DIAGNOSIS

Infant has risks for cerebral palsy?
- No
- Yes

Infant has abnormal motor development?
- No
- Yes

Infant has abnormal neuroimaging?
- No — 10-20% → Cerebral palsy
- Yes → Cerebral palsy

Not cerebral palsy → Investigate other conditions

Cerebral palsy → Treat early

Risks For Cerebral Palsy

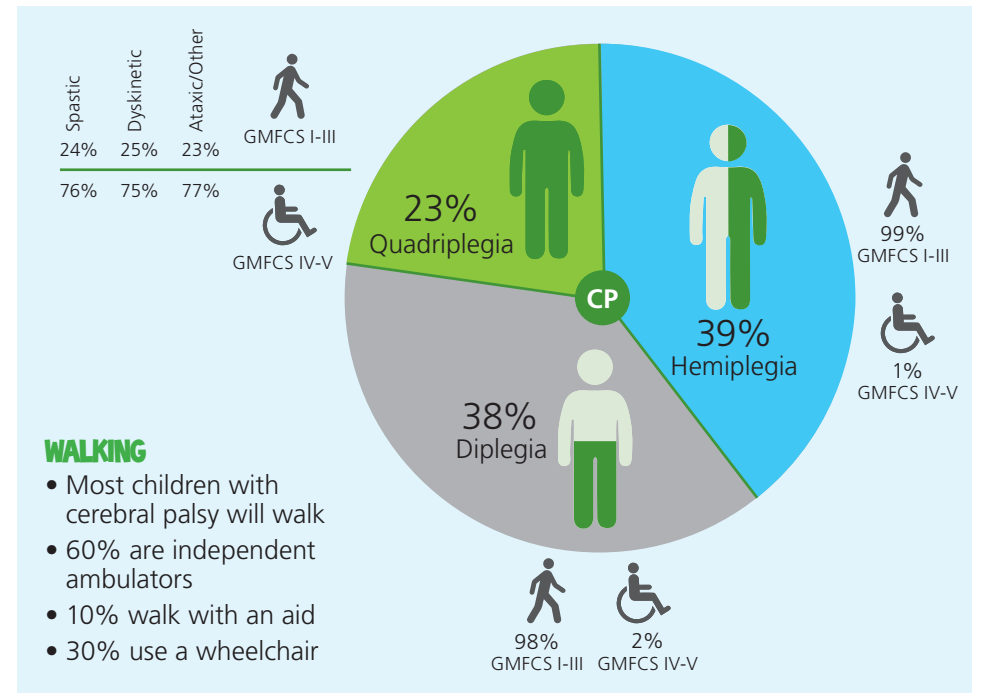| Risk Factor	CP Risk
Maternal Risks (thyroid, pre-eclampsia, bleeds, infection, IUGR, placental abnormalities, multiples)+/-	
Born Premature	
• <28 weeks	10.0%
• 28-31 weeks	5.0%
• 31-37 weeks	0.7%
Term Born	
• Encephalopathy	12.0%
• Healthy, no known risks	0.1%

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:

	Spastic	Dyskinetic	Ataxic/Other
GMFCS I-III	24%	25%	23%
GMFCS IV-V	76%	75%	77%

23% Quadriplegia

39% Hemiplegia
- 99% GMFCS I-III
- 1% GMFCS IV-V

38% Diplegia
- 98% GMFCS I-III
- 2% GMFCS IV-V

CP

WALKING
- Most children with cerebral palsy will walk
- 60% are independent ambulators
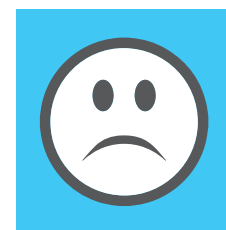- 10% walk with an aid
- 30% use a wheelchair

LIFE-LONG
Cerebral palsy is a life long disability. Disability may increase with age, and ageing may occur earlier.
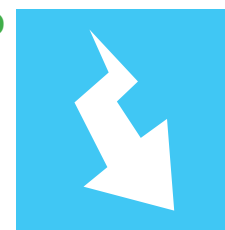
SEVERITY
Predictions of severity are most accurate at 2 years of age.

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
3 in 4
Treat to prevent sleep & behavioural disorders

INTELLECTUAL DISABILITY
1 in 2
Poorer prognosis for ambulation, continence, academics

NON-AMBULANT
1 in 3
Independent sitting at 2yrs predicts ambulation

HIP DISPLACEMENT
1 in 3
6-12 monthly hip surveillance using x-ray

NON-VERBAL
1 in 4
Augment speech early

EPILEPSY
1 in 4
Seizures will resolve for 10-20%

BEHAVIOUR DISORDER
1 in 4
Treat early & ensure pain is managed

BLADDER INCONTINENCE
1 in 4
Conduct investigations & allow more time

SLEEP DISORDER
1 in 5
Conduct investigations & ensure pain is managed

BLINDNESS
1 in 10
Assess early & accommodate

NON-ORAL FEEDING
1 in 15
Assess swallow safety & monitor growth

DEAFNESS
1 in 25
Assess early & accommodate

World Cerebral Palsy Day worldcpday.org

WORLD CEREBRAL PALSY DAY
01.OCT.2014

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