

POSITIVE STEPS

# CEREBRAL PALSY IN CHILDREN

HOW DOES PHYSIOTHERAPY HELP?

# WHAT IS CEREBRAL PALSY?

- Cerebral Palsy (also known as CP) is a movement disorder that occurs when there is damage to the motor pathways
- These pathways carry signals from the brain to the muscles to allow a person to move
- If there's damage to these pathways, then movement can't occur like it would normally
- It's non-progressive so the damage to the pathway won't get any worse throughout a child's life but symptoms may change
- Symptoms appear gradually when the parents and medical professionals notice that the child isn't developing as normally expected



## WHY ISN'T CEREBRAL PALSY NOTICED AT BIRTH?

When a child is born, they aren't expected to be able to perform many movements (such as crawling, rolling, sitting up). Therefore, even though the Cerebral Palsy is present it isn't diagnosed until it is noticed that there's a developmental delay in being able to perform these movements.



# SYMPTOMS OF CEREBRAL PALSY

Symptoms present very differently from child to child and children will not present with every symptom; in some cases, symptoms may not affect the child at all. Each child is unique and needs to be treated as an individual.

Some symptoms that may be present in the child are:

Muscle weakness

Abnormal muscle tone

Balance problems

Loss of selective control

Pathological reflexes

Loss of sensation

Swallowing difficulties

Contractures

Deformities

Epilepsy

Visual problems

Hearing loss

Speech and communication difficulties

Feeding difficulties and failure to thrive

Respiratory problems

Incontinence

Intellectual impairment

# WHAT ARE THE RISK FACTORS FOR A CHILD DEVELOPING CP?

## Prenatal (before birth) risk factors:

- Prematurity (less than 36 weeks)
- Low birth weight
- Maternal epilepsy
- Hyperthyroidism
- Infections
- Severe toxemia
- Eclampsia
- Drug abuse
- Multiple pregnancies
- Placental insufficiency

## Perinatal (during and immediately after childbirth) risk factors:

- Premature rupture of membranes
- Prolonged and very difficult labour
- Vaginal bleeding at the time of admission for labour
- Bradycardia

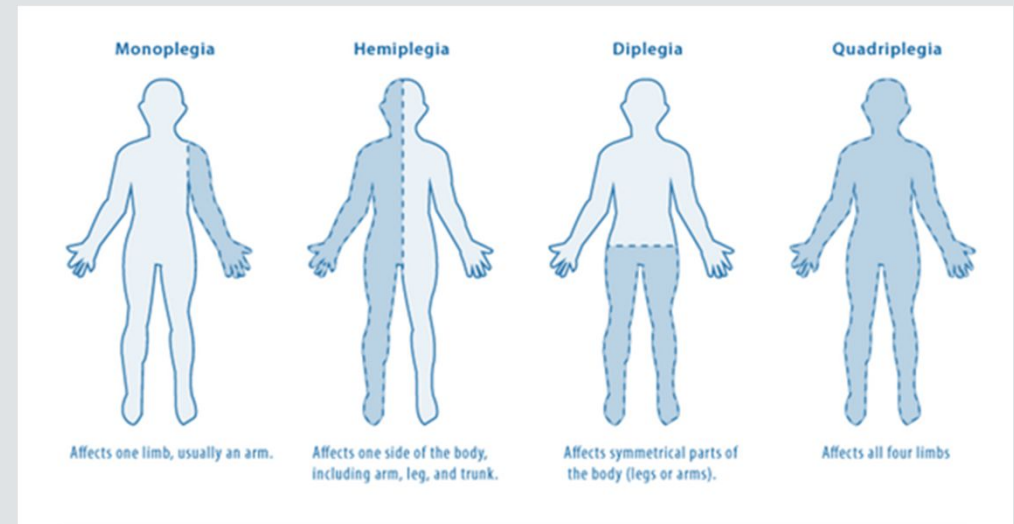
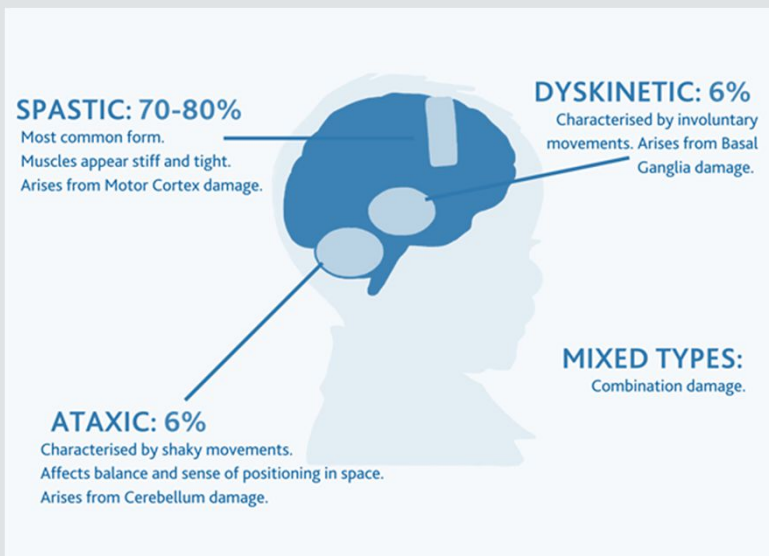
## Postnatal (after birth) risk factors:

- CNS infection
- Hypoxia
- Seizures
- Coagulopathies
- Neonatal hyperbilirubinemia
- Head trauma

# WHAT ARE SOME EARLY SIGNS THAT MIGHT INDICATE CP?

1. Floppy baby- caused by a low muscle tone. The baby will likely feel limp when you're holding them.
2. Feeding difficulties- caused by poor co-ordination. The baby may be slow feeding, vomiting whilst feeding or gagging
3. Delayed motor milestones- the baby may be late to crawl/walk, may not walk how we would expect them to when they do walk (abnormal gait)
4. Asymmetric hand movements- in a child without CP hand preference isn't seen until at least 12 months old. If the child has a hand preference before this, it suggests there's an issue
5. Persistence of primitive reflexes- the child may continue to have a reflex reaction to things that they shouldn't at an older age





# WHAT ARE THE MAIN TYPES OF CEREBRAL PALSY?

# PHYSIOTHERAPY MANAGEMENT OF CEREBRAL PALSY

Physiotherapy treatment is specific to each child and will depend on multiple different factors including age and ability. Here are some examples of possible treatments a physio may use:

Passive stretching- where the physio stretches the muscles for the child. It helps to release soft tissue tightness. It can help increase a joints range of motion and reduce spasticity.

Weight bearing- allows weight to be put through joints over a prolonged period and provides a stretch. Usually done using tilt tables and standing frames.

Splinting- used to produce a low-force long duration stretch. Different types of splints can be used to influence different things.

Serial casting- this is where a joint or multiple joints are immobilized with a semi-rigid well-padded cast. There's repeated applications of casts typically every one to two weeks as ROM is restored. It helps to manage spasticity related contractures and increases range of motion.

Muscle strengthening exercises- aims to increase the power of weak muscles and provides functional benefits

Functional exercises- improves quality of life for the patients. Allows them to be more independent.

Exercise stimulation- to increase muscle strength and motor function



# MEDICAL MANAGEMENT OF CEREBRAL PALSY

Certain medications can be used to reduce muscle tightness, a common symptom of CP, by reducing this there is often an improvement in functional ability and a reduction in pain

The first type is muscle or nerve injections which aim to treat tightening of a specific muscle.

- The most common type is Botox (Botulinum toxin A) which needs to be injected approximately every 3 months

The second type of medical management is oral muscle relaxants

- Medication such as baclofen, tizanidine, diazepam or dantrolene are used to relax muscles

The third type of medical management is to use medication to reduce drooling which is a common side effect of CP

- Most commonly Botox into the salivary glands

# LIVING A NORMAL LIFE WITH CP

Although Cerebral Palsy may make certain things harder it does not mean that the child cannot live a normal life.

Children can do everything another child without CP can do, they just may have to do it in a different way.

Children with CP often have a more positive outlook on life and are highly motivated in everything they do.

The video on this page will introduce you to Katherine.

It takes you through a typical day in her life as a child with CP at school.



# FUNDING FOR CHILDREN WITH CP

Often children with CP may need specialist equipment to help them with day-to-day tasks such as walking or communicating.

These can often be very expensive for families. However, there are plenty of charities and grants to help fund these available.

Some of these include:

- Tree of Hope
- Newlife
- Whizz Kidz
- The Sequal Trust
- Variety, the Children's Charity
- Children Today
- Caudwell Children

Further information about these can be found on the Positive Steps Physiotherapy website.



# REFERENCES

- <https://almostadoctor.co.uk/encyclopedia/cerebral-palsy>
- <https://www.cerebralpalsyguide.com/cerebral-palsy/symptoms/>
- <https://www.mayoclinic.org/diseases-conditions/cerebral-palsy/diagnosis-treatment/drc-20354005>
- <https://www.scope.org.uk/advice-and-support/cerebral-palsy-introduction/>
- <https://www.cerebralpalsycymru.org/about-cerebral-palsy/what-is-cerebral-palsy/types-of-cerebral-palsy>
- <https://www.cerebralpalsyguide.com>
- <http://www.nacd.org/cerebral-palsy/>
- [https://www.youtube.com/watch?v=IcdiEhEmp\\_M](https://www.youtube.com/watch?v=IcdiEhEmp_M)