



Disability Spotlight: Cerebral Palsy

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Center for Excellence in Developmental
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Cerebral Palsy

- What is it?
- What causes it?
- How do we diagnosis it?
- How do we treat it?
- New research?

Cerebral Palsy

What is Cerebral Palsy?

- Cerebral palsy affects a person's ability to move and maintain balance and posture.



- Cerebral palsy is caused by brain damage or abnormal brain development that happens before birth or early in life.



- Cerebral palsy is permanent. However, it's not progressive.

What is Cerebral Palsy?

- Cerebral= brain
- Palsy= impairment of motor function
- Prevalence 3.3/1000 live births



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What causes Cerebral Palsy?

- Abnormal development or damage to the part of the brain that controls muscle movement
 - Genetic disorders that affect brain development
 - Environmental factors during pregnancy
 - Infections, fevers, hypertension, fetal injury/stroke
 - Environmental factors during birth or in early childhood
 - Infections, hypoxia, brain bleed (IVH), trauma

How do we diagnose Cerebral Palsy?

- Clinical exam
 - Abnormalities of muscle tone (hypertonia/tight and hypotonia/floppy)
 - Delays in motor skills (rolling, sitting, walking)
 - Abnormal reflexes
- Brain Imaging
 - Not always diagnostic but can show areas of abnormal development or injury

How do we diagnose Cerebral Palsy?

- Types and Distribution
 - Spastic (most common)
 - Dyskinetic (dystonic, athetoid)
 - Ataxic
 - Mixed



Stiff muscles (spasticity), associated with damage to or developmental differences in the **cerebral cortex**



Uncontrollable movements (dyskinesia), associated with damage to the **basal ganglia**

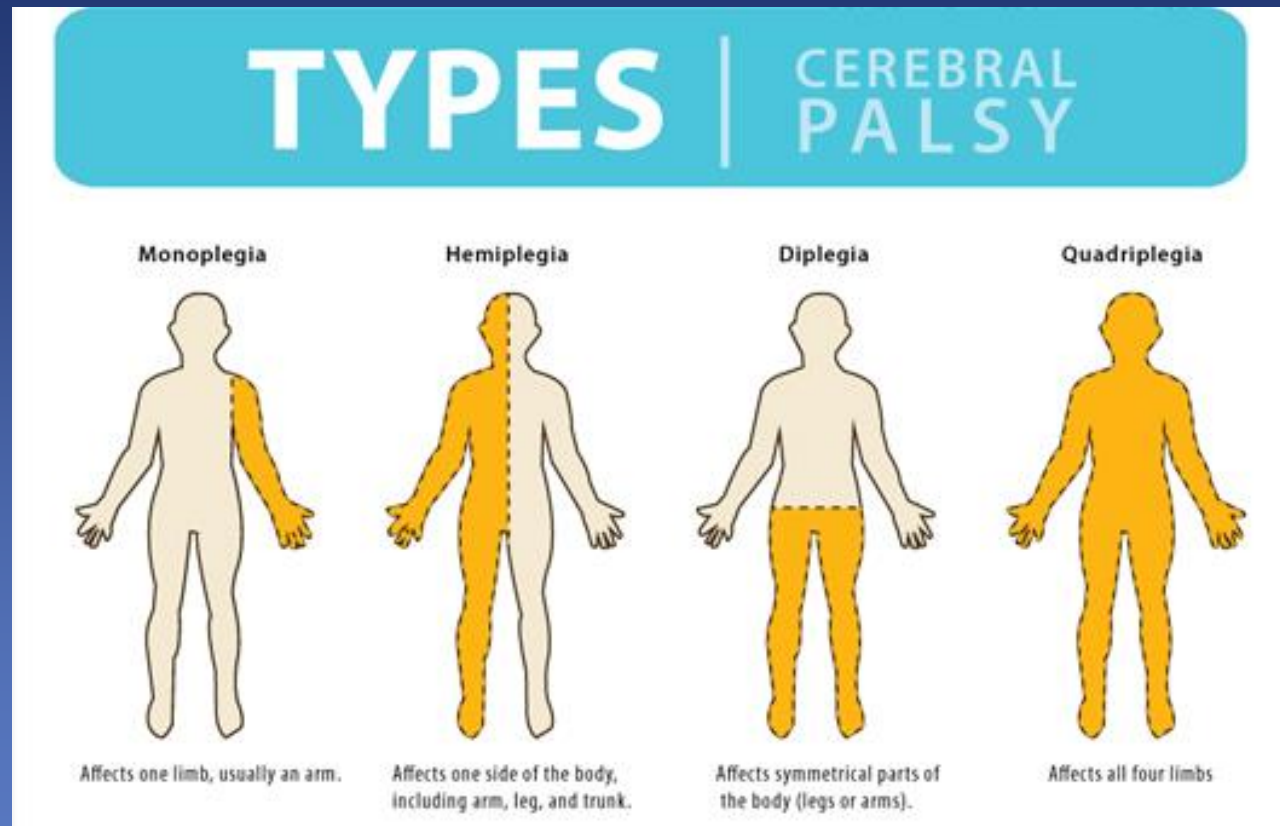


Poor balance and coordination (ataxia), associated with damage to the **cerebellum**



Mixed, a combination of two or more types, associated with damage to **multiple areas of the brain**

Cerebral Palsy- descriptions



Associated factors

- Intellectual Disability (30-50%)
- Seizure disorder
- Growth delays
- Back and joint problems
- Visual problems
- Hearing problems
- Eating/swallowing/speaking difficulties
- Sensory perception

How do we treat cerebral palsy?

- Physical/occupational therapy
 - The earlier the better!
- Feeding/speech and language therapy
- Medications
 - Botox /Intrathecal baclofen (relaxes muscles)
- Surgery
 - Muscle/tendon lengthening

Assistive devices

- Communication, independence and Inclusion!
 - AAC
 - Orthotics
 - Walkers/wheelchairs
 - Vision and hearing devices
 - Universal design



New research in cerebral palsy

- Prevention?
 - Imaging and behavioral tests before birth
 - Drugs that block abnormal release of neurochemicals that damage brain cells
 - Brain cooling/erythropoietin
- Treatments?
 - Constraint induced therapy
 - Functional electrical stimulation/robotic therapy
 - Autologous umbilical cord blood (stem cell)

Thank you...questions?



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