

Exercise is Medicine: Cerebral Palsy

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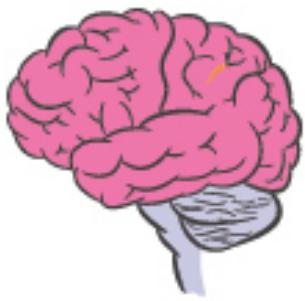
Intro

- Cerebral: of the brain
- Palsy: paralysis (lack of control)
- 3-4/1,000 births
- Lesion to the developing brain
- Can happen before or after birth
- Presentation is dependent on lesion site

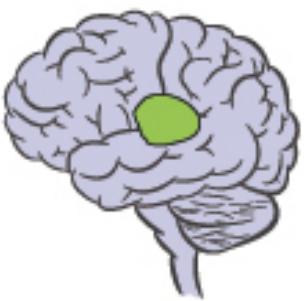


What are the Types of Cerebral Palsy?

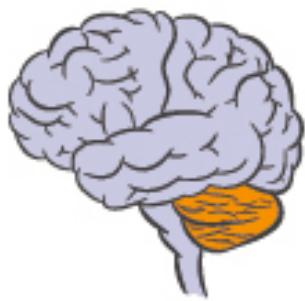
There are different types of cerebral palsy,
depending on what part of the brain is affected.



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



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



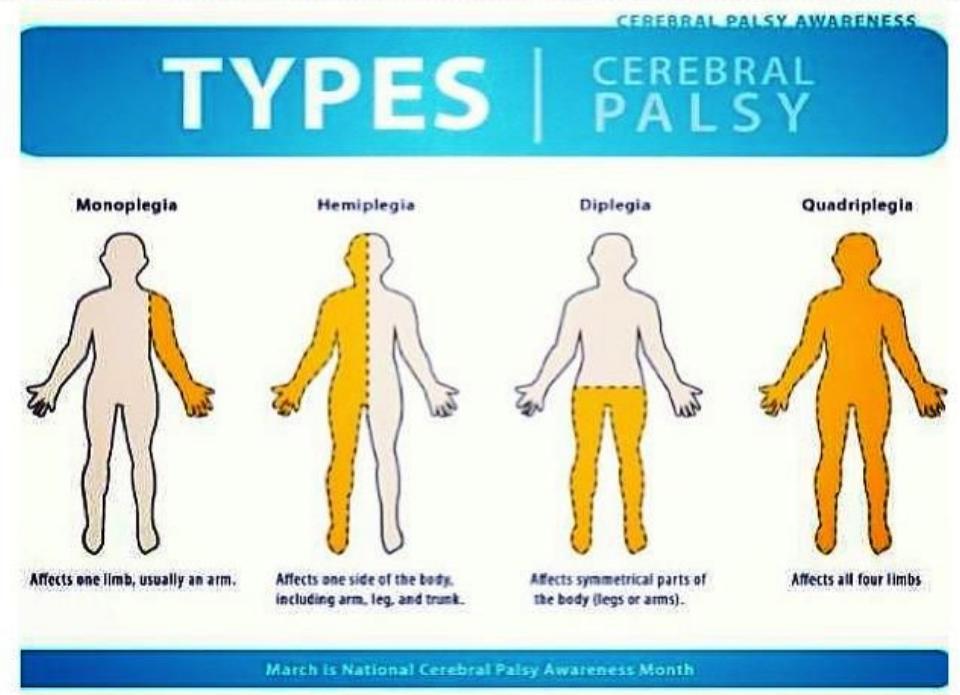
Poor balance and
coordination (ataxia),
associated with
damage to the
cerebellum



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

Classification

- Spastic (cerebral cortex)
- Dyskinetic (basal ganglia)
- Ataxic (cerebellum)
- Mixed presentation (multiple)





Symptoms

- Uncontrolled movements, tight muscles, fatigue, pain, depression, rapid aging, muscle atrophy, visual impairment, poor proprioception and vestibular systems
- Comorbidity

Exercise is Medicine



- Improves balance, gait (walking velocity, cadence, stride & step time, stride & step length, and pattern correction), gross motor function, decreases spasticity, improves ROM, strengthens weak muscles, reduces contracture (stretching)
- Psychosocial improvement



Other Treatment Types

- Pharmacological: muscle relaxants, botulinum toxin
- Surgery: loosen muscles, straighten bones, cut nerves
- Speech therapy, orthotics, device-assisted modalities

Conclusion

- CP is a non-progressive permanent disorder caused by a lesion to the developing brain
- Presentation is dependent on location of lesion
- Exercise has been shown to improve physical mobility and have psychosocial benefits as well



Questions?



Zach Anner Video

- <https://www.youtube.com/watch?v=1rPmWCRH5Vo>

