Disability Spotlight: Cerebral Palsy

State Council on Developmental Disabilities
March 20, 2019

Center for Excellence in Developmental Disabilities

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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
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
Cerebral Palsy - descriptions

Monoplegia: Affects one limb, usually an arm.
Hemiplegia: Affects one side of the body, including arm, leg, and trunk.
Diplegia: Affects symmetrical parts of the body (legs or arms).
Quadriplegia: Affects all four limbs.
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?