

Cerebral Palsy (CP): Final Review

Definition: A persistent (but *not progressive*) disorder of movement and/or posture caused by a lesion to the immature brain. Note: Although historically called a "static encephalopathy," this term is now considered inaccurate.

1. Etiology & Incidence

Incidence: 2 per 1000 live births. Most common and costly chronic disorder.

- **Prenatal (75%):** Intrauterine TORCH infections (Rubella, CMV, Toxo), placental insufficiency, malformations.
- **Perinatal (10%):** Birth asphyxia actually causes <10% of cases! Highly associated with Low Birth Weight due to **Periventricular Leukomalacia (PVL)**.
- **Postnatal (15%):** Hyperbilirubinemia (Kernicterus), meningitis/encephalitis, shaken baby syndrome.

2. Classification & Clinical Subtypes

A. Spastic CP (75-80%)

Involves Upper Motor Neuron (UMN) signs: Spasticity, hyperreflexia, clonus, Babinski sign. Damage to Pyramidal (Corticospinal) tracts.

- **Spastic Diplegia (35%):** Legs are MUCH more involved than arms. Scissoring posture (high adductor tone), tip-toe walking. Often seen in premature infants with PVL.
- **Spastic Hemiplegia (25%):** One side involved. Arm is usually worse than the leg. Early hand preference is a major red flag. Circumductive gait.
- **Spastic Quadriplegia (20%):** Most severe. Involves all 4 limbs. High association with mental retardation, seizures, swallowing difficulties, and aspiration pneumonia.

Memory Aid: Topography

DIplegia = **D**own **I**nferior (Legs worse than arms).

HEMIplegia = **H**and **E**arly (Early hand preference is a dead giveaway).

B. Dyskinetic / Athetoid CP (10-20%)

Extrapyramidal damage (Basal ganglia). Often due to **Asphyxia or Severe Hyperbilirubinemia (Kernicterus)**. Presents with early hypotonia/head lag, tongue thrust, drooling. *Intellect is often preserved*. No UMN signs.

C. Ataxic CP (1%)

Cerebellar involvement. Hypotonia early, tremor, titubation, staccato speech.

MCQ Pearl: Diagnostic Timing & Regression

Diagnosis is purely clinical. You can wait to diagnose in kids with normal variations (e.g., bottom shufflers).

Crucial Rule: Children with CP do *not* lose milestones. If a child shows **regression** (loss of skills), it is NOT Cerebral Palsy; look for a progressive neurodegenerative disorder!

3. Comorbidities & Management

- **Associated issues:** Epilepsy (30-45%), Strabismus/visual defects, Hearing impairment (20-30%), GERD (Sandifer syndrome), Drooling/dental caries.
- **Spasticity Treatment:** Oral (Baclofen, Diazepam, Dantrolene), Botox injections, Selective Dorsal Rhizotomy.
- **Seizure Treatment:** Carbamazepine, Valproate (Depakine), Ethosuximide for absence.
- **Prognosis:** If not sitting by 4 years or walking by 8 years, they will never be an independent walker.