

Impact of Cerebral Palsy (and other brain consequences of premature delivery)

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October 2018

Summary

- Cerebral palsy – what is it, how common, what types
- Relation to premature delivery
- Functional impact of cerebral palsy
- Other neuro consequences of premature delivery and impact

Cerebral palsy – what is it?

- Abnormality of muscle tone and posture due to damage or disrupted development of the developing brain, causing disability
- Usually but not always accompanied by learning difficulty and other problems not just related to motor skills (walking, hand use)

How common is CP, in relation to prematurity

- Rates vary worldwide: Africa more than 4 to 10 per 1000 children; US 3 to 4 per 1000 children; UK – North of England 2.5 per 1000 children, Oxford 1.5 per 1000; Sweden 1.1 per 1000
- In the developed world, most CP caused by brain disruption/damage before or close to time of birth
- Most children with CP are born at term
- Estimated 10% of CP due to term hypoxic/intrapartum injury
- At population level, about 45% of CP are born preterm, although majority at 32 to 36 weeks (i.e. not often in NICU or tertiary centre)
- Highest gestation-specific risk is in lower gestations: ~10% at 26 weeks

Types or classification of cerebral palsy

- Muscle tone: spastic, dystonic, ataxic, hypotonic, mixed
- Distribution: diplegia, hemiplegia, quadriplegia, mixed
- Mobility level: Level 1 – able to walk up stairs easily; Level 5 – not able to sit without support

Functional impact of cerebral palsy

- 1 in 3 unable to walk
- 1 in 4 unable to talk
- 1 in 10 severe vision problems
- 3 in 4 have pain
- 1 in 4 have epilepsy
- 1 in 2 have learning problems (mild to severe)
- 1 in 4 have emotional and behavioural problems
- 1 in 5 have drooling
- 1 in 15 need feeding tube
- 1 in 5 have sleep disorder
- 1 in 3 have hip problems
- 1 in 4 have bowel and bladder problems
- Life expectancy typically reduced, but the great majority live well into middle or late adult years

Other neuro consequences of premature delivery

- Milder forms of physical problems – not quite cerebral palsy
- Reading, writing, arithmetic, fine motor and balance problems
- ADHD, Autism
- Social, behavioural and mood problems
- More common in lower gestations and the longer children are followed up

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