# Caring for Persons with Cerebral Palsy – PCP Handout

Cerebral palsy is a nonprogressive disorder of movement due to early CNS insult during pre- and perinatal (80%) or postnatal (20%) period. Occurs in ~ 3 per 1000 live births. Symptoms and comorbidities vary across subsets as classified by:

- Type - spastic 70-80%, dyskinetic 2.5 -10%, ataxic 1-2.5% or mixed 15%
- Distribution - hemiplegia 25-40%, diplegia 35%, triplegia, quadriplegia 20%
- Severity - General Motor Functional Classification System I-V, least to most severe, 58% ambulatory

| Comorbidity | Summary | Management |
|---|---|---|
| Intellectual disability | • IQ <70 in 19% GMFCS 1-2, 35% GMFCS 3-5<br>• IQ < 50 (7-55%) assoc. w/ GMFCS, spastic quadriplegia, hypotonia | • Dysarthria is not indicative of ID<br>• Verify prior testing for adaptations and planning.<br>• Access adaptive services |
| Communication difficulties | • 61% overall - hypotonia 95%, dyskinesia 94%, spastic quadriplegia 89% | • Verify ability to report pain and illness<br>• Use augmentative communication – ipad, PECS, etc. |
| Mental health | • Depression 21%; anxiety 21%; mood disorders 23%, dementia 3.8%, w/ID 16%<br>• Hyperactivity 31%, emotional difficulties 29%, conduct problems 17% | • w/o ID - PHQ9 & GAD7, w/ ID adapted PHQ9 & GAD7 or Glasgow scales. First line SSRI, consider GABA analogue.<br>• Watch neuro sx, interaction of meds w/ spasticity.<br>• Screen for aging changes eg. NTG-EDSD |
| Hearing loss | • 5% to 16% w/ increasing GMFCS, or hypotonia, higher in dyskinetic, ataxic | • Periodic hearing screen. Check cerumen impaction.<br>• Adaptive services for impairment. |
| Vision loss | • 30 – 49% assoc w/inc. GMFCS, hypotonia, eg. strabismus, retinopathy of prematurity, cortical visual impairment, field defects, blindness 5.5% assoc w/ GMFCS V or tri/quadriplegia. | • Routine vision exam<br>• Adaptive services for impairment. |
| Seizures and other neuro issues | • 23-28%, small subset resolve by age 5<br>• GMFCS V 65%, tri/quadriplegia 53%<br>• Pain 65% - back 47%, spasticity<br>• Autonomic dysfunction 33% - flushing, tremors, acute HTN, bradycardia, stroke risk | • Surveillance for seizure-like activity<br>• Address pain management<br>• Spasticity Rx – meds esp. baclofen, botox, surgery<br>• Urgent Rx - sit up, loosen clothes, relieve noxious trigger – bladder, constipation, Rx BP w/nitropaste |
| GI issues | • GERD 16%, fecal incontinence 14.6%<br>• Constipation 17%, non-ambulatory 59%, ID 67%<br>• Underweight 16.5%, non-amb 22.9%, ID 12-17%<br>• Short stature (shortest quadriplegia vs di/hemi) | • Verify stooling frequency, consistency<br>• Verify diet intake, BMI<br>• Nutrition support, supplements, multivitamins.<br>• Consider growth hormone deficiency |
| MSK | • Contractures, scoliosis 46% w. progression risk<br>• Hip dislocation (esp. non-ambulatory)<br>• Age 30-40 risk mobility loss, inc. w/ age, early osteoarthritis 16-19% | • Maintain surveillance of scoliosis curve<br>• Shared decision making for surgery w/ curve > 40-50 or hip relocation<br>• PT for loss of function |
| Fragility fractures | • 5.5% overall up to 38%, risks - immobility, undernutrition, anticonvulsant use. | • Consider Vit D testing, DEXA<br>• Encourage weight bearing as able |
| Lung disease | • Asthma 24%, COPD 11%, CLD from perinatal injury, fibrosis 2.4% from recurrent aspiration, restriction from severe scoliosis | • Verify swallowing concerns<br>• Consider swallow study<br>• Adapt diet and feeding positioning as needed |
| Cardiovascular disease | • Increased hypertension 26%, ischemic heart disease, stroke, cerebrovascular disease | • Regular BP testing, routine cholesterol screening |
| Urinary incontinence | • 32%, increase w/ worse motor or cognitive function, CKD 3.1%, UTIs, hydronephrosis | • Continence supplies prn<br>• Low muscle mass, use cystatin C for GFR https://www.kidney.org/professionals/gfr_calculator |
| Skin ulcers | • 7.8- 9.2%, non-ambulatory 27.9%, ambulatory 1.8%, w/ ID 35.3%, w/o ID 1.7% | • Screen skin, teach home surveillance<br>• Verify weight shifting, safe transfers, etc. |
| Dental | • High dental caries, due to hygiene, enamel hypoplasia, GERD, medication effects<br>• Bruxism, malocclusion, hypersalivation | • Regular dental care, accommodations prn<br>• Supportive care for drooling, meds, salivary surgery. |



Ryan JM, et al (2023). Prevalence and incidence of chronic conditions among adults with cerebral palsy: a systematic review and meta-analysis. *Developmental Medicine & Child Neurology*, *65*(9), 1174-1189. Summary by CYACC In 4/25.