



# Applying Clinical Practice Guideline Recommendations for an Infant with CP (0-2): A case report

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## Introduction

**The Challenge:** real world application CPGs

- Morgan et al published Evidence Based Clinical Practice Guideline recommendations (2021) to support the best development for infants with Cerebral Palsy

- Three overarching principles focused on
  - Early referral for at risk infants
  - Coaching parents to increase knowledge
  - Support and parent goals/participation with frequent practice leading to independence

## Purpose:

**Case report illustrates CPG recommendations**

- Nine domains are covered (motor, cognitive, communication, eating/drinking, sleep, vision managing muscle tone, musculoskeletal health and parent support
- Practical interventions used daily at home with parents in everyday routines

## Participant

A full term infant with HIE was referred aged 8 weeks for plagiocephaly, extremely low shoulder tone, and bilateral hand asymmetry

- OT, PT, speech and Mother worked with the infant focusing on motor, CIMT/bimanual, sitting, reaching, play and communication skills
- Added domain of social-emotional development.
- OT and PT did monthly visits at home from 7 months to age 3, supporting parents through coaching.

## Methods: Recommendations

### 1.Motor: Early Referral at 8 weeks

Standardized assessments supported earlier Diagnosis: at 4 months (MAI 19 risk points, HINE 58: AIMS<5%), 12 months (GMFM 22%), 11 months DX by Paediatric Neurologist (Imaging). Confirmed Dx of Cerebral Palsy, Tetraplegia, Classification II

### 1.1. Motor: Active

Extended posture at 6 months trying to roll supine to prone



Changed from prone practice to flexed rolling in bath at 7 months



## Methods: Recommendations

### 1.2. Motor: CIMT

#### Asymmetrical use of arms and hands

Stopped tummy time to address torticollis  
Flexed positioning until 12 months  
Began Targeted Trunk Training 7 mo  
Targeting reaching right hand from 4mo

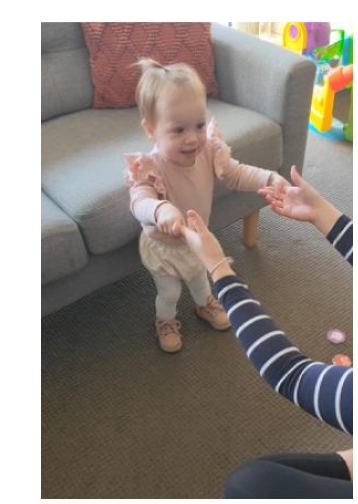
### 1.3 Motor: Child-led

Practice into/out of sitting to Achieve First Indep

Tummy crawl



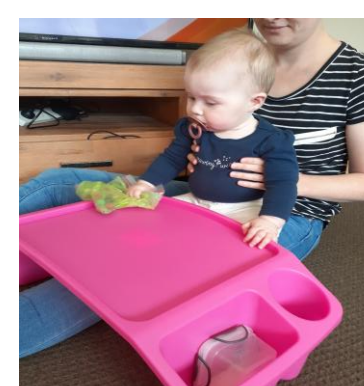
First all 4's



Testing steps

### 2.Cognitive

Using toys to develop problem solving skills with mum at home



### 3.Communication

BSID IV average range, speech and language age appropriate. Face to face interaction: 'High 5" at first independent walking age 20 months



### 4. Eating Drinking

Interventions from 7-9 months for asymmetrical tongue use in chew/swallow



## Methods: Recommendations

**5. Sleep:** Supine positioning to change extreme torsion of head/trunk/ and pelvis during sleep



### 6.Vision:

Checked and no concerns



### 7. Managing Muscle Tone/ Musculoskeletal Health through hip surveillance:

Migration % decreased from 24 to 14 degrees Left hip; Right hip 14 degrees; orthotics in use; no walkers or hand held walking forward before independent steps. Focus on cruising for over 6 months

### 8.Social Emotional

Parents coached using 'Circle of Security'

### 9.Parent Support:

All photos illustrate mum's hand guiding

## Results

Outcome measures included:

- 18 months (BSIDIV) WNL except motor 50% delay
- Age 3 GMFM increased from 22% at 12 months, to 89%
- At age 3, participating at a typical preschool. Parent reports compares to peers
- Parent satisfaction high
- Age 4 Continued parent concerns: Fatigue with walking any distance



## Discussion and conclusions

The key components of success were

- Starting early intervention at 8 weeks based on risk
- Coaching the parents combining OT, PT, speech
- Parent coaching in the home environment was the most important strategy used with focus on parent goals, participation and daily practice
- Parents taught infant to move into/out of sitting from 9 months, then into/out of all 4's, sit to stand from 12 months, cruise from 14 to 20 months when independent walking emerged
- This case report illustrates a child's active movement and skill development in nine domains recommended in the CPG plus social emotional development for an infant with CP

## Recommendations

Future research could use multiple case design to explore additional infant/caregiver dyads and coaching in the domains recommended in this CPG.

## Acknowledgements

Parents signed informed consent

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