Early, evidence-based intervention matters.

Intensity matters, regardless of the intervention.

Caregiver/parent collaboration drives the intensity.

Realistic, functional goals set & delivered by caregivers make this possible.

Stellar Goals:

- Set by the parents
- Written down
- Action-oriented (Functional)
- Concrete & Observable
- Realistic time frame
- Focus on small, achievable steps
- Celebrate success before starting the next goal
- Pro tip: encourage the parent to keep a diary of the child’s developmental milestones to watch their progress

Bibliography

Research done by Ramos colleagues, PTY and Marylou Backer, PT, DPT, PSC


Keeping the FUN in Functional

A Summary of Evidence-Based Interventions for Infants and Young Children at Risk for Unilateral Cerebral Palsy

NM Early CP Risk Detection and Intervention Task Force
Evidence-Based Physical Therapy

Ideal dosing is still being investigated, but evidence shows the intensity matters.1,6,10,20 Multiple evidence-based approaches work equally as well.

Constraint-Induced Manual Therapy (CIMT)1,11,12,18,19,21,22

What: unilateral therapy; unaffected arm is restrained for a limited period of time, while the child is encouraged to use their affected upper extremity. How: Any position, but ideal is sitting on floor or high chair with trunk support as necessary, adequate head control, eye contact with caregiver. For example: Finger painting, popping bubbles with one finger,18 grasping Types of constraints: mitt, sock, shirt with clip, neoprene (wetsuit material), splint, short cast, long arm cast. Reserve casting for older children.

Bimanual Therapy12,21,22

What: child is encouraged to use both upper extremities symmetrically and asymmetrically to play and reach. How: Any position, but ideal is sitting on floor or high chair with trunk support as necessary, adequate head control, eye contact with caregiver. For example: Shake a pair of rattles, play the xylophone with two hands, pull beads off a stick, take blocks out of a container.

Set up for success!

Incorporate these ideas into all types of therapy. Keep it functional!

Intensity is crucial, which comes through practice at home. Therefore, caregivers need to be directly involved. Ideas from research for a successful collaboration:

Parents and caregivers are MVP!13-9

Empower the caregivers: Boost their confidence and self-efficacy. Point out progress. Follow up.

Watch for depression and refer as necessary.

Collaborate with the caregivers: watch the child move together, discuss development and impairments while watching the child together, parents help set goals, help them find opportunities to practice in their daily routine (not additional HEP).

Let parents be parents, not therapists.

Help them find ways to make movement a natural part of play, eating, and routine interactions.

Enriched Environment2,12,16,17,5

Set up an environment that makes the child move and explore.

♦ Active approach --- encourage trial and error learning. Quality is not so important.

♦ Limit manual facilitation. Help as little as possible for child to achieve success.18

♦ Frequent, variable, and customized task practice

♦ Age-appropriate and engaging

♦ Compensatory strategies can be okay

♦ Teach the parent how to set up this environment

Evidence-Based Physical Therapy, continued

Home program dosing suggestions for CIMT and bimanual therapy11,24
Combining CIMT and bimanual therapy is possible and practical in practice.
20 min/day, 5 days a week for infants 3-6 mo22
40 min/day, 5 days a week for infants 9-12 mo23
30 min/day, 6 days a week, for 12 weeks11

NMES25

Electrical stimulation of extensors and dorsiflexors (glutes, quads, anterior tibials; triceps, wrist extensors, extensor digitorum) as well as finger and wrist flexors. Frequencies generally 30-45Hz, pulse duration 100-300 usec, ramp up time 0.5-2 sec. Applied for 15-20 min in task-oriented therapy setting for 1 hour for 2 months at home.

Botulinum toxin A injection with therapy21,26

A study with children >18 months showed that botulinum toxin A injections combined with CIMT or bimanual therapy was effective.

Hand splints/orthoses12,26,27,29-35

There are functional and non-functional hand splints. Evidence for non-functional orthoses, which are used for short periods of time (including at night), is limited27,29. There is a lack of research for infants <18 mo.

Incorporated into routine interactions

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