

Durable Medical Equipment Blueprint for Children with Cerebral Palsy

Jonathan M. Greenwood, PT, MS, DPT, c/NDT, CEIS, PCS

ABSTRACT: Therapists know the functional status of children with cerebral palsy stratified by GMFCS level and age, so we can expect to make certain clinical recommendations and forecast certain equipment needs over the lifespan of children with cerebral palsy. Clinicians, physicians and families vary in when they introduce DME to support the growth, development and function of their child. This poster is a look at recommendations throughout transitions and over time sorted by GMFCS level for children with cerebral palsy in order to best prepare for potential needs based on the expected development of the child.

Durable Medical Equipment Blueprint Cerebral Palsy by GMFCS & Age Categories

Age	GMFCS I	GMFCS II	GMFCS III	GMFCS IV	GMFCS V	
At birth					Medical Stroller	
1 year			Medical Stroller vs Manual Wheelchair Posture Control Walker Feeder Seat	Medical Stroller vs Tilt in Space Wheelchair Stander	Stander	Early Intervention
2 years		walker	Power Wheelchair Trial	Gait Trainer Tub Seat / Shower Chair	Gait Trainer Tub Seat / Shower Chair	
3 years				Power Wheelchair Trial	Tilt in Space Wheelchair	Pre-School
4 years					Hospital Bed System	
5 years			Hospital Bed System Tub Seat / Shower Chair	Hospital Bed System		
6 years		loftstrand crutches	Manual Wheelchair Posture Control Walker	Tilt in Space Wheelchair Stander	Stander	
7 years			Power Wheelchair	Gait Trainer Tub Seat / Shower Chair	Gait Trainer Tub Seat / Shower Chair	Elementary School
8 years					Tilt in Space Wheelchair	
9 years				Power Wheelchair Trial		
10 years			Tub Seat / Shower Chair			
11 years		loftstrand crutches	Manual Wheelchair Posture Control Walker	Tilt in Space Wheelchair Stander	Power Wheelchair Trial	
12 years			Power Wheelchair	Gait Trainer Tub Seat / Shower Chair	Stander Lift System	Middle School
13 years		tub bench			Tilt in Space Wheelchair Shower Chair	
14 years				Lift System	Hospital Bed System	
15 years			Hospital Bed System Tub Seat / Shower Chair	Hospital Bed System		
16 years		loftstrand crutches	Manual Wheelchair Posture Control Walker	Tilt in Space Wheelchair Stander		
17 years			Power Wheelchair	Tub Seat / Shower Chair		High School
18 years		Scooter Trial tub bench			Tilt in Space Wheelchair Shower Transfer System	
19 years						
20 years						
21+ years			Replacement of Older DME			Secondary Education / Adulthood

What does it all Cost?

Item and description	Approx MSRP
Medical Crib	\$ 3,800
Semi Electric Hospital Bed	\$ 1,900
Medical Enclosed Bed	\$ 9,700
Medical Stroller (Umbrella Style)	\$ 2,600
Medical Stroller (Positional Seating)	\$ 5,000
Manual Ultralight wheelchair with cushion & back	\$ 4,800
Tilt in Space Manual wheelchair with cushion & back	\$ 5,300
Power Scooter (4 wheel)	\$ 1,800
Power Wheelchair (Basic Rehab Seating to Complex Seat functions)	\$ 25,000 - \$39,000
Manual Pneumatic Lift	\$ 1,000
Stander (Supine, Tristander, sit to stand, Prone)	\$ 2,500 - \$5,000
pediatric lofstrand crutches	\$ 150
Posterior Posture Control Walker with pelvic support	\$ 600
Gait Trainer with chest, arm and pelvic supports	\$ 2,800
transfer tub bench	\$ 100
Mesh Bath Chair with stand	\$ 800
Positional Shower Commode Chair	\$ 800
Transfer Tub System	\$ 5,000

Knowing Costs Help to Plan

The DME Blueprint is a means of summarizing the potential needs of a child throughout their lifespan to best prepare therapists, physicians and families to make educated decisions on equipment selection over time. The overall cost analysis will also provide a means to prepare upcoming changes in reimbursement structures and health care systems analyze the costs associated with the care of patients with complex medical needs such as children with cerebral palsy.

GMFCS Level IV DME Costs (Birth – 21 years)

Sample Equipment Costs for Child with Cerebral Palsy (GMFCS IV):

A Lifetime Plan for a Child functioning at a GMFCS IV consists of approximately \$90,000 (+/- 20%) . Additional Costs for growing equipment, repairs and unexpected functional changes may impact overall costs.

References:
1. Arva J, Paleg G, Lang M, Lieberman J, Schmeler M, Dicianno B, Babinec M, Rosen L. RESNA Position on the Application of Wheelchair Standing Devices. Assistive Technology. 2009; 21:161-168.
2. Gibson SK, Sprod JA, Maher CA. The use of standing frames for contracture management for nonmobile children with cerebral palsy. Int J Ther Rehabil. 2009; 32:316-323
3. Huang IC, Sugden D, Beveridge S. Assistive devices and cerebral palsy: the use of assistive devices at school by children with cerebral palsy. Child: care, health and development. 2009; 35(5):698-708
4. Huang IC, Sugden D, Beveridge S. Assistive devices and cerebral palsy: factors influencing the use of assistive devices at home by children with cerebral palsy. Child: care, health and development. 2008; 35(1):130-139

Special Thanks and Acknowledgements to Janet Quigley, PT (Boston Children's Hospital, Boston, MA), Elizabeth Maczek, PT (Boston Children's Hospital, Boston, MA), & Peter Eastman, ATP (Hudson Seating and Mobility, Woburn, MA) for their assistance in reviewing, revising and pricing equipment at various functional levels for children with Cerebral Palsy.

*Considerations that DME recommendations are based on functional and positional needs and should last the child an estimated 5 years considering growth, disease progression and functional change.

** Equipment may need to be modified or grown based on child's anthropometric measurements and functional changes over time

For More Information Contact: jonathan.greenwood@childrens.harvard.edu



HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL