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ORGANIZATION NEWS

Highlights From the Rehabilitation Measures Database

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Measurement Characteristics and Clinical Utility of the Cerebral Palsy Profile of Health and Function Among Children With CP

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Assessing physical function in children with cerebral palsy (CP) is critical in evaluating progression and effectiveness of medical, surgical and therapeutic treatments. Cerebral Palsy Profile of Health and Function (CP-PRO) is a parent-reported outcome measure, rating the parent's perception of the child's difficulty when performing physical activities.[1]

The CP-PRO is a computer adaptive test (CAT) that first presents questions in the middle of the ability range, and then directs questions to the appropriate ability level based on the person's response to previous items. The 5-, 10-, or 15-item CATs are reported to be as reliable as the full item bank.[2-4] The CP-PRO includes 4 subscales of upper extremity, lower extremity, activity, and global physical health that can be administered independently. The CP-PRO has a 5-point difficulty scale: *unable to do, with much difficulty, with some difficulty, with little difficulty, and without difficulty*. The age range recommended for administration is 2 to 20 years.

Haley et al[5] examined 91 children with CP and reported excellent concurrent validity with legacy measures such as Functional Assessment Questionnaire ($r=0.78$), Pediatric Outcomes Data Collection Instrument basic mobility ($r=0.88$), and Wee-FIM motor ($r=0.89$). Haley et al[5] additionally examined 27 children with CP and reported excellent test-retest reliability for overall (intraclass correlation coefficient [ICC]$=0.91$), Lower Extremity CP-PRO (ICC$=0.96$), Upper Extremity CP-PRO (ICC$=0.86$), Activity CP-PRO (ICC$=0.88$), and Global Physical Health CP-PRO (ICC$=0.94$). In sum, the reported reliability, validity, responsiveness, unidimensionality of the sub-scales, and time-efficient CAT format support clinical use of CP-PRO for children with CP.

This abbreviated summary provides a review of the psychometric properties of Cerebral Palsy Profile of Health and Function in children with Cerebral Palsy. A full review of the of Cerebral Palsy Profile of Health and Function and reviews of over 400 other instruments for patients with various health conditions can be found at: www.sralab.org/Rehabilitation-Measures.

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This instrument summary is designed to facilitate the selection of outcome measures by clinicians. The information contained in this summary represents a sample of the peer-reviewed research available at the time of this summary's publication. The information contained in this summary does not constitute an endorsement of this instrument for clinical practice. The views expressed are those of the summary authors and do not represent those of authors' employers, instrument owner(s), the *Archives of Physical Medicine and Rehabilitation*, the Rehabilitation Measures Database or the United States Department of Health and Human Services. The information contained in this summary has not been reviewed externally.

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Rehabilitation Measures

Measure Name:	Acronym:	Summary Authors:
Cerebral Palsy Profile of Health and Function	CP-PRO	Grampurohit N, PhD, OTR/L; Jarrar M, MS, OTR/L; Ehrlich-Jones L, PhD

Populations Reviewed:	Admin Time:	Score (Min/Max):
Cerebral Palsy (children 2-20 years of age)	5 minutes for 15-item CAT[6]	0/100

Purpose and Administration Instructions:

The CP-PRO is a parent-reported assessment of physical functioning that includes upper extremity skills, lower extremity skills, activity, and global physical health.

The CP-PRO is a computer adaptive test that first presents questions in the middle of the ability range, and then directs questions to the appropriate ability level based on the person's response to previous items. The CP-PRO has a five-point difficulty scale: *unable to do, with much difficulty, with some difficulty, with little difficulty, and without difficulty*.

Training Required:

None

Items:

5, 10, or 15-item CATs derived from 36 to 91-item banks

Required Equipment:

Computer desktop, laptop or tablet

Minimal Important Difference:

MID: 0.65 - 1.67[6]

Responsiveness:

LE CP-PRO responsive to change at 12 to 24 months post LE surgery (standard response mean 0.45 - 0.58)[6]

Reliability:

- Excellent test–retest (ICC 0.86-0.96) and overall reliability (ICC 0.95 – 0.97).[5]
- Excellent internal consistency of LE CP-PRO (Cronbach's alpha=0.99)[2]
- Excellent stability between alternate forms of full item bank, and 5, 10, or 15 item CP-PRO CAT for overall and UE subscale (ICC > 0.93)[3,4]

Floor / Ceiling Effects:

Excellent with low floor and ceiling effects for the LE and Activity subscales ranging from 0 to 3.6%.[2,4]

Validity:

- Content validity evaluated with Item Response Theory (conceptual framework explained, unidimensionality confirmed for subscales, item functioning stable across clinical subgroups)[1-4]
- Excellent concurrent validity with Functional Assessment Questionnaire, Pediatric Outcomes Data Collection Instrument, Wee-FIM, Pediatric Quality of Life Inventory for CP ranging from: r=0.65 - 0.91.[2-5]
- Adequate concurrent validity of Global Physical Health CP-PRO and Pediatric Quality of Life Inventory for CP (r=0.59)[5]
- Discriminant validity among MACS levels, GMFCS levels, severity and CP type.[2,4]

Considerations:

- Only available in English
- 10-item Short Form available for select subscales
- Contact to obtain test: jacob.kean@hsc.utah.edu

Abbreviations:

CAT: Computer Adaptive Test
CP: Cerebral Palsy
MID: Minimal Important Difference
UE: Upper Extremity
LE: Lower Extremity
MACS: Manual Ability Classification System
GMFCS: Gross Motor Function Classification System

Cut-off Criteria:

	r	ICC
Excellent	≥ .6	≥ .75
Adequate	.31-.59	.40 -.74
Poor	≤ .3	< .4