

GROSS MOTOR FUNCTION MEASURE (GMFM) SCORE SHEET (GMFM-88 and GMFM-66 scoring)

Version 1.0

Child's Name: _____ ID #: _____

Assessment date: _____

GMFCS Level ¹

Date of birth: _____

year / month / day

I II III IV V

year / month / day

Chronological age: _____

years/months

Testing Conditions (eg, room, clothing, time, others present)

Evaluator's Name: _____

The GMFM is a standardized observational instrument designed and validated to measure change in gross motor function over time in children with cerebral palsy. The scoring key is meant to be a general guideline. However, most of the items have specific descriptors for each score. It is imperative that the guidelines contained in the manual be used for scoring each item.

SCORING KEY 0 = does not initiate
1 = initiates
2 = partially completes
3 = completes
NT = Not tested [used for the GMAE scoring*]

It is now important to differentiate a true score of "0" (child does not initiate) from an item which is Not Tested (NT) if you are interested in using the GMFM-66 Ability Estimator Software.

The GMFM-66 Gross Motor Ability Estimator (GMAE) software is available with the GMFM manual (2002). The advantage of the software is the conversion of the ordinal scale into an interval scale. This will allow for a more accurate estimate of the child's ability and provide a measure that is equally responsive to change across the spectrum of ability levels. Items that are used in the calculation of the GMFM-66 score are shaded and identified with an asterisk (). The GMFM-66 is only valid for use with children who have cerebral palsy.

Contact for Research Group:

Dianne Russell, *CanChild* Centre for Childhood Disability Research, McMaster University, Institute for Applied Health Sciences, McMaster University, 1400 Main St. W., Rm. 408, Hamilton, L8S 1C7

Tel: North America - 1 905 525-9140 Ext: 27850

Tel: All other countries - 001 905 525-9140 Ext: 27850

E-mail: canchild@mcmaster.ca Fax: 1 905 522-6095

Website: www.fhs.mcmaster.ca/canchild

¹ GMFCS level is a rating of severity of motor function. Definitions are found in Appendix I of the GMFM manual (2002).

Check (✓) the appropriate score: if an item is not tested (NT), circle the item number in the right column

Item	A: LYING & ROLLING	SCORE				NT
1.	SUP, HEAD IN MIDLINE: TURNS HEAD WITH EXTREMITIES SYMMETRICAL.....	0	1	2	3	1.
* 2.	SUP: BRINGS HANDS TO MIDLINE, FINGERS ONE WITH THE OTHER	0	1	2	3	2.
3.	SUP: LIFTS HEAD 45°	0	1	2	3	3.
4.	SUP: FLEXES R HIP AND KNEE THROUGH FULL RANGE	0	1	2	3	4.
5.	SUP: FLEXES L HIP AND KNEE THROUGH FULL RANGE	0	1	2	3	5.
* 6.	SUP: REACHES OUT WITH R ARM, HAND CROSSES MIDLINE TOWARD TOY	0	1	2	3	6.
* 7.	SUP: REACHES OUT WITH L ARM, HAND CROSSES MIDLINE TOWARD TOY.....	0	1	2	3	7.
8.	SUP: ROLLS TO PR OVER R SIDE	0	1	2	3	8.
9.	SUP: ROLLS TO PR OVER L SIDE	0	1	2	3	9.
* 10.	PR: LIFTS HEAD UPRIGHT	0	1	2	3	10.
11.	PR ON FOREARMS: LIFTS HEAD UPRIGHT, ELBOWS EXT., CHEST RAISED	0	1	2	3	11.
12.	PR ON FOREARMS: WEIGHT ON R FOREARM, FULLY EXTENDS OPPOSITE ARM FORWARD	0	1	2	3	12.
13.	PR ON FOREARMS: WEIGHT ON L FOREARM, FULLY EXTENDS OPPOSITE ARM FORWARD	0	1	2	3	13.
14.	PR: ROLLS TO SUP OVER R SIDE	0	1	2	3	14.
15.	PR: ROLLS TO SUP OVER L SIDE.....	0	1	2	3	15.
16.	PR: PIVOTS TO R 90° USING EXTREMITIES.....	0	1	2	3	16.
17.	PR: PIVOTS TO L 90° USING EXTREMITIES	0	1	2	3	17.
TOTAL DIMENSION A						

Item	B: SITTING	SCORE				NT
* 18.	SUP, HANDS GRASPED BY EXAMINER: PULLS SELF TO SITTING WITH HEAD CONTROL	0	1	2	3	18.
19.	SUP: ROLLS TO R SIDE, ATTAINS SITTING.....	0	1	2	3	19.
20.	SUP: ROLLS TO L SIDE, ATTAINS SITTING	0	1	2	3	20.
* 21.	SIT ON MAT, SUPPORTED AT THORAX BY THERAPIST: LIFTS HEAD UPRIGHT, MAINTAINS 3 SECONDS	0	1	2	3	21.
* 22.	SIT ON MAT, SUPPORTED AT THORAX BY THERAPIST: LIFTS HEAD MIDLINE, MAINTAINS 10 SECONDS	0	1	2	3	22.
* 23.	SIT ON MAT, ARM(S) PROPPING: MAINTAINS, 5 SECONDS.....	0	1	2	3	23.
* 24.	SIT ON MAT: MAINTAINS, ARMS FREE, 3 SECONDS	0	1	2	3	24.
* 25.	SIT ON MAT WITH SMALL TOY IN FRONT: LEANS FORWARD, TOUCHES TOY, RE-ERECTS WITHOUT ARM PROPPING.....	0	1	2	3	25.
* 26.	SIT ON MAT: TOUCHES TOY PLACED 45° BEHIND CHILD'S R SIDE, RETURNS TO START.....	0	1	2	3	26.
* 27.	SIT ON MAT: TOUCHES TOY PLACED 45° BEHIND CHILD'S L SIDE, RETURNS TO START	0	1	2	3	27.
28.	R SIDE SIT: MAINTAINS, ARMS FREE, 5 SECONDS	0	1	2	3	28.
29.	L SIDE SIT: MAINTAINS, ARMS FREE, 5 SECONDS.....	0	1	2	3	29.
* 30.	SIT ON MAT: LOWERS TO PR WITH CONTROL.....	0	1	2	3	30.
* 31.	SIT ON MAT WITH FEET IN FRONT: ATTAINS 4 POINT OVER R SIDE	0	1	2	3	31.
* 32.	SIT ON MAT WITH FEET IN FRONT: ATTAINS 4 POINT OVER L SIDE	0	1	2	3	32.
33.	SIT ON MAT: PIVOTS 90°, WITHOUT ARMS ASSISTING	0	1	2	3	33.
* 34.	SIT ON BENCH: MAINTAINS, ARMS AND FEET FREE, 10 SECONDS	0	1	2	3	34.
* 35.	STD: ATTAINS SIT ON SMALL BENCH	0	1	2	3	35.
* 36.	ON THE FLOOR: ATTAINS SIT ON SMALL BENCH.....	0	1	2	3	36.
* 37.	ON THE FLOOR: ATTAINS SIT ON LARGE BENCH	0	1	2	3	37.
TOTAL DIMENSION B						

Item	C: CRAWLING & KNEELING	SCORE				NT
38.	PR: CREEPS FORWARD 1.8m (6')	0	1	2	3	38.
* 39.	4 POINT: MAINTAINS, WEIGHT ON HANDS AND KNEES, 10 SECONDS	0	1	2	3	39.
* 40.	4 POINT: ATTAINS SIT ARMS FREE	0	1	2	3	40.
* 41.	PR: ATTAINS 4 POINT, WEIGHT ON HANDS AND KNEES	0	1	2	3	41.
* 42.	4 POINT: REACHES FORWARD WITH R ARM, HAND ABOVE SHOULDER LEVEL	0	1	2	3	42.
* 43.	4 POINT: REACHES FORWARD WITH L ARM, HAND ABOVE SHOULDER LEVEL	0	1	2	3	43.
* 44.	4 POINT: CRAWLS OR HITCHES FORWARD 1.8m (6')	0	1	2	3	44.
* 45.	4 POINT: CRAWLS RECIPROCALLY FORWARD 1.8m (6')	0	1	2	3	45.
* 46.	4 POINT: CRAWLS UP 4 STEPS ON HANDS AND KNEES/FEET	0	1	2	3	46.
47.	4 POINT: CRAWLS BACKWARDS DOWN 4 STEPS ON HANDS AND KNEES/FEET	0	1	2	3	47.
* 48.	SIT ON MAT: ATTAINS HIGH KN USING ARMS, MAINTAINS, ARMS FREE, 10 SECONDS	0	1	2	3	48.
49.	HIGH KN: ATTAINS HALF KN ON R KNEE USING ARMS, MAINTAINS, ARMS FREE, 10 SECONDS	0	1	2	3	49.
50.	HIGH KN: ATTAINS HALF KN ON L KNEE USING ARMS, MAINTAINS, ARMS FREE, 10 SECONDS	0	1	2	3	50.
* 51.	HIGH KN: KN WALKS FORWARD 10 STEPS, ARMS FREE	0	1	2	3	51.
TOTAL DIMENSION C <input style="width: 150px; height: 20px;" type="text"/>						

Item	D: STANDING	SCORE				NT
* 52.	ON THE FLOOR: PULLS TO STD AT LARGE BENCH	0	1	2	3	52.
* 53.	STD: MAINTAINS, ARMS FREE, 3 SECONDS	0	1	2	3	53.
* 54.	STD: HOLDING ON TO LARGE BENCH WITH ONE HAND, LIFTS R FOOT, 3 SECONDS	0	1	2	3	54.
* 55.	STD: HOLDING ON TO LARGE BENCH WITH ONE HAND, LIFTS L FOOT, 3 SECONDS	0	1	2	3	55.
* 56.	STD: MAINTAINS, ARMS FREE, 20 SECONDS	0	1	2	3	56.
* 57.	STD: LIFTS L FOOT, ARMS FREE, 10 SECONDS	0	1	2	3	57.
* 58.	STD: LIFTS R FOOT, ARMS FREE, 10 SECONDS	0	1	2	3	58.
* 59.	SIT ON SMALL BENCH: ATTAINS STD WITHOUT USING ARMS	0	1	2	3	59.
* 60.	HIGH KN: ATTAINS STD THROUGH HALF KN ON R KNEE, WITHOUT USING ARMS	0	1	2	3	60.
* 61.	HIGH KN: ATTAINS STD THROUGH HALF KN ON L KNEE, WITHOUT USING ARMS	0	1	2	3	61.
* 62.	STD: LOWERS TO SIT ON FLOOR WITH CONTROL, ARMS FREE	0	1	2	3	62.
* 63.	STD: ATTAINS SQUAT, ARMS FREE	0	1	2	3	63.
* 64.	STD: PICKS UP OBJECT FROM FLOOR, ARMS FREE, RETURNS TO STAND	0	1	2	3	64.
TOTAL DIMENSION D <input style="width: 150px; height: 20px;" type="text"/>						

Item	E: WALKING, RUNNING & JUMPING	SCORE				NT
* 65.	STD, 2 HANDS ON LARGE BENCH: CRUISES 5 STEPS TO R.....	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	65.
* 66.	STD, 2 HANDS ON LARGE BENCH: CRUISES 5 STEPS TO L	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	66.
* 67.	STD, 2 HANDS HELD: WALKS FORWARD 10 STEPS.....	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	67.
* 68.	STD, 1 HAND HELD: WALKS FORWARD 10 STEPS	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	68.
* 69.	STD: WALKS FORWARD 10 STEPS.....	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	69.
* 70.	STD: WALKS FORWARD 10 STEPS, STOPS, TURNS 180°, RETURNS	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	70.
* 71.	STD: WALKS BACKWARD 10 STEPS	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	71.
* 72.	STD: WALKS FORWARD 10 STEPS, CARRYING A LARGE OBJECT WITH 2 HANDS	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	72.
* 73.	STD: WALKS FORWARD 10 CONSECUTIVE STEPS BETWEEN PARALLEL LINES 20cm (8") APART	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	73.
* 74.	STD: WALKS FORWARD 10 CONSECUTIVE STEPS ON A STRAIGHT LINE 2cm (3/4") WIDE.....	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	74.
* 75.	STD: STEPS OVER STICK AT KNEE LEVEL, R FOOT LEADING.....	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	75.
* 76.	STD: STEPS OVER STICK AT KNEE LEVEL, L FOOT LEADING	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	76.
* 77.	STD: RUNS 4.5m (15'), STOPS & RETURNS	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	77.
* 78.	STD: KICKS BALL WITH R FOOT	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	78.
* 79.	STD: KICKS BALL WITH L FOOT.....	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	79.
* 80.	STD: JUMPS 30cm (12") HIGH, BOTH FEET SIMULTANEOUSLY.....	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	80.
* 81.	STD: JUMPS FORWARD 30 cm (12"), BOTH FEET SIMULTANEOUSLY	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	81.
* 82.	STD ON R FOOT: HOPS ON R FOOT 10 TIMES WITHIN A 60cm (24") CIRCLE	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	82.
* 83.	STD ON L FOOT: HOPS ON L FOOT 10 TIMES WITHIN A 60cm (24") CIRCLE	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	83.
* 84.	STD, HOLDING 1 RAIL: WALKS UP 4 STEPS, HOLDING 1 RAIL, ALTERNATING FEET.....	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	84.
* 85.	STD, HOLDING 1 RAIL: WALKS DOWN 4 STEPS, HOLDING 1 RAIL, ALTERNATING FEET	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	85.
* 86.	STD: WALKS UP 4 STEPS, ALTERNATING FEET	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	86.
* 87.	STD: WALKS DOWN 4 STEPS, ALTERNATING FEET.....	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	87.
* 88.	STD ON 15cm (6") STEP: JUMPS OFF, BOTH FEET SIMULTANEOUSLY	0 <input type="checkbox"/>	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	88.

TOTAL DIMENSION E

Was this assessment indicative of this child's "regular" performance? YES NO

COMMENTS:

GMFM RAW SUMMARY SCORE

DIMENSION	CALCULATION OF DIMENSION % SCORES			GOAL AREA <small>(indicated with ✓ check)</small>
A. Lying & Rolling	$\frac{\text{Total Dimension A}}{51}$	=	$\frac{\quad}{51} \times 100 = \quad\% $	A. <input type="checkbox"/>
B. Sitting	$\frac{\text{Total Dimension B}}{60}$	=	$\frac{\quad}{60} \times 100 = \quad\% $	B. <input type="checkbox"/>
C. Crawling & Kneeling	$\frac{\text{Total Dimension C}}{42}$	=	$\frac{\quad}{42} \times 100 = \quad\% $	C. <input type="checkbox"/>
D. Standing	$\frac{\text{Total Dimension D}}{39}$	=	$\frac{\quad}{39} \times 100 = \quad\% $	D. <input type="checkbox"/>
E. Walking, Running & Jumping	$\frac{\text{Total Dimension E}}{72}$	=	$\frac{\quad}{72} \times 100 = \quad\% $	E. <input type="checkbox"/>

TOTAL SCORE = $\frac{\%A + \%B + \%C + \%D + \%E}{\text{Total \# of Dimensions}}$

= $\frac{\quad + \quad + \quad + \quad + \quad}{5} = \frac{\quad}{5} = \quad\%$

GOAL TOTAL SCORE = $\frac{\text{Sum of \% scores for each dimension identified as a goal area}}{\text{\# of Goal areas}}$

= $\frac{\quad}{\quad} = \quad\%$

GMFM-66 Gross Motor Ability Estimator Score ¹

GMFM-66 Score = _____ to _____
95% Confidence Intervals

previous GMFM-66 Score = _____ to _____
95% Confidence Intervals

change in GMFM-66 = _____

¹ from the Gross Motor Ability Estimator (GMAE) Software

TESTING WITH AIDS/ORTHOSES

Indicate below with a check (✓) which aid/orthosis was used and what dimension it was first applied. (There may be more than one).

AID	DIMENSION	ORTHOSIS	DIMENSION
Rollator/Pusher.....	<input type="checkbox"/> _____	Hip Control.....	<input type="checkbox"/> _____
Walker.....	<input type="checkbox"/> _____	Knee Control.....	<input type="checkbox"/> _____
H Frame Crutches.....	<input type="checkbox"/> _____	Ankle-Foot Control.....	<input type="checkbox"/> _____
Crutches	<input type="checkbox"/> _____	Foot Control.....	<input type="checkbox"/> _____
Quad Cane	<input type="checkbox"/> _____	Shoes.....	<input type="checkbox"/> _____
Cane	<input type="checkbox"/> _____	None	<input type="checkbox"/> _____
None	<input type="checkbox"/> _____	Other	<input type="checkbox"/> _____
Other	<input type="checkbox"/> _____	(please specify)	

_____ (please specify)

RAW SUMMARY SCORE USING AIDS/ORTHOSES

DIMENSION	CALCULATION OF DIMENSION % SCORES			GOAL AREA
				(indicated with ✓ check)
F. Lying & Rolling	$\frac{\text{Total Dimension A}}{51} = \frac{51}{51} \times 100 = \underline{\hspace{2cm}} \%$			A. <input type="checkbox"/>
G. Sitting	$\frac{\text{Total Dimension B}}{60} = \frac{60}{60} \times 100 = \underline{\hspace{2cm}} \%$			B. <input type="checkbox"/>
H. Crawling & Kneeling	$\frac{\text{Total Dimension C}}{42} = \frac{42}{42} \times 100 = \underline{\hspace{2cm}} \%$			C. <input type="checkbox"/>
I. Standing	$\frac{\text{Total Dimension D}}{39} = \frac{39}{39} \times 100 = \underline{\hspace{2cm}} \%$			D. <input type="checkbox"/>
J. Walking, Running & Jumping	$\frac{\text{Total Dimension E}}{72} = \frac{72}{72} \times 100 = \underline{\hspace{2cm}} \%$			E. <input type="checkbox"/>
TOTAL SCORE =	$\frac{\%A + \%B + \%C + \%D + \%E}{\text{Total \# of Dimensions}}$			
	$= \frac{\quad + \quad + \quad + \quad + \quad}{5} = \frac{\quad}{5} = \underline{\hspace{2cm}} \%$			
GOAL TOTAL SCORE =	$\frac{\text{Sum of \% scores for each dimension identified as a goal area}}{\text{\# of Goal areas}}$			
	$= \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \%$			

GMFM-66 Gross Motor Ability Estimator Score ¹

GMFM-66 Score = _____ to _____
95% Confidence Intervals

previous GMFM-66 Score = _____ to _____
95% Confidence Intervals

change in GMFM-66 = _____

¹ from the Gross Motor Ability Estimator (GMAE) Software