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**Gross Motor Function Measure (GMFM-88, GMFM-66)**

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<th>Assessibility:</th>
<th>Please visit this website for more information about the instrument: <a href="#">Gross Motor Function Measure Link</a></th>
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<tr>
<td>Classification:</td>
<td><strong>Supplemental Highly Recommended:</strong> Cerebral Palsy (CP)</td>
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<td><strong>Supplemental:</strong> Traumatic Brain Injury (TBI), Spinal Muscular Atrophy (SMA), Myotonic Dystrophy (DM) and Mitochondrial Disease (Mito)</td>
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<td><strong>Exploratory:</strong> Congenital Muscular Dystrophy (CMD), Duchenne/Becker Muscular Dystrophy (DMD/BMD) and Spinal Cord Injury (SCI)-Pediatric (5 months to 16 years)</td>
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| Short Description of Instrument: | **Construct measured:** Gross Motor Physical Function  
** Generic vs. disease specific:** Generic  
** Means of administration:** Examiner administered.  
** Intended respondent:** Administrator. |
|               | **Background:** The Gross Motor Function Measure (GMFM) is a standardized assessment of physical function and change in physical function in children with cerebral palsy. The GMFM-88 has also been used for assessment of children with Down Syndrome and Traumatic Brain Injury. The GMFM-66 (created using Rasch analysis of GMFM-88) has been validated only in children with CP. Both GMFM-88 and GMFM-66 measure gross motor function and change in function over time in 5 domains of Lying & Rolling, Sitting, Crawling & Kneeling, Standing; and Walking, Running & Jumping. The GMFM-66 also provides information on level of difficulty of each item.  
The GMFM requires the child to demonstrate various motor skills. The GMFM measures five areas of motor function: 1) lying and rolling; 2) sitting; 3) crawling and kneeling; 4) standing; and 5) walking, running, and jumping. The GMFM-66 is derived from the GMFM-88. Both tests are free to use with translations in Spanish and German.  
The GMFM 88 is a validated, age-appropriate tool for children with severe neurological and neuromuscular impairment. Validated for children with cerebral palsy (5 months to 16 years).  
Used as an outcome measure in many previous therapeutic trials for children with cerebral palsy: dorsal rhizotomy, intrathecal baclofen, physical therapy, strength training, muscle tendon surgery, gait, and overall fitness. This instrument is also used in trials of children with Down syndrome, traumatic brain injury, musculoskeletal disease, lysosomal storage disease. |
| Comments / Special Instructions: | The GMFM should be administered in an area that permits free movement, particularly for ambulatory children (on item requires a 15 foot run in one direction and return). In general, no special tools or equipment are required other than those typically found in a pediatric therapy gym. As the GMFM is intended to measure change in function over time, keeping the environment similar at each testing for the child is important for consistency in administration. |
| Scoring: | The test is administered in less than 40 minutes by a trained individual. A training manual, CD and standardized scoring forms are available. The manual contains information on score interpretation and is required for administration and scoring.  

A four-point scoring system is used for each item in the GMFM-88 and GMFM-66 (Range of 0 (Does not initiate) to 3 (Completes)). These are added to obtain raw and percent scores for each of the five dimensions, selected goal areas and for total score. Higher scores indicate higher functional level. The GMFM-88 scores can be summed and used to calculate both raw and percent scores for each of the five dimensions. GMFM-66 must be scored using the Gross Motor Ability Estimator (GMAE).  

**Administration Time:** Approximately 45-60 minutes. Administration time varies depending on the child’s ability, level of cooperation, and skill of the administrator. A training manual, CD and standardized scoring forms are available. The manual contains information on score interpretation and is required for administration and scoring. |
| Rationale / Justification: | **Strengths:** The GMFM 88 is a clinical measure designed to evaluate change in gross motor function in children with cerebral palsy (CP), who have many neuromuscular features also seen in children with mitochondrial diseases.

The GMFM 88 total score is the most frequent measure employed to detect changes in gross motor function in interventional trials. Can measure change even in children with little neurological functioning using subtle changes (head turning).

**Weaknesses:** Not yet proven to be reliable or validated for mitochondrial disease.

The GMFM 88 is a validated, age-appropriate tool for children with severe neurological and neuromuscular impairment. While currently validated for children with cerebral palsy (5 months to 16 years), the instrument considers quality of movement and is designed to track change over time. The GMFM does not provide age equivalency; all items are able to be performed by a typically developing 5 year old. Allows for testing of all motor skills, allowing children to demonstrate strength in any skill area, rather than cutting off due to inability to perform a particular skill.

**SCI-Pediatric:** There are no studies of the GMFM for youth with SCI.

**Cerebral Palsy:**

**Strengths/Weaknesses:** It’s a well-validated, commonly used measure. However, it can take a significant amount of time to administer.

**Psychometric Properties:** This has been validated in children with CP ages 5 months to 16 years old. Reliability is high for both GMFM-88 and GMFM 66. A clinically important change in score is dependent on the dimensions being tested, GMFCS level of the child, and which GMFM is being used. Please refer to the GMFM manual for more information. |
Recommended Instrument for: CP, CMD, DMD/BMD, Mito, DM, SMA, SCI-Pediatric and TBI
References:


