Gross Motor Function Measure GMFM-88
Dimension A: LYING and ROLLING

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Learning Objectives

At the end of the lecture, the learners will be able to;

1. Assess gross motor function of a child with cerebral palsy (in supine lying, prone lying and rolling)
2. Calculate the percentage of gross motor function in Dimension A of GMFM-88

Item 1: Supine, head in midline: Turns head with extremities symmetrical

- **Starting Position**
  - Head in midline
  - Arms at rest and symmetrical
- **Instructions**
  - Instruct the child to;
    - turn the head from side to side
    - OR
    - follow an object from one side to the other



Scoring

0 Does not maintain head in midline
1 Maintains head in midline 1 - 3 seconds
2 Maintains head in midline, turns head with extremities asymmetrical
3 Turns head with extremities symmetrical

Item2: Supine: Brings hands to midline, fingers one with the other

- **Starting Position**
  - Head in midline
  - Arms at rest and symmetrical
- **Instructions**
  - Instruct the child to;
    - Bring the hands together

**Both hands together
**Finger tip contact



Scoring

0 Does not initiate bilateral hands to midline
1 Initiates bilateral hands to midline
2 Brings hands to front of body, does not finger one with the other
3 Brings hands to midline, fingers one with the other

Item 3: Lifts head 45°

- **Starting Position**
  - Head in midline
  - Arms at rest and symmetrical
- **Instructions**
  - Instruct the child to;
    - lift the head
    - OR
    - follow an object as shown in the video



Scoring

0 Does not initiate neck flexion
1 Initiates neck flexion but does not lift head
2 Lifts head < 45°
3 Lifts head 45°

Item 4: Supine: Flexes right hip and knee through full range

- **Starting Position**
  - Head in midline
  - Legs in comfortable extension
- **Instructions**
  - Instruct the child to;
    - Bring the knee to the chest
    - OR
    - kick an object as shown in the video



Scoring

0 Does not initiate right hip and knee flexion
1 Initiates right hip and knee flexion
2 Flexes right hip and knee through partial range
3 Flexes right hip and knee through full range

Item 5: Supine: Flexes left hip and knee through full range

- **Starting Position**
  - Same as Item 4
- **Instructions**
  - Same as Item 4



Scoring

0 Does not initiate left hip and knee flexion
1 Initiates left hip and knee flexion
2 Flexes left hip and knee through partial range
3 Flexes left hip and knee through full range

Item 6: Supine: Reaches out with right arm, hand crosses midline toward toy

- **Starting Position**
  - Head in midline
  - Arms at rest
  - Position the toy at chest level within easy reach for the child but far enough off the chest
- **Instructions**
  - Instruct the child to;
    - Reach the toy



Scoring

0 Does not initiate reaching toward midline
1 Initiates reaching toward midline
2 Reaches out with right arm, hand does not cross midline
3 Reaches out with right arm, hand crosses midline toward toy

Item 7: Supine: Reaches out with left arm, hand crosses midline toward toy

- **Starting Position**
  - Same as Item 6
- **Instructions**
  - Same as Item 6

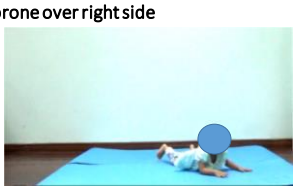


Scoring

0 Does not initiate reaching toward midline
1 Initiates reaching toward midline
2 Reaches out with left arm, hand does not cross midline
3 Reaches out with left arm, hand crosses midline toward toy

Item 8: Supine: Rolls to prone over right side

- **Starting Position**
  - Head in midline
  - Arms and legs comfortably at rest
- **Instructions**
  - Instruct the child to;
    - Roll onto the stomach
    - OR
    - Roll towards a toy



Scoring

0 Does not initiate rolling
1 Initiates rolling
2 Rolls part way to prone
3 Rolls to prone over right side

Item 9: Supine: Rolls to prone over left side

- **Starting Position**
  - Same as Item 8
- **Instructions**
  - Same as Item 8



Scoring

0 Does not initiate rolling
1 Initiates rolling
2 Rolls part way to prone
3 Rolls to prone over left side

Item 10: Prone: Lifts head upright

- **Starting Position**
  - Prone with head on mat
  - Arms and legs comfortably positioned (abdomen and pelvis must be in contact with the mat)
  - Head may be face down or turned to either side
- **Instructions**
  - Instruct the child to;
    - Lift the head and look forward
    - OR
  - Attract the attention to look forward



Scoring

0 Does not initiate head lifting
1 Initiates head lifting, chin does not clear mat
2 Lifts head, does not attain upright, chin clears mat
3 Lifts head upright

Item 11: Prone on forearms: Lifts head upright, elbows extended, chest raised

- **Starting Position**
  - ➢Arms positioned for forearm weightbearing
  - ➢Legs in comfortable extension
  - ➢Head on the mat
- **Instructions**
  - ➢Instruct the child to;
    - Lift the head to vertical and extend the arms
    - OR
  - ➢Attract the attention to look forward a toy in front of the child and gradually elevated



Scoring

0 Does not initiate head lifting
1 Initiates head lifting, chin does not clear mat
2 Lifts head, does not attain upright, weight on forearms
3 Lifts head upright, elbows extended, chest raised

Item 12: Prone on forearms: Weight on right forearm, fully extends opposite arm forward

- **Starting Position**
  - ➢Arms positioned for forearm weightbearing
  - ➢Legs in comfortable extension
- **Instructions**
  - ➢Instruct the child to;
    - Reach forward with left hand
    - (off the mat, elbow extension)



Scoring

0 Does not initiate supporting weight on right forearm
1 Weight on right forearm, opposite arm comes free, does not extend forward
2 Weight on right forearm, partially extends opposite arm forward
3 Weight on right forearm, fully extends opposite arm forward

Item 13: Prone on forearms: Weight on left forearm, fully extends opposite arm forward

- **Starting Position**
  - ➢Arms positioned for forearm weightbearing
  - ➢Legs in comfortable extension
- **Instructions**
  - ➢Instruct the child to;
    - Reach forward with right hand
    - (off the mat, elbow extension)



Scoring

0 Does not initiate supporting weight on left forearm
1 Weight on left forearm, opposite arm comes free, does not extend forward
2 Weight on left forearm, partially extends opposite arm forward
3 Weight on left forearm, fully extends opposite arm forward

Item 14: Prone: Roll to supine over right side

- **Starting Position**
  - ➢Arms and Legs in comfortable position
- **Instructions**
  - ➢Instruct the child to;
    - Roll to supine over the right side
  - ➢Attract the attention to roll toward a toy or a caregiver



Scoring

0 Does not initiate rolling
1 Initiates rolling
2 Rolls part way to supine
3 Rolls to supine over right side

Item 15: Prone: Roll to supine over left side

- **Starting Position**
  - ➢Arms and Legs in comfortable position
- **Instructions**
  - ➢Instruct the child to;
    - Roll to supine over the left side
  - ➢Attract the attention to roll toward a toy or a caregiver



Scoring

0 Does not initiate rolling
1 Initiates rolling
2 Rolls part way to supine
3 Rolls to supine over left side

Item 16: Prone: Pivot to right side 90° using extremities

- **Starting Position**
  - ➢Arms and Legs in comfortable position
  - ➢Position a toy on the child's right side
- **Instructions**
  - ➢Instruct the child to;
    - Pivot to the right (90°)
  - ➢Attract the attention to pivot toward a toy or a caregiver



Scoring

0 Does not initiate pivot to right
1 Initiates pivot to right using extremities
2 Pivots to right < 90° using extremities
3 Pivots to right 90° using ex

Item 17: Prone: Pivot to left side 90° using extremities

- **Starting Position**
  - ➢Arms and Legs in comfortable position
  - ➢Position a toy on the child's left side
- **Instructions**
  - ➢Instruct the child to;
    - Pivot to the left (90°)
  - ➢Attract the attention to pivot toward a toy or a caregiver



Scoring

0 Does not initiate pivot to left
1 Initiates pivot to left using extremities
2 Pivots to left < 90° using extremities
3 Pivots to left 90° using ex

Calculation of GMFM-88 Dimension A

- Gross motor function in lying and rolling

$$= \frac{\text{Total Score}}{17 \times 3 = 51} \times 100 = \%$$

$$= \frac{38}{17 \times 3 = 51} \times 100 = 74.5\%$$

➢Reference

- Russell, D.J., Rosenbaum, P.L., Avery, L.M., Lane, M. (2002) *Gross motor function measure (GMFM-66 & GMFM-88) user's manual*. Mac Keith press, London, England.



THANK YOU