

HMFSE – Hammersmith Functional Motor Scale—Expanded

HFMSE is a scale used to investigate a child’s ability to perform various activities. It’s used with children older than 24 months who have later-onset SMA (Type 2 or Type 3).

- The scale has 33 items
- Each item is scored from 0 to 2
- For each function, increased levels of ability are depicted from left to right
- The maximum score is 66

The table below shows a simplified summary:

Item	Lowest item grade (0)	Highest item grade (2)
1. Plinth / chair sitting	Needs 2-hand support to maintain balance or unable to sit	Able to sit using no hand support for a count of 3 or more
2. Long sitting	Able to long sit using 2 hands for a count of 3 or unable to sit with straight legs	Able to sit on floor / plinth with legs straight without hand support for a count of 3
3. 1 hand to head in sitting	Unable to bring hand to head even using head and trunk movement	Able to bring 1 hand to head; head and trunk remain stable
4. 2 hands to head in sitting	Unable to place both hands on head	Able to place both hands on head with arms free from side; head and trunk remain stable
5. Supine to side-lying	Unable to half roll either way	Able to half roll from supine both ways
6. Rolls prone to supine over right	Unable to turn to supine	Turns to supine with free arms to the right
7. Rolls prone to supine over left	Unable to turn to supine	Turns to supine) with free arms to the left
8. Rolls supine to prone over right	Unable to turn into prone	Turns to prone with free arms to the right
9. Rolls supine to prone over left	Unable to turn into prone	Turns to prone with free arms to the left
10. Sitting to lying	Unable or falls over	Able to lie down in a controlled fashion through side-lying or using clothes
11. Props on forearms	Unable	Able to achieve prop on forearms with head up for count of 3
12. Lifts head from prone	Unable	Able to life head up in prone with arms by side for a count of 3
13. Prop on extended arms	Unable	Able to prop on extended arms; head up for a count of 3
14. Lying to sitting	Unable	Able by using side-lying
15. 4-point kneeling	Unable	Achieves 4-point kneeling; head up for a count of 3
16. Crawling	Unable	Able to crawl forward; moves all 4 points twice or more
17. Lifts head from supine	Unable	In supine, head must be lifted in midline; chin moves toward chest. Held for a count of 3
18. Stands supported	Can stand with hand support but needs knee / hip support for a count of 3; or unable	Can stand with 1-hand support for a count of 3
19. Stands unsupported	Stands only momentarily (less than a count of 3); or unable	Can stand independently for more than a count of 3

Item	Lowest item grade (0)	Highest item grade (2)
20. Stepping	Unable	Able to take more than 4 steps unaided
21. Right hip flexion in supine	Unable	Full hip flexion achieved
22. Left hip flexion in supine	Unable	Full hip flexion achieved
23. High kneeling to right half-kneel	Unable	Arms used for transition; maintains arms free for half-kneel
24. High kneeling to left half-kneel	Unable	Arms used for transition; maintains arms free for half-kneel
25. High kneeling to standing, leading with left leg (through right half-kneel)	Unable	Able with arms free
26. High kneeling to standing, leading with right leg (through left half-kneel)	Unable	Able with arms free
27. Stands to sitting on the floor	Unable	Able to sit down with arms free and no collapse
28. Squats	Unable to initiate	Squats with arms free (at least 90° of hip and knee flexion)
29. Jumps 12 inches forward	Unable to initiate jump with both feet simultaneously	Jumps at least 12 inches with both feet simultaneously
30. Ascends 4 stairs with railing	Unable to ascend 2 stairs using 1 rail	Ascends 4 stairs with aid of railing, alternating feet
31. Descends 4 stairs with railing	Unable to descend 2 stairs with 1 rail	Descends 4 stairs, arms-free, alternating feet
32. Ascends 4 stairs without arm support	Unable to ascend 2 stairs arms-free	Ascends 4 stairs, arms-free, alternating feet
33. Descends 4 stairs without arm support	Unable to descend 2 stairs arms-free	Descends 4 stairs, arms-free, alternating feet

Some of the terms:

Abduction: The movement of a limb or other part away from the midline of the body, or from another part.

Dorsiflexion: movement at the ankle joint where the toes are brought closer to the shin, curling upwards, and decreasing the angle between the dorsum of the foot and the leg

Flexion: the bending of a particular joint so that the bones that form that joint are pulled closer together

Half Kneel: one leg kneeling, the other

Long sitting: legs straight out in front

Prone: lying on front

Supine: lying on back