

The Motor Observational Telemedicine Objective Rasch-built assessment (ALS MOTOR) Training Manual

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BACKGROUND

- The ALS MOTOR is an objective, standardized telemedicine-based exam scale to assess overall motor strength in patients with ALS (pALS).
- The ALS MOTOR is administered and scored by a clinician or staff member through a video teleconferencing format.
- The scale contains 22 items assessing motor movement of the neck, bulbar muscles, upper extremities, trunk, and lower extremities.
 - Note that the scale worksheet is numbered with items 1-16, but 6 of the of the items include separate scoring for both the left and the right side, accounting for the 22 total items.
- The scale was constructed and validated using Rasch analyses - a modern test-theory technique that produces linearly-weighted scales, meaning that a 1-point change is a quantifiable, consistent measurement of overall motor strength across the scale, and a 2-point change reflects twice the amount of motor strength.

ALS MOTOR PROPERTIES

- Test-retest reliability for the ALS MOTOR is 98%.
 - ALS neurologists, nurse practitioners, research nurses, and research coordinators participated in reliability testing.
- The draft scale takes on average 8 minutes to complete (SD = 4.6 min).
- The ALS MOTOR has a 78% correlation with the revised ALS Functional Rating Scale (ALSFRS-R) and an 81% correlation with the Rasch-built overall ALS disability scale (ROADS).

ALS MOTOR INSTRUCTIONS FOR PALS

- The examiner will check the movement of muscles in your neck, face, arms, trunk, and leg by video teleconference.

- A smart phone, tablet, or computer with a microphone and video camera is required.
- Please ensure a quiet, private location. Visits cannot be conducted in a car or a public space.
- It is helpful to have a caregiver or helper available to adjust the camera. The examiner will need to visualize your face, arms, trunk, and legs.
- If you are able to walk, the examiner will evaluate your walking during the visit. If you require an assistive device such as a cane or a walker to walk, please have the device available during the visit.
- If you are able to sit upright in a chair or wheelchair, this will be the preferred positioning for the examination.
- Please ensure that you are clothed appropriately.
- Please do not point your camera facing a window.

ALS MOTOR INSTRUCTIONS FOR EXAMINERS

- Confirm the participants left and right side prior to scoring any items. Some video conferencing software will display mirrored images.
- For each item, describe the task to be performed and visually demonstrate the task if able.
- The participant should be examined while sitting upright in a chair or wheelchair if able. The instructions provided in *(parentheses and italics)* provide additional instructions for modifying the tasks and scoring when participants are unable to sit upright.
- All items should be completed, and only 1 answer choice can be selected for each item.
- The normed score (0-100) should be used for all data analyses. The normed score can be determined from the raw total score by using the conversion table on the final page of the ALS MOTOR document.