Supplemental table 2. Detailed content of neurological examination.

	Body	UMN	LMN
speed of tongue movements, spastic dysarthria. Arms Increased arm tendon reflexes (biceps, Atrophy and fasciculations triceps, radial)*, pathological reflexes (pectoral, deltoid, biceps, triceps, forearm, first dorsal interosseous trapezius, deltoid, pectoral), increased muscle, abductor digiti minimi muscle tone over joints (shoulder, elbow, wrist). strength (MRC-score deltoid, biceps, triceps, wrist extensors, wrist flexors, finger extensors, finger flexors, first dorsal interosseous, abductor digiti minimi, opponens pollicis muscle), decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).	region		
dysarthria. Increased arm tendon reflexes (biceps, Atrophy and fasciculations triceps, radial)*, pathological reflexes (pectoral, deltoid, biceps, triceps, (Hoffmann's sign, elevated/crossed forearm, first dorsal interosseous trapezius, deltoid, pectoral), increased muscle, abductor digiti minimi muscle tone over joints (shoulder, elbow, wrist). strength (MRC-score deltoid, biceps, triceps, wrist extensors, wrist flexors, finger extensors, finger flexors, first dorsal interosseous, abductor digiti minimi, opponens pollicis muscle), decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).	Bulbar	Pseudobulbar affect, primitive reflexes	, Flaccid dysarthria, tongue atrophy,
Arms Increased arm tendon reflexes (biceps, Atrophy and fasciculations triceps, radial)*, pathological reflexes (pectoral, deltoid, biceps, triceps, (Hoffmann's sign, elevated/crossed forearm, first dorsal interosseous trapezius, deltoid, pectoral), increased muscle, abductor digiti minimi muscle tone over joints (shoulder, elbow, wrist). strength (MRC-score deltoid, biceps, triceps, wrist extensors, wrist flexors, finger extensors, wrist flexors, finger extensors, finger flexors, first dorsal interosseous, abductor digiti minimi, opponens pollicis muscle), decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).		speed of tongue movements, spastic	tongue fasciculations, tongue
triceps, radial)*, pathological reflexes (Hoffmann's sign, elevated/crossed forearm, first dorsal interosseous trapezius, deltoid, pectoral), increased muscle, abductor digiti minimi muscle tone over joints (shoulder, elbow, wrist). strength (MRC-score deltoid, biceps, triceps, wrist extensors, wrist flexors, finger extensors, finger flexors, first dorsal interosseous, abductor digiti minimi, opponens pollicis muscle), decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).		dysarthria.	muscle strength.
(Hoffmann's sign, elevated/crossed trapezius, deltoid, pectoral), increased muscle, abductor digiti minimi muscle tone over joints (shoulder, elbow, wrist). strength (MRC-score deltoid, biceps, triceps, wrist extensors, wrist flexors, finger extensors, finger flexors, first dorsal interosseous, abductor digiti minimi, opponens pollicis muscle), decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).	Arms	Increased arm tendon reflexes (biceps, Atrophy and fasciculations	
trapezius, deltoid, pectoral), increased muscle, abductor digiti minimi muscle tone over joints (shoulder, elbow, wrist). strength (MRC-score deltoid, biceps, triceps, wrist extensors, wrist flexors, finger extensors, finger flexors, first dorsal interosseous, abductor digiti minimi, opponens pollicis muscle), decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).		triceps, radial)*, pathological reflexes	(pectoral, deltoid, biceps, triceps,
muscle tone over joints (shoulder, elbow, wrist). strength (MRC-score deltoid, biceps, triceps, wrist extensors, wrist flexors, finger extensors, finger flexors, first dorsal interosseous, abductor digiti minimi, opponens pollicis muscle), decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).		(Hoffmann's sign, elevated/crossed	forearm, first dorsal interosseous
elbow, wrist). strength (MRC-score deltoid, biceps, triceps, wrist extensors, wrist flexors, finger extensors, finger flexors, first dorsal interosseous, abductor digiti minimi, opponens pollicis muscle), decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).		trapezius, deltoid, pectoral), increased	muscle, abductor digiti minimi
biceps, triceps, wrist extensors, wrist flexors, finger extensors, finger flexors, first dorsal interosseous, abductor digiti minimi, opponens pollicis muscle), decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).		muscle tone over joints (shoulder,	muscle, thenar muscles), muscle
wrist flexors, finger extensors, finger flexors, first dorsal interosseous, abductor digiti minimi, opponens pollicis muscle), decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).		elbow, wrist).	strength (MRC-score deltoid,
finger flexors, first dorsal interosseous, abductor digiti minimi, opponens pollicis muscle), decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).			biceps, triceps, wrist extensors,
interosseous, abductor digiti minimi, opponens pollicis muscle), decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).			wrist flexors, finger extensors,
minimi, opponens pollicis muscle), decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).			finger flexors, first dorsal
decreased muscle tone over joints (shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).			interosseous, abductor digiti
(shoulder, elbow, wrist), decreased/absent arm tendon reflexes (biceps, triceps, radial).			minimi, opponens pollicis muscle),
decreased/absent arm tendon reflexes (biceps, triceps, radial).			decreased muscle tone over joints
reflexes (biceps, triceps, radial).			(shoulder, elbow, wrist),
			decreased/absent arm tendon
Thoracic Superficial abdominal reflexes Fasciculations, abdominal muscle			reflexes (biceps, triceps, radial).
	Thoracic Superficial abdominal reflexes		Fasciculations, abdominal muscle
strength			strength

Legs

Increased leg tendon reflexes (patellar, Atrophy and fasciculations adductor, ankle)*, pathological reflexes (quadriceps, hamstring, ankle

(Babinski's sign), increased muscle extensors, ankle flexors, extensor, tone over joints (hip, ankle).

foot), muscle strength (iliopsoas, quadriceps, hamstring, ankle extensors, ankle flexors, extensor hallucis longus), decreased muscle tone over joints (hip, ankle), decreased/absent leg tendon reflexes (patellar, adductor, ankle).

Supplemental table 2. Detailed content of neurological examination.

For each participant, standardized neurological examination was performed. Each examiner had undergone extensive training on how to implement the protocol, even if they were already fully qualified. This protocol has the utmost overlap with the items of the neurological examination performed in our MND expertise centre. Study examiners also regularly participate as physicians in the outpatient clinic. Each body region was scored on the basis of these items according to the Devine score, although we note that not all items appear in the Devine score (i.e., features of the thoracic region). * Asymmetry of tendon reflexes was assessed in relation to atrophy and weakness (i.e. if tendon reflexes in the arm were symmetrical, but the right arm was atrophied, this was considered to be UMN involvement of the left arm).

Abbreviations: UMN = upper motor neurone, LMN = lower motor neurone.