## Supplementary Table 1: ALS Reversals- Diagnostic Information

| ID | Regions with upper motor neuron signs on exam | Regions with <br> lower motor <br> neuron signs <br> on exam | Regions with EMG <br> denervation (D) and <br> reinnervation ( R ) | $\underline{\text { Lab tests to exclude mimics }}$ |
| :---: | :---: | :---: | :---: | :---: |
| 2 | lumbosacral | cervical, <br> lumbosacral | D: cervical, thoracic, lumbosacral R: cervical, lumbosacral | PTH, RF, SPEP, TSH, Free T4, CBCd, BMP, CK, CRP, HIV 1/2, Syphilis Treponemal IgG, HTLV1/2, AChR Binding Ab, Lyme ELISA, CSF Glucose, CSF Cells, CSF OCBs, CSF Lyme ELISA |
| 4 | lumbosacral | bulbar, cervical, thoracic, lumbosacral | D: cervical | 'Lyme IgG IgM Ab’, CMP, CBCd, TSH, B12, Magnesium; Free T4 $(1.9 \mathrm{ng} / \mathrm{dL})$ |
| 5 | cervical, <br> lumbosacral | cervical, <br> thoracic | D: cervical, lumbosacral <br> R: cervical, lumbosacral | TSH, PSA |


| 6 | bulbar, cervical, lumbosacral | cervical, lumbosacral | D: cervical, lumbosacral | GM1, SPEP, ESR |
| :---: | :---: | :---: | :---: | :---: |
| 8 <br> (1) | cervical, lumbosacral | cervical, lumbosacral | D: cervical, lumbosacral | CBCd, CK, ESR, SPEP, ‘TFTs', B12, ANA, Ca, Lead, Mercury, <br> Arsenic, 'CSF' |
| 9 <br> (1) | lumbosacral | cervical, thoracic, lumbosacral | D: bulbar, cervical R: cervical, lumbosacral | CBCd, CK, ESR, SPEP, ‘TFTs’, B12, ANA, Ca, Lead, Mercury, <br> Arsenic |
| 10 <br> (1) | cervical, <br> lumbosacral | cervical, thoracic, lumbosacral | D: lumbosacral R: <br> lumbosacral | CBCd, CK, ESR, SPEP, ‘TFTs’, B12, ANA, Ca, Lead, Mercury, <br> Arsenic, 'CSF' |
| $11$ <br> (1) | none | cervical, thoracic, lumbosacral | D: cervical, thoracic, lumbosacral R: cervical, thoracic, lumbosacral | CBCd, CK, ESR, SPEP, ‘TFTs’, B12, ANA, Ca, Lead, Mercury, <br> Arsenic, 'CSF' |


| $12$ <br> (2) | bulbar, cervical, lumbosacral | bulbar, cervical, lumbosacral | D: bulbar, cervical, thoracic, lumbosacral R: bulbar, cervical, thoracic, lumbosacral | CK, 'Ganglioside Abs', 'Paraneoplastic Abs' |
| :---: | :---: | :---: | :---: | :---: |
| 13 <br> (3) | cervical, <br> lumbosacral | bulbar, cervical, lumbosacral | D: bulbar, cervical, thoracic, lumbosacral R: bulbar, cervical, thoracic, lumbosacral | Electrolytes, CK, 'TFTs', SPEP, ‘Complement and Vitamin levels', HTLV 1/2, VDRL, 'HIV', RF, ANA, Anticardiolipin, Lupus Anticoagulant, SSA, SSB, Anti-DNA, Anti-RNP, Anti-Sm, Lead, Mercury, Arsenic, PSA, CEA, AFP, ‘CSF' |
| 14 | bulbar, cervical | bulbar, cervical, lumbosacral | D: cervical, lumbosacral <br> R: cervical, lumbosacral | CK, TSH, SPEP |
| (4) | lumbosacral | bulbar, cervical, lumbosacral | D: cervical, thoracic, lumbosacral R: cervical, thoracic, lumbosacral | CBCd, Ca, BMP, ‘TFTs', SPEP, GM1, GD1a, GT1b, CSF Cells, CSF Protein |


| $23$ <br> (5) | cervical, <br> lumbosacral | bulbar, cervical, lumbosacral | D: bulbar, cervical, lumbosacral R: bulbar, cervical, lumbosacral | Anti-RNP, P-ANCA, C-ANCA, HTLV-1, 'low-titer IgM anti-GM1', 'CSF' |
| :---: | :---: | :---: | :---: | :---: |
| 24 | cervical, <br> lumbosacral | bulbar, cervical, lumbosacral | D: cervical, lumbosacral | CK, CBC, TSH, RF, RPR, ‘HIV', ‘HTLV', SPEP, B12, ‘C3b/Raji Cell', ‘C1q Binding Ab’, GM1, CSF Cells, CSF Protein, CSF Glucose, CSF OCBs, CSF VDRL |
| $25$ <br> (6) | cervical, <br> lumbosacral | cervical, lumbosacral | D: cervical, lumbosacral <br> R: cervical, lumbosacral | CBC, ESR, SPEP, Ca |
| $26$ <br> (7) | none | bulbar, cervical, lumbosacral | 'diffuse denervation in the form of fibrillation, giant potentials, positive spikes, and reduced interference pattern' | Lead, Arsenic, Mercury, ‘TFTs', CSF ‘including CSF protein’; CK 'minimally elevated' |
| $27$ <br> (8) | none | cervical, lumbosacral | D: cervical R: cervical | 'Laboratory data were normal except for CSF protein of $76 \mathrm{mg} / \mathrm{dL}$ ' |


| 28 | bulbar, ‘brisk reflexes throughout' | cervical, lumbosacral | D: cervical, lumbosacral <br> R: cervical, lumbosacral | ANA, ANCA, 'ENA', 'tTG' |
| :---: | :---: | :---: | :---: | :---: |
| (9) | cervical, lumbosacral | cervical, <br> lumbosacral | D: cervical, lumbosacral <br> R: cervical, lumbosacral | None |
| $\begin{aligned} & 32 \\ & (10) \end{aligned}$ | bulbar, cervical, lumbosacral | cervical, <br> lumbosacral | D: cervical R: cervical, lumbosacral | ESR, TSH, RPR, CSF Cells, CSF Protein |
| (11) | bulbar, cervical, lumbosacral | cervical, <br> lumbosacral | D: cervical, lumbosacral <br> R: cervical, lumbosacral | 'Paraneoplastic panels', 'Ganglioside panels', and 'CSF' |
| $34$ <br> (12) | cervical, lumbosacral | cervical, <br> lumbosacral | D: cervical, lumbosacral <br> R: cervical, lumbosacral | CSF Cells; AChR Binding Ab (9.47 nmol/L), Striational Ab (‘15,360'), AChR Modulating Ab (‘100\% loss'), 'positive thyroglobulin ab', 'positive ANA', CSF Protein ('50 mg\%') |


| $\begin{aligned} & 35 \\ & (13) \end{aligned}$ | none | bulbar, cervical, lumbosacral | D: cervical R: cervical | MuSK Ab RIA, Cu |
| :---: | :---: | :---: | :---: | :---: |
| 37 | bulbar, cervical, lumbosacral | cervical, <br> lumbosacral | D: bulbar, cervical, thoracic, lumbosacral R: bulbar, cervical, thoracic, lumbosacral | RF, ‘Citrullinated peptic ab’, SSA, SSB, Anti JO-1, CBC, CMP, Ca, MMA, RPR, ANNA Type 1-3, AGNA-1, PCA Type $1,2, \mathrm{Tr}$, Amphiphysin Ab, CRMP-5-IgG, Striational Ab, P/Q-, N-Type Ca Channel Binding Ab, AChR Binding Ab, AChR Ganglionic Neuronal Ab, VGKC Ab, HTLV1/2, HIV1/2, B12, TSH, Free T4; $\mathrm{Cu}(2.09 \mathrm{mcg} / \mathrm{mL}), \mathrm{CK}(373 \mathrm{U} / \mathrm{L}), \operatorname{ESR}(58 \mathrm{~mm} / \mathrm{hr})$, ANA (1:160 speckled, 1:40 nucleolar) |
| 38 | bulbar, cervical, lumbosacral | bulbar, cervical, lumbosacral | D: bulbar, cervical, thoracic, lumbosacral R: bulbar, cervical, thoracic, lumbosacral | HIV 1, Folate, B12, TSH, ESR, Lyme ELISA, SSA, SSB, BMP, CBC, CSF Cells, CSF VDRL; positive RPR/FTA-ABS, Thiamine (11.7 ng/mL), ANA (1:160 speckled) |
| 42 | cervical, lumbosacral | bulbar, <br> cervical | D: cervical R: cervical, lumbosacral | None |


| 50 | bulbar, <br> lumbosacral | bulbar, cervical, lumbosacral | D: cervical, lumbosacral R: bulbar, cervical, lumbosacral | CBCd, B12, CK, SPEP, TSH, Lyme ELISA, ‘serologic testing for myasthenia' |
| :---: | :---: | :---: | :---: | :---: |
| 54 | none | cervical, lumbosacral | D: cervical, lumbosacral <br> R: cervical, lumbosacral | HIV 1, CBC, Electrolytes, TSH, ESR, RPR, IgG, IgA, IgM, ANA, <br> Lyme Fluorescent EIA, Cryoglobulins, GM-1 |
| 60 | none | bulbar, cervical, lumbosacral | D: cervical, lumbosacral <br> R: cervical, lumbosacral | ANA, IgG, IgA, IgM, Urine Arsenic, Urine Lead, Urine Mercury |
| 67 | bulbar, cervical, lumbosacral | cervical, lumbosacral | D: cervical, thoracic, lumbosacral R: cervical, lumbosacral | FTA-ABS, RF, ANA, ‘TFTs’, CBCd, ‘PEP’, Ca, GM1, GD1b; CK (1562 IU/L) |
| 76 | none | cervical, lumbosacral | R: cervical, thoracic, lumbosacral D: <br> lumbosacral | 'Negative serology for syphilis, Lyme, and HIV', 'CBC, renal function, thyroid’; CK (271 U/L), IgG Kappa Paraprotein ('could not be quantified') |


| 77 | bulbar, <br> thoracic | cervical, thoracic, lumbosacral | D: cervical, thoracic, lumbosacral R: cervical, thoracic, lumbosacral | 'Negative serology for syphilis, Lyme, HIV', CK; TSH (6.8 mIU/L), <br> B12 (148 pmol/L), Homocysteine ('27.5') |
| :---: | :---: | :---: | :---: | :---: |
| 84 | bulbar, cervical, lumbosacral | bulbar, cervical, lumbosacral | D: cervical, lumbosacral <br> R: cervical, lumbosacral | ANCA, Immunofixation, 'complement', CRP, SPEP, Lead, Mercury, Arsenic, B12, GM1, GM2, GM3, GD1a, GD1b, GT1b, GQ1b, ESR, Anti-dsDNA, SSA, SSB, Anti-Centromere, Anti-Histone, AntiSmooth Muscle, Anti-RNP, Anti-Ribosomal, AMA-M2, Anti-PCNA, Anti-Topoisomerase 1, 'kappa/lambda light chains', Betahexosaminidase, HBsAg, TSH, PTH, CBC, LDH, CSF Cells, CSF Protein; CK (‘789`), ANA (1:160 speckled) |
| 92 | lumbosacral | bulbar, cervical, lumbosacral | D: cervical, thoracic, lumbosacral R: cervical, lumbosacral | CBCd, CK, HIV1/2, Syphilis Treponemal IgG, CRP, Free T4, TSH, B12, RF, SPEP, Lyme ELISA, HTLV 1/2, AchR Binding Ab, CSF Protein, CSF Cells; ANA (1:80 speckled), PTH ( $90 \mathrm{pg} / \mathrm{mL}$ ) |
| 97 | bulbar, cervical, lumbosacral | bulbar, cervical, lumbosacral | D: cervical, thoracic, lumbosacral R: bulbar, | tTG IgA, Cu, CBC, Free T4, B12, ANA, ANNA type 1-3, AGNA-1, PCA Type 1, 2, Tr, Amphiphysin Ab, CRMP-5-IgG, Striational Ab, P/Q-, N-Type Ca Channel Binding Ab, AchR Binding Ab, AchR |
|  |  |  | cervical, thoracic, <br> lumbosacral | Ganglionic Neuronal Ab, VGKC Ab, SPEP, CRP, ESR, <br> Cryoglobulins, MPO ELISA, PR3 ELISA; p-ANCA ('positive'), CK <br> $(251-5393 ~ U / L), ~ T S H ~(0.66-87.3 ~ m I U / L) ~$ |
| :--- | :--- | :--- | :--- | :--- |
| 99 | bulbar, <br> cervical, <br> lumbosacral | bulbar, <br> lumbosacral | D: lumbosacral R: <br> lumbosacral | Unknown |
$\mathrm{PTH}=$ parathyroid hormone; $\mathrm{RF}=$ rheumatoid factor; $(\mathrm{S}) \mathrm{PEP}=$ (serum) protein electrophoresis; $\mathrm{TSH}=$ thyroid stimulating hormone; $\mathrm{T} 4=$ thyroxine $; \mathrm{CBC}(\mathrm{d})=$ complete blood counts (with differential); $\mathrm{BMP}=$ basic metabolic panel; $\mathrm{CK}=$ creatine kinase; $\mathrm{CRP}=\mathrm{C}$ reactive protein; HIV= human immunodeficiency virus; $\mathrm{Ig}=$ immunoglobulin; HTLV= human t -lymphotrophic virus; AchR= acetylcholine receptor; $\mathrm{Ab}=$ antibody; $\mathrm{CSF}=$ cerebrospinal fluid; $\mathrm{OCB}=$ oligoclonal bands; $\mathrm{CMP}=$ comprehensive metabolic panel, PSA $=$ prostate specific antigen; $\mathrm{ESR}=$ erythrocyte sedimentation rate; $\mathrm{TFTs}=$ thyroid function tests; $\mathrm{ANA}=$ anti-nuclear antibody; $\mathrm{Ca}=$ calcium; VDRL $=$ venereal disease research laboratory test; $\mathrm{SS}(\mathrm{A} / \mathrm{B})=$ Sjögren's-syndrome related antigen ( $\mathrm{A} / \mathrm{B}$ ); RNP= ribonucleoprotein, $\mathrm{Sm}=$ smith; $\mathrm{CEA}=$ carcinoembryonic antigen; $\mathrm{AFP}=$ alpha-fetoprotein; $(\mathrm{P} / \mathrm{C})-\mathrm{ANCA}=$ (perineuclear/cytoplasmic) anti-neutrophil cytoplasmic antibody; RPR= rapid plasma 9ollap; ENA= extractable nuclear antigen; tTG= tissue transglutaminase; AchR= acetylcholine receptor; MuSK= muscle-specific kinase; RIA= radioimmunoassay; $\mathrm{Cu}=$ copper; $\mathrm{MMA}=$ methylmalonic acid; ANNA = antineuronal nuclear antibody; AGNA= anti-glial/neuronal nuclear antibody; PCA= Purkinje cell cytoplasmic antibody;

CRMP = collapsin response-mediator protein; VGKC= voltage-gated potassium channel; FTA-ABS= fluorescent treponemal antibody absorption test; EIA= enzyme immunoassay; dsDNA= double stranded DNA; AMA= antimitochondrial antibody; PCNA= proliferating cell nuclear antigen; $\mathrm{HBsAg}=$ hepatitis B serum antigen; $\mathrm{LDH}=$ lactate dehydrogenase; $\mathrm{MPO}=$ myeloperoxidase; $\mathrm{PR} 3=$ proteinase 3

This table includes information used to confirm the diagnoses of cases. Uncited cases were identified through chart review. All cases had a history of progressive weakness involving more than one body region. All cases had exclusion of mimics by electrophysiological testing, except participant 33 , for whom nerve conduction study data was not available. There were 4 cases (participants $8,9,25$, and 26) who did not have neuroimaging and 3 additional cases (participants 4,60 , and 75 ) in whom presence or absence of neuroimaging could not be confirmed. Only abnormal values are specified in the list of lab tests.

Supplementary Table 2: ALS Reversals- Reversal Information

| ID | Months <br> between <br> symptom <br> onset and <br> nadir | Key measures at nadir | Key measures at maximum improvement | Months <br> between <br> nadir and <br> maximum <br> improvement |
| :---: | :---: | :---: | :---: | :---: |
| 2 | 5 | Exam: D 5/4, B 4/4, T 4+/4+, WE 3/4, HF 5/4, KE 5/4+ | Exam: D 5-/5, B 5-/5, T 5/5, WE 3/5, HF 5-/5-, KE 5/5 | 9 |
| 4 | 144 | 'on a ventilator and in a wheelchair... almost totally paralyzed' | Exam: frontalis 5/4, neck flexion/extension 2/2, T $0 / 3$, B $0 / 1$, Grip $3 / 0$, APF $3 / 3$ <br> Respiratory: 10 min off ventilator with no dyspnea | 206 |
| 5 | 5 | ALSFRS-R: 39 <br> Exam: D 3/5, B 4/4, T 4/5, WE 4/4, FE 3/5, FDI 3/4, APB 5/3 | ALSFRS-R: 43 <br> Exam: normal strength | 3 |


| 6 | 48 | *Exam: 'slight weakness of quads and <br> hamstrings', 'dramatic weakness in right LE ADF, <br> APF, inversion, eversion', left ADF 4+ | *Exam: decreased strength in distal right LE with <br> atrophy and foot drop, otherwise $5 / 5$ throughout | 32 |
| :--- | :--- | :--- | :--- | :--- |
| 8 | 1 | *Exam: 'mild weakness of anterior neck, shoulder, <br> and upper arm muscles, mild weakness of the <br> intrinsic muscles of one hand, marked weakness of <br> psoas muscles, and mild weakness of the distal leg | *Exams barely perceptible weakness in the upper <br> muscles' | 5 |
| 9 | 3 | *Exam: cervical and lumbosacral weakness | *Exam: normal strength |  |
| 10 | 4 | *Exam: cervical and lumbosacral weakness | *Exam: normal motor exam |  |
| 11 | 4 | *Exam: lumbosacral weakness |  |  |
| 12 | 48 | EMG: abundant positive waves and moderate | EMG: no positive waves or fibrillation potentials |  |
| numbers of fibrillation potentials in all four limbs |  | 12 |  |  |
| 13 | 16 | Exam: 3/3 UE strength, 2/2 LE strength | *Exam: normal strength | 8 |


|  |  | EMG: acute and chronic denervation involving bulbar, axial, and appendicular myotomes |  |  |
| :---: | :---: | :---: | :---: | :---: |
| 14 | 60 | *Exam: weakness in neck flexion/extension, T $4+/ 3+$, APF 3+/4, ADF 3+/3 | Exam: SCM/trapezius 5/5, T 5/5, APF 4/4, ADF 4/4 <br> Respiratory: improved FVC | 40 |
| 22 | 12 | *Exam: bilateral UE and LE weakness | *Exam: mild weakness in right limbs <br> EMG: reinnervation, but no denervation in limb muscles | 18 |
| 23 | 12 | Exam: neck 2.5, UE 2.5/2.5, proximal LE 3/3 <br> EMG: diffuse denervation and reinnervation in the extremities | Exam: neck 4, UE 4/4, proximal LE 4/4 <br> EMG: denervation in tongue and left ECR but not other limb muscles | 12 |
| 24 | 96 | ALSFRS-R: 29 | ALSFRS-R: 41 | Unknown |
| 25 | 7 | *Exam: minimal weakness in left UE and LE; moderate weakness in left hamstrings; more pronounced weakness in left biceps, iliopsoas, and gastroc | *Exam: minimal left wrist extensor weakness, otherwise normal exam EMG: no definite evidence of denervation | 7 |


| 26 | 28 | unable to walk, feed himself, turn over in bed, move the blanket, or hold head up when propped in a sitting position | could make certain movements which he had previously lost, independent in taking care of himself and traveling for business | Unknown |
| :---: | :---: | :---: | :---: | :---: |
| 27 | 14 | *Exam: D 3/3, parascapular muscles 4/4, B 4/4, T 4/4, slightly less weakness of hand muscles, HF 4+/4+ | *Exam: normal | 7 |
| 28 | 9 | Exam: FE 3/3, shoulder flexion/extension 4/4, HF <br> 4/4, HE 4/4, ‘4-4+/5' throughout | *Exam: 'generally does not present in any way now with features of MND', 'has good strength and this was demonstrated by no weakness on proximal testing when he went down on his haunches' | 11 |
| 31 | 135 | ALSFRS-R: 37 | ALSFRS-R: 47 | 69 |
| 32 | 8 | *Exam: quadriplegic with breathing dysfunction | *Exam: return to baseline of bulbar and cervical function, ability to walk, not run | 17 |
| 33 | 18 | ALSFRS-R: 27 <br> HHD: upper 90\%, lower 100\% | ALSFRS-R: 46 <br> HHD: upper $125 \%$, lower $116 \%$ | 9 |
| 34 | 8 | ALSFRS-R: 30 | ALSFRS-R: 43 | 1 |


|  |  | Respiratory: FVC 1.37 | *Exam: 'muscle power improved', 'foot drop resolved partially, <br> Respiratory: FVC 1.63 |  |
| :---: | :---: | :---: | :---: | :---: |
| 35 | 36 | ALSFRS-R: 21 <br> Exam: WF 0/0, WE 0/0, HF 2-/2-, KE 2-/2-, ADF 2-/2- | ALSFRS-R: 29 <br> Exam: WF 2-/2-, WE 2-/2-, HF 3-/3-, KE 4/4, ADF $5 / 5$ | 12 |
| 37 | 8 | Exam: proximal UE 4+/4+, intrinsic hand muscles 4+/4+, proximal LE 3/3, distal LE 4+/4+ <br> EMG: denervation and reinnervation in bulbar, cervical, thoracic, and lumbosacral regions | Exam: UE 5/5, LE 4+/4+ <br> EMG: normal in cervical, thoracic, and lumbosacral regions (bulbar not tested) | 7 |
| 38 | 19 | EMG: denervation and reinnervation of bulbar, cervical, thoracic, and lumbosacral regions <br> ALSFRS: 28 | EMG: no evidence of active denervation or reinnervation (bulbar not tested) <br> ALSFRS-R: 42 | 23 |
| 42 | 8 | ALSFRS-R 41 <br> Exam: FA 0/0, FE 0/3 | ALSFRS-R 47 <br> Exam: FA 5/4, FE 5/5 | 18 |


| 50 | 24 | *Exam: weakness of tongue and neck flexion, hand weakness L>R, proximal LE 4/4, distal LE 4+/4+ | Exam: cranial nerves intact, normal strength | 3 |
| :---: | :---: | :---: | :---: | :---: |
| 54 | 5 | *Exam: D 4.2/5, T 4.2/5, WE 4.8/5, WF and bilateral intrinsic hand muscle weakness, ADF 4.8/4.2, EHL 4.2/4.2, FDL 5/4.5, PL 5/4, PT 5/4.8 | *Exam: weakness in left ADF/APF, otherwise 5/5 strength throughout <br> EMG: reinnervation, but no active denervation in bilateral LE | 2 |
| 60 | 8 | 'unable to walk or stand, respiratory difficulty with apneic spells, speech changes and dysphasia' | 'able to walk three miles, had no speech, swallowing, or breathing difficulties, and exercised 3 x per week' | 60 |
| 67 | 24 | Exam: D 5-/5-, B 5-/5, T 4/5, WE 4/4, hand intrinsics 4/4, HF 3/3, ADF 4+/4+ | Exam: 4/4 FE, 4/4 FF, 4/4 HF, otherwise 5/5 <br> EMG: resolution of fascics and sustained PSWs in all muscles tested; some unsustained PSWs +/- fibs remain | 70 |
| 76 | 18 | *Exam: distal weakness of the legs left > right, trouble walking, climbing stairs, unable to jog | *Exam: very mild foot drop, no limitations in daily life | 24 |


| 77 | 20 | Respiratory: FVC 63\% predicted <br> *Exam: weakness of bilateral biceps and deltoids | Respiratory: FVC $>80 \%$ predicted <br> *Exam: full strength of biceps and deltoids | 5 |
| :---: | :---: | :---: | :---: | :---: |
| 84 | 32 | ALSFRS-R 22 | ALSFRS-R 26 | 1 |
| 92 | 12 | EMG: acute and chronic denervation of right arm and bilateral legs; acute denervation of thoracic paraspinals | EMG: fasciculations of left FDI; otherwise normal | 21 |
| 97 | 48 | ALFRS-R 21 <br> Used gastrostomy tube for medications | ALSFRS-R 29 <br> Gastrostomy tube removed | 12 |
| 99 | 132 | ALSFRS-R 25 <br> Exam: D 4/4, B 4+/4-, T 4+/4-, WF 4+/3, FE $4+/ 4+$, FF $5 / 4$, FA $4+/ 4+$, ADM 5/3, HAd 4+/4+, KE 4+/4, KF 4+/4+, ADF 5/3 <br> Respiratory: FVC 79\% predicted | ALSFRS-R 32 <br> *Exam: full strength <br> Respiratory: FVC 90\% predicted | 13 |

$\mathrm{SCM}=$ sternocleidomastoid; $\mathrm{D}=$ deltoid; $\mathrm{B}=$ biceps; $\mathrm{T}=$ triceps; $\mathrm{WF}=$ wrist flexion; $\mathrm{WE}=$ wrist extension; $\mathrm{ECR}=$ extensor carpi radialis; $\mathrm{FE}=$ finger extension; $\mathrm{FF}=$ finger flexion; $\mathrm{FDI}=$ first dorsal interosseous; $\mathrm{APB}=$ abductor pollicis brevis; $\mathrm{FA}=$ finger abduction; $\mathrm{ADM}=$ abductor digiti minimi; $\mathrm{HF}=$ hip flexion; $\mathrm{HE}=$ hip extension; $\mathrm{HAd}=$ hip adduction; $\mathrm{KF}=$ knee flexion; $\mathrm{KE}=$ knee
extension; $\mathrm{ADF}=$ ankle dorsiflexion; $\mathrm{APF}=$ ankle plantarflexion; $\mathrm{PL}=$ peroneus longus; $\mathrm{PT}=$ peroneus tertius; $\mathrm{EHL}=$ extensor hallucis longus; FDL= flexor digitorum longus; UE= upper extremity; LE= lower extremity; ALSFRS(-R)=ALS Function Rating Scale(Revised); EMG= electromyogram; HHD: handheld dynamometry; FVC= forced vital capacity; PSW= positive sharp waves This table includes information on magnitude and duration of improvements made by cases. Strength is noted as 'right/left' unless otherwise specified.
*On exams marked with asterisks, some or all strength measurements were not made using the medical research council scale.

Supplementary Table 3: Treatments used by ALS Reversals

| Treatments | $\underline{\text { Dose Range (units/day) }}$ | $\underline{\text { Odds Ratio }}$ | $\underline{\text { CI }}$ | $\underline{\text { Statistical Test }}$ | $\underline{\text { Result }}$ |
| :--- | :--- | :--- | :--- | :--- | :--- |
| Curcumin | $\mathrm{N} / \mathrm{A}$ | 348 | $66.5-1,820$ | $\mathrm{X}^{2}=48.1$ | $\mathrm{p}<.0001$ |
| Luteolin | $300-2,000 \mathrm{mg}$ | 333 | $44.9-2,460$ | $\mathrm{X}^{2}=32.3$ | $\mathrm{p}<.0001$ |
| Cannabidiol | $\mathrm{N} / \mathrm{A}$ | 261 | $55.1-1,230$ | $\mathrm{X}^{2}=49.2$ | $\mathrm{p}<.0001$ |
| Azathioprine | $125-150 \mathrm{mg}$ | 133 | $24.5-721$ | $\mathrm{X}^{2}=32.2$ | $\mathrm{p}<.0001$ |
| Copper | $0.7-2 \mathrm{mg}$ | 24.6 | $5.52-109$ | $\mathrm{X}^{2}=17.7$ | $\mathrm{p}=.0041$ |
| Glutathione | $>1300 \mathrm{mg}$ | 18.9 | $4.30-83.4$ | $\mathrm{X}^{2}=15.1$ | $\mathrm{p}=.0155$ |
| Vitamin D | $200-5000 \mathrm{IU}$ | 6.99 | $2.77-17.6$ | $\mathrm{X}^{2}=16.99$ | $\mathrm{p}=.0057$ |
| Fish Oil | 1600 mg | 6.44 | $2.40-17.3$ | $\mathrm{X}^{\mathrm{K}}=13.68$ | $\mathrm{p}=.0331$ |

Abbreviations: ALS= amyotrophic lateral sclerosis; $\mathrm{N} / \mathrm{A}=$ not available
There were 153 independent medications and supplements used by cases at the time of their maximum improvement including 36 treatments used by more than one reversal. For 8 of these 36 treatments, the odds they were being taken by a participant were greater for cases than controls. Dosages used by participants are included as available. Information on duration of treatment was unavailable. p-values shown are post-Bonferroni correction.

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