Core Table EMG/NCS

| **Anatomic Area Studied** | **Area Weak** | **Evidence of Conduction Block** | **Presence of Fasciculations** | **Presence of Fibrillation/ Positive Waves** | **Evidence of Neurogenic Motor Units** |
| --- | --- | --- | --- | --- | --- |
| **Right Arm** | **[ ]**  Yes **[ ]**  No | **[ ]**  Yes **[ ]**  No**[ ]** Unknown | **[ ]**  Yes **[ ]**  No | **[ ]**  Yes **[ ]**  No | **[ ]**  Yes **[ ]**  No |
| **Left Arm** | **[ ]**  Yes **[ ]**  No  | **[ ]**  Yes **[ ]**  No**[ ]** Unknown | **[ ]**  Yes **[ ]**  No | **[ ]**  Yes **[ ]**  No | **[ ]**  Yes **[ ]**  No |
| **Right Leg** | **[ ]**  Yes **[ ]**  No  | **[ ]**  Yes **[ ]**  No**[ ]** Unknown | **[ ]**  Yes **[ ]**  No | **[ ]**  Yes **[ ]**  No | **[ ]**  Yes **[ ]**  No |
| **Left Leg** | **[ ]**  Yes **[ ]**  No  | **[ ]**  Yes **[ ]**  No**[ ]** Unknown | **[ ]**  Yes **[ ]**  No | **[ ]**  Yes **[ ]**  No | **[ ]**  Yes **[ ]**  No |
| **Face** | **[ ]**  Yes **[ ]**  No | N/A | **[ ]**  Yes **[ ]**  No | **[ ]**  Yes **[ ]**  No | **[ ]**  Yes **[ ]**  No |
| **Thoracic** | N/A | N/A | **[ ]**  Yes **[ ]**  No | **[ ]**  Yes **[ ]**  No | **[ ]**  Yes **[ ]**  No |

Cranial Supplemental Table for EMG

| **Cranial** | **Fascics** | **Fibs/PSWs** | **Neurogenic motor units** | **Normal** | **Not Assessed** | **Comments (Free Text) Right** | **Comments (Free Text) Left** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Tongue | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| Masseter | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| Other, specify: | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| Other, specify:  | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |

Cervical Supplemental Table for EMG

| **Cervical** | **Fascics** | **Fibs/PSWs** | **Neurogenic motor units** | **Normal** | **Not Assessed** | **Comments (Free Text) Right** | **Comments (Free Text) Left** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Biceps | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| Triceps | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| EDC | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| APB | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| ADM | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| FDI | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| Other, specify: | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| Other, specify: | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |

Thoracic Supplemental Table for EMG

| **Thoracic** | **Fascics** | **Fibs/PSWs** | **Neurogenic motor units** | **Normal** | **Not Assessed** | **Comments (Free Text) Right** | **Comments (Free Text) Left** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Paraspinal | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |

Lumbosacral Supplemental Table for EMG

| **Lumbosacral** | **Fascics** | **Fibs/PSWs** | **Neurogenic motor units** | **Normal** | **Not Assessed** | **Comments (Free Text) Right** | **Comments (Free Text) Left** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Vastuslateralis | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| Tibialis anterior | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| Gastrocnemius | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| Tibialis posterior | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |
| Other, specify: | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | [ ]  Right [ ]  Left | Data to be entered by site | Data to be entered by site |

Core Table for MUNE

| **Muscle Studied** | **Area Weak** | **Method Used** | **Compound Motor Action Potential Amplitude (mV)** | **Single Motor Unit Potential Amplitude Estimate (µV)** | **Motor Unit Number Estimate** |
| --- | --- | --- | --- | --- | --- |
| **Site #1:** | **[ ]**  Yes **[ ]**  No | **[ ]** Incremental**[ ]** Multipoint**[ ]** Statistical**[ ]** Other, specify: | Data to be entered by site | Data to be entered by site | Data to be entered by site |
| **Site #2:** | **[ ]**  Yes **[ ]**  No | **[ ]**  Incremental**[ ]**  Multipoint**[ ]** Statistical**[ ]**  Other, specify: | Data to be entered by site | Data to be entered by site | Data to be entered by site |
| **Site #3:** | **[ ]**  Yes **[ ]**  No | **[ ]**  Incremental**[ ]**  Multipoint**[ ]**  Statistical**[ ]**  Other, specify: | Data to be entered by site | Data to be entered by site | Data to be entered by site |

Supplemental Table for MUNE Site 1

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Site 1**  | **Ulnar Right** | **Ulnar Left** | **Median Right** | **Median Left** | **Peroneal Right** | **Peroneal Left** |
| CMAP (mV) | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |
| 1st amplitude (μV) | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |
| 2nd amplitude (μV) | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |
| 3rd amplitude (μV) | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |
| *Site 1 SMUP (= 3rdamplitude / 3)* | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |

Supplemental Table for MUNE Site 2

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Site 2** | **Ulnar Right** | **Ulnar Left** | **Median Right** | **Median Left** | **Peroneal Right** | **Peroneal Left** |
| 1stamplitude (μV) | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |
| 2ndamplitude (μV) | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |
| 3rdamplitude (μV) | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |
| *Site 2 SMUP (= 3rdamplitude / 3)* | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |

Supplemental Table for MUNE Site 3

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Site 3** | **Ulnar Right** | **Ulnar Left** | **Median Right** | **Median Left** | **Peroneal Right** | **Peroneal Left** |
| 1st amplitude (μV) | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |
| 2ndamplitude (μV) | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |
| 3rdamplitude (μV) | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |
| *Site 3 SMUP (= 3rdamplitude / 3)* | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |

Supplemental Table for MUNE N/A

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **N/A** | **Ulnar Right** | **Ulnar Left** | **Median Right** | **Median Left** | **Peroneal Right** | **Peroneal Left** |
| ***Average SMUP*** | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |
| ***MUNE*** | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site | Data to be entered by site |

Core Table for Transcranial Magnetic Stimulation

|  |  |  |
| --- | --- | --- |
| **Muscle Recorded From (Free Text)** | **Muscle Weak** | **Comments (Free Text)** |
| **Site #1:** | **[ ]**  Yes **[ ]**  No | Data to be entered by site |
| **Site #2:** | **[ ]**  Yes **[ ]**  No | Data to be entered by site |
| **Site #3:** | **[ ]**  Yes **[ ]**  No | Data to be entered by site |

Core Table for Electrical Impedance Myography

| **Muscle Studied**  | **Side** | **Muscle Weak** | **Method Used**  | **Comments (Free Text)** |
| --- | --- | --- | --- | --- |
| **Site #1:** | **[ ]**  Right **[ ]** Left | **[ ]**  Yes **[ ]**  No | **[ ]** Single frequency**[ ]** Multi-frequency**[ ]** Other, specify: | Data to be entered by site |
| **Site #2:** | **[ ]**  Right **[ ]** Left | **[ ]**  Yes **[ ]**  No | **[ ]** Single frequency**[ ]** Multi-frequency**[ ]** Other, specify: | Data to be entered by site |
| **Site #3:** | **[ ]**  Right **[ ]** Left | **[ ]**  Yes **[ ]**  No | **[ ]** Single frequency**[ ]** Multi-frequency**[ ]** Other, specify: | Data to be entered by site |
| **Site #4:**  | **[ ]**  Right **[ ]** Left | **[ ]**  Yes **[ ]**  No | **[ ]** Single frequency**[ ]** Multi-frequency**[ ]** Other, specify: | Data to be entered by site |
| **Site #5:** | **[ ]**  Right **[ ]** Left | **[ ]**  Yes **[ ]**  No | **[ ]** Single frequency**[ ]** Multi-frequency**[ ]** Other, specify: | Data to be entered by site |

## GENERAL INSTRUCTIONS

This CRF includes data typically recorded when studying electrical properties of cells and tissues. This CRF captures data on the electrical activity of neurons, as well as action potential activity.

Important note: None of the data elements included on this CRF Module are classified as Core (i.e., required for all ALS studies to collect). All data elements are classified as supplemental (i.e., non Core) and should only be collected if the research team considers them appropriate for their study. Please see the Data Dictionary for element classifications.

SPECIFIC INSTRUCTIONS

Please see the Data Dictionary for definitions for each of the data elements included in this CRF Module.

EMG area studied – Record the results of the electromyography (EMG)/ nerve conduction studies (NCS) for each anatomic site.

MUNE muscle studied – Record the muscle studied. It is recommended that three different muscle sites be examined.

MUNE CMAP measurement – Record in millivolts (mV) for each muscle studied.

MUNE SMUP measurement – Record in microvolts (µV) for each muscle studied.

MUNE average SMUP value – Calculate for a specific site by averaging three SMUP measurements. Calculate for a specific nerve by then averaging the average SMUP.

TMS muscle studied – Record the muscle studied. It is recommended that three different muscle sites be examined.