NEURO**Metrix**

ADVANCE™

NCS/EMG System

NeuroMetrix, Inc.

Company Overview

- NeuroMetrix was founded in 1996
- Publicly traded under NURO on the Nasdaq exchange
- NeuroMetrix's core competencies are in neurophysiology, biomedical engineering, and information technology.
- Original NCS technology developed at Harvard Medical School & Massachusetts Institute of Technology
- 8+ Years Experience with NCS in the U.S. Marketplace
- Over 1,000,000 Patients Tested To Date

Neurotechnology Platforms to Transform Patient Care

ADVANCE™ NCS/EMG System

ADVANCE is a comprehensive platform for the performance of nerve conduction studies and invasive electromyography procedures.

ADVANCE Features

- Nerve Conduction Studies
- Needle Electromyograph
- High Resolution Touch Screen
- Intuitive User Interface
- Exceptional Technical Specifications
- On-screen Display of Waveforms and Tabulated Results
- Comprehensive Report with Tabulation of Results and Waveforms

ADVANCE System
Unique Product Features

- High Capacity Lithium Ion Battery for off-mains use
- Memory stores 25 - 50 patient tests for remote & clinic use
- Compact size enhances portability
- Convenient carrying case
- Multiple electrode configurations including preconfigured Biosensors for study standardization
- Bluetooth connectivity to central communications hub facilitates downloading tests

ADVANCE System
The Most Advanced Technology

- Advanced electrophysiological amplifier and digital circuits for highly accurate nerve conduction waveforms
- Safest & most precise nerve stimulation circuitry
- Most advanced waveform analysis algorithms available for increased accuracy and reliability
- New functionality and software updates available remotely (no need to return device for upgrades)

ADVANCE System Functionality

Motor Nerve Conduction

- Distal motor latency, proximal motor latency
- Motor conduction velocity
- Compound muscle action potential amplitude, duration, area

F-waves

- Mean latency, minimum latency, maximum latency, chronodispersion
- Persistance, F/M-wave amplitude ratio, A-wave
- F-wave trace segmentation, support for multiple F-wave responses within traces
- Multiple stimulus count modes

Sensory and Mixed Nerve Conduction

- Distal sensory latency, sensory latency, mixed nerve latency
- Sensory and mixed nerve conduction velocity
- Sensory and mixed nerve action potential amplitude, duration
- Waveform averaging, stimulus artifact removal

Analysis

- Detection of electrode-skin interface and stimulation issues
- Detection of interference from artifact and noise, atypical waveform morphology
- Customizable reference ranges and management software
- Comparison of results to physician specified reference range data

Needle Electromyography

- Spontaneous activity, volitional activity
- Trigger to capture motor unit action potentials

ADVANCE™ NCS/EMG System

Nerve Conduction Studies

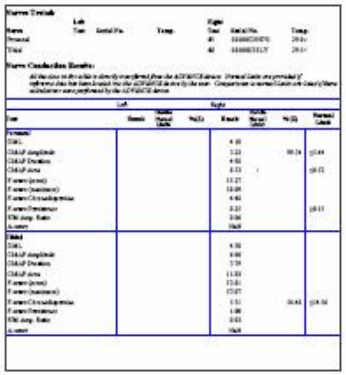
- 2 recording channels
- Precision electrical stimulator
- Interfaces with multiple electrode configurations
- Real time display of waveforms and tabulated results
- On-screen waveform cursor editing
- Advanced algorithms for analysis of F-wave responses

Needle Electromyography Module

- Interfaces with ADVANCE Device
- Easy access control panel
- Integrated speaker
- Automatic landscape mode for wide screen viewing
- Trigger Mode

ADVANCE Report & Networking

- Integrated Bluetooth® wireless communication provides seamless interface with the onCall Network for:
  - report generation
  - management of reference ranges
  - data management and archiving
  - device and report customization
  - automatic software upgrades



ADVANCE System Accessories

Cart

Charger

Communications Hub

Proximal Adapter

ADVANCE System Electrodes

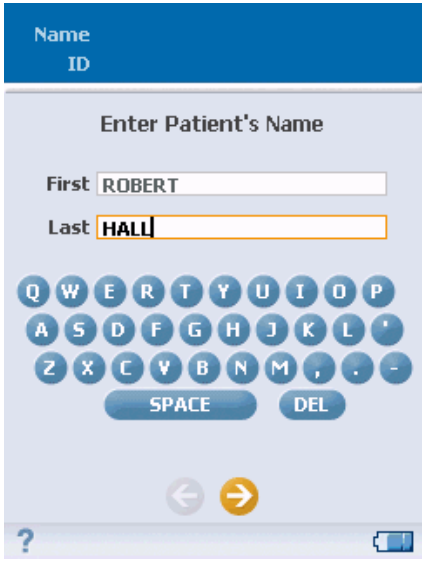
ADVANCE interfaces with:

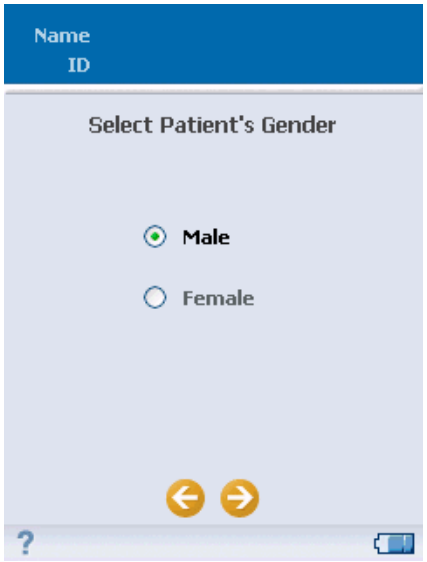
- Preconfigured Biosensors which facilitate easy electrode placement
- Traditional Individually Placed Electrodes

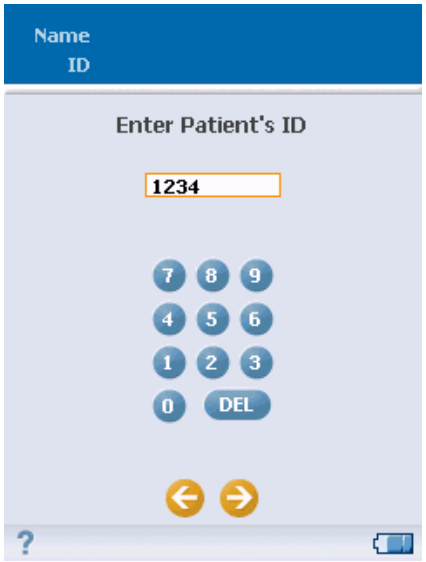
Preconfigured Biosensor

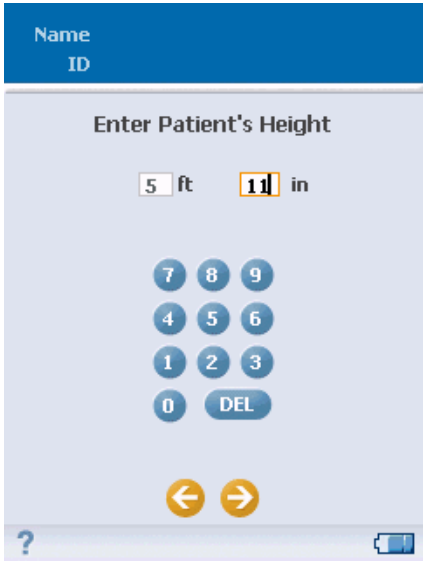
Intuitive User Interface

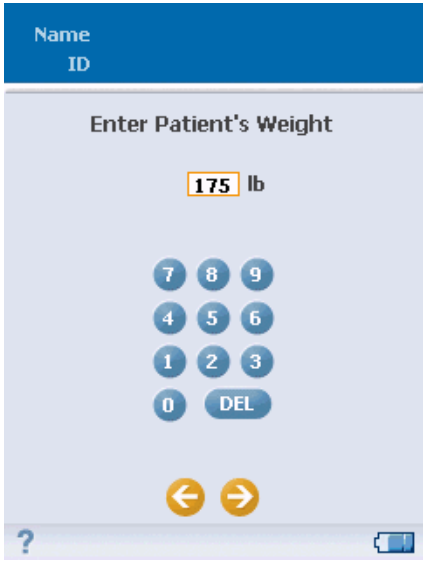
Simplified On-screen Data Entry



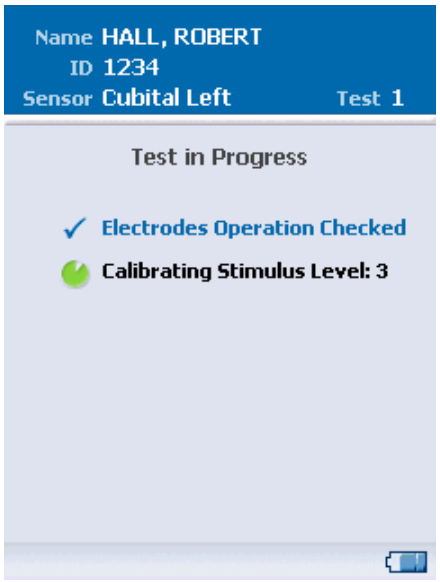


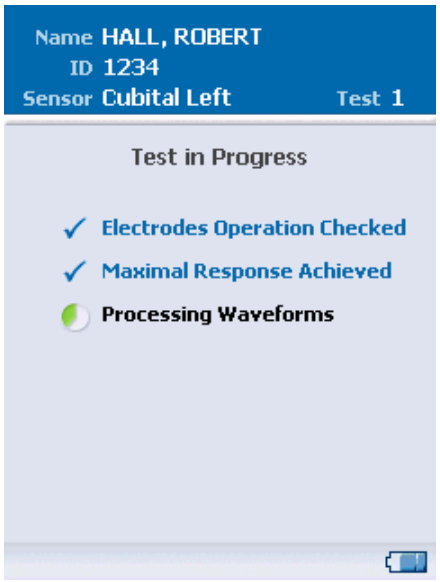


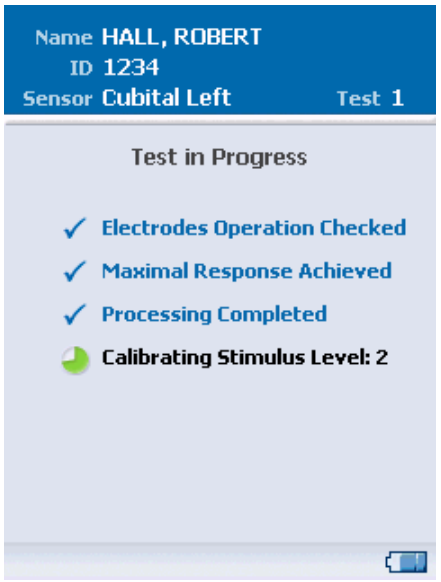


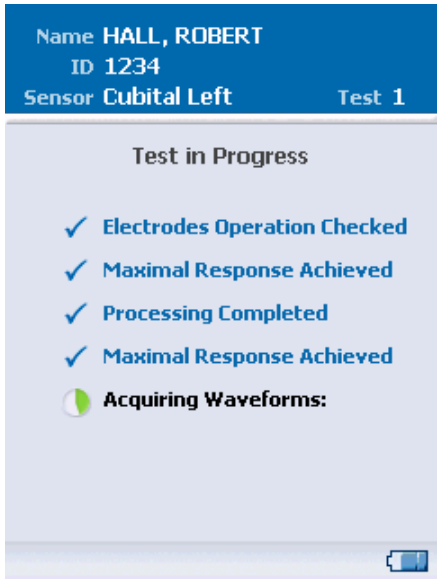


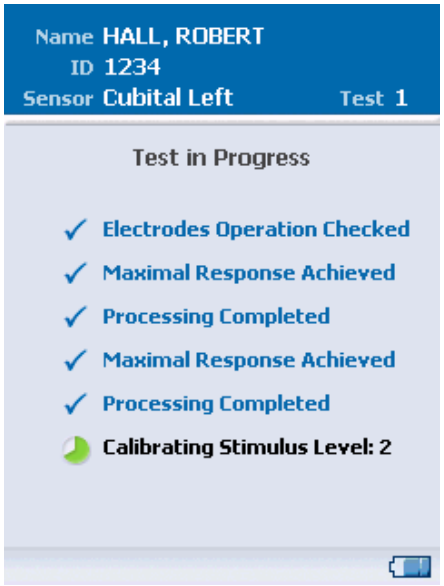
NCS Test Sequence Detail

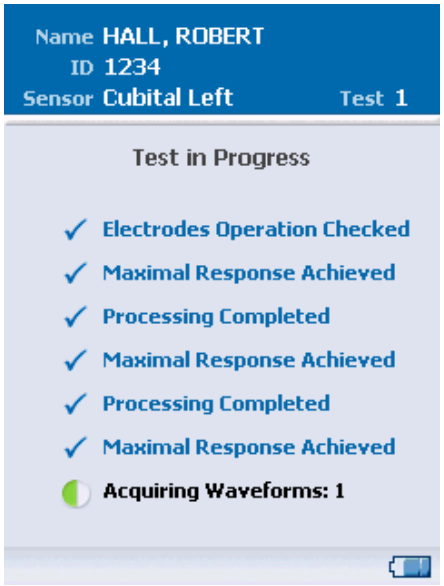




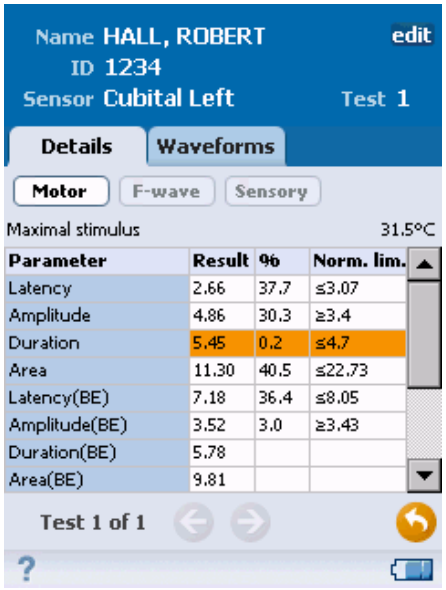


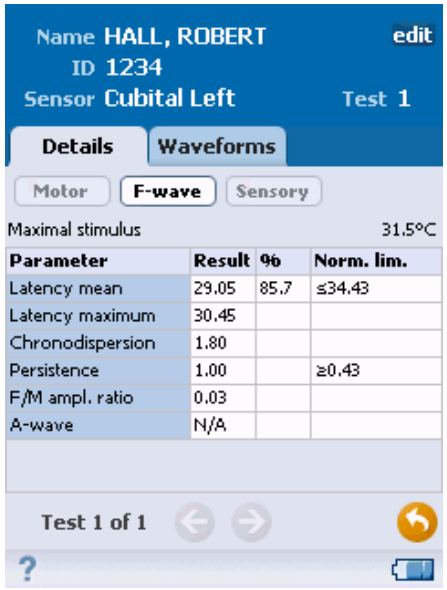


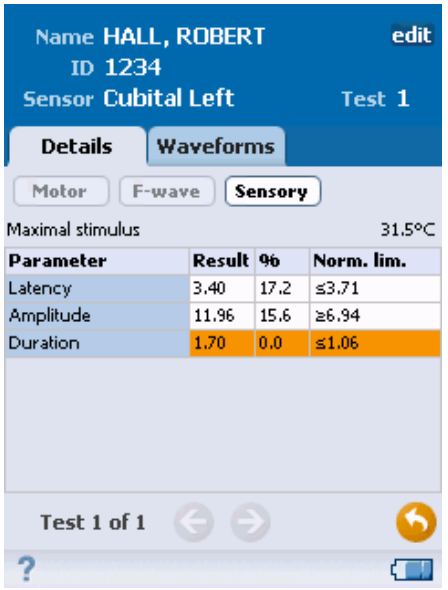


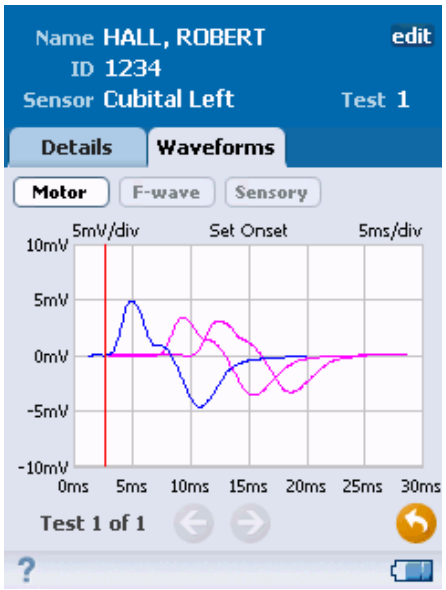


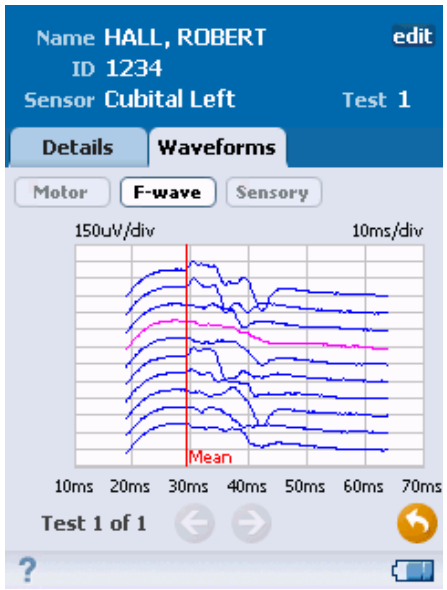
Reviewing Results

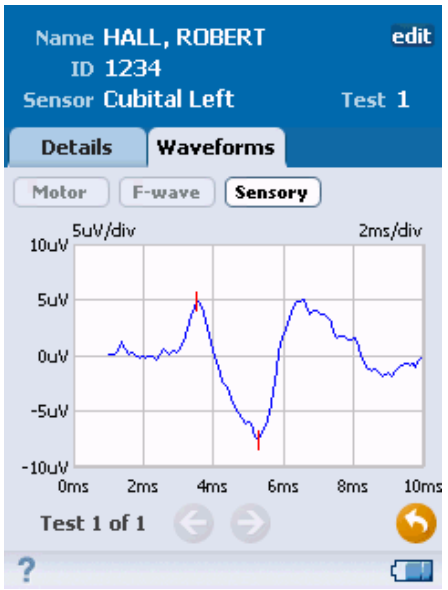






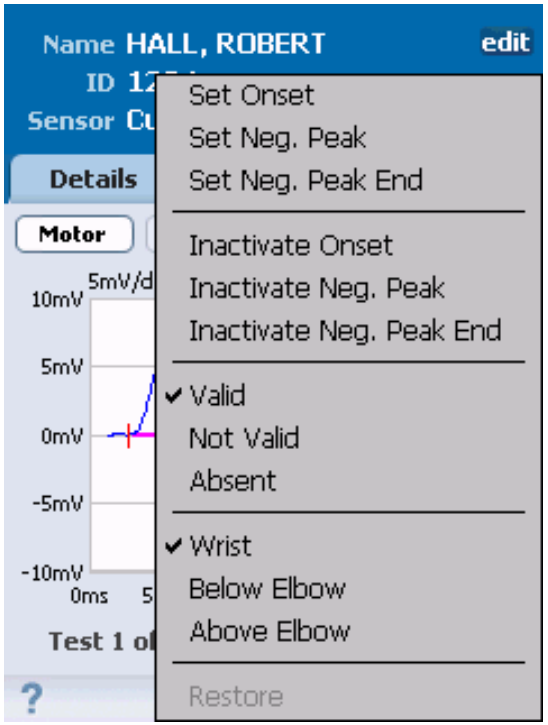




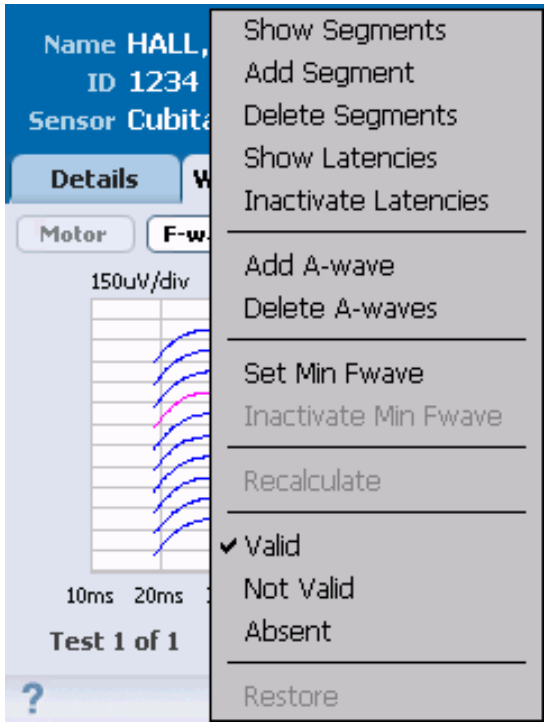


Motor **F-wave** **Sensory**

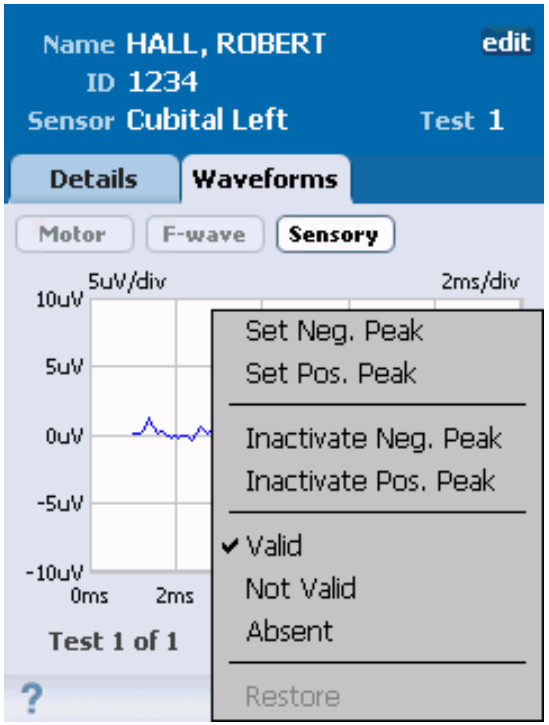
Cursor Editing Function



Motor



F-wave

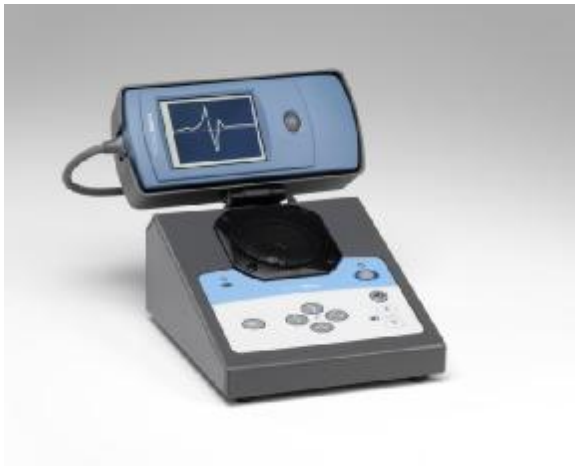


Sensory

ADVANCE Needle EMG Module

- Interfaces with ADVANCE device
- Easy access control panel
- Integrated speaker
- Automatic landscape mode for wide screen viewing
- Trigger mode

ADVANCE Needle EMG



EMG Module
Control Panel

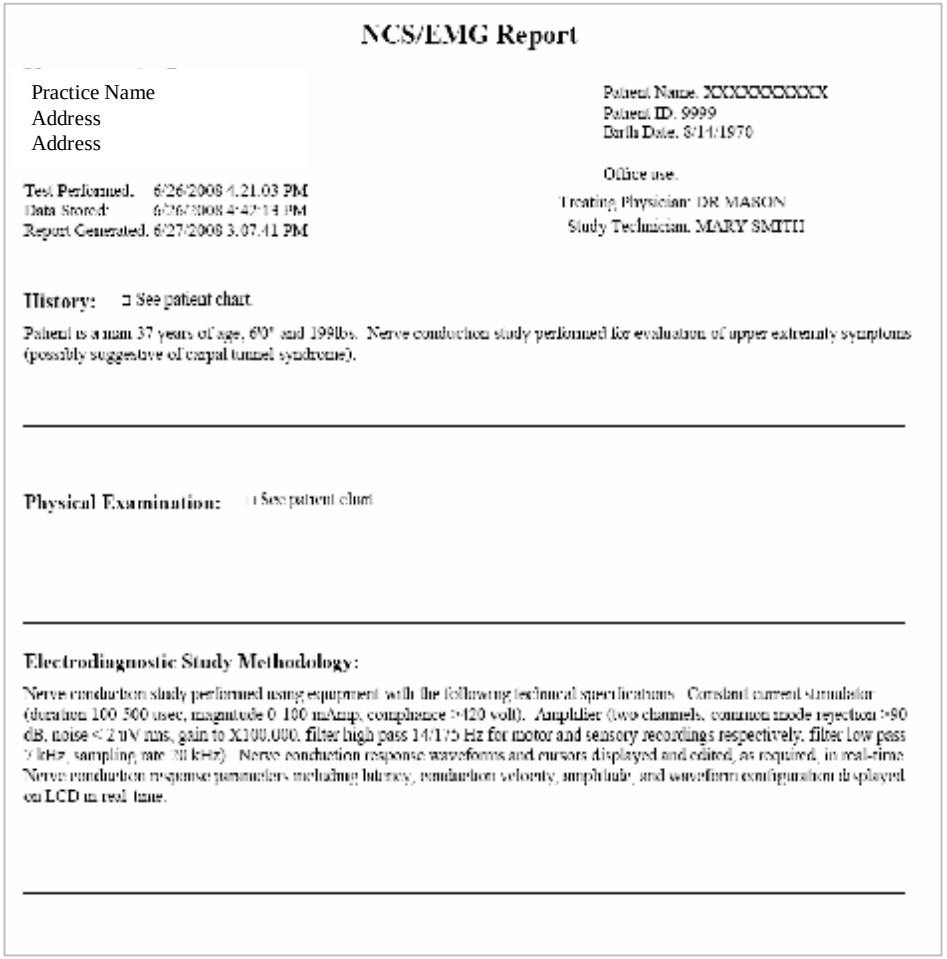
Communication with onCall Network

onCall Network – Enables:

- Report generation
- Management of reference ranges
- Data management and archiving
- Device and report customization
- Automatic software upgrades

- Bluetooth wireless from device to Communication Hub
- Communication Hub can be located anywhere (can hang on wall or be velcro adhered to any surface)
- Connects with analog phone line
- Device can communicate with Hub within 30 feet

ADVANCE NCS/EMG Report



NCS/EMG Report

Practice Name
Address
Address

Patient Name: XXXXXXXXXX
Patient ID: 9999
Birth Date: 8/14/1970

Test Performed: 6/26/2008 4:21:03 PM
Data Stored: 6/26/2008 4:42:14 PM
Report Generated: 6/27/2008 3:07:41 PM

Office use:
Treating Physician: DR MASON
Study Technician: MARY SMITH

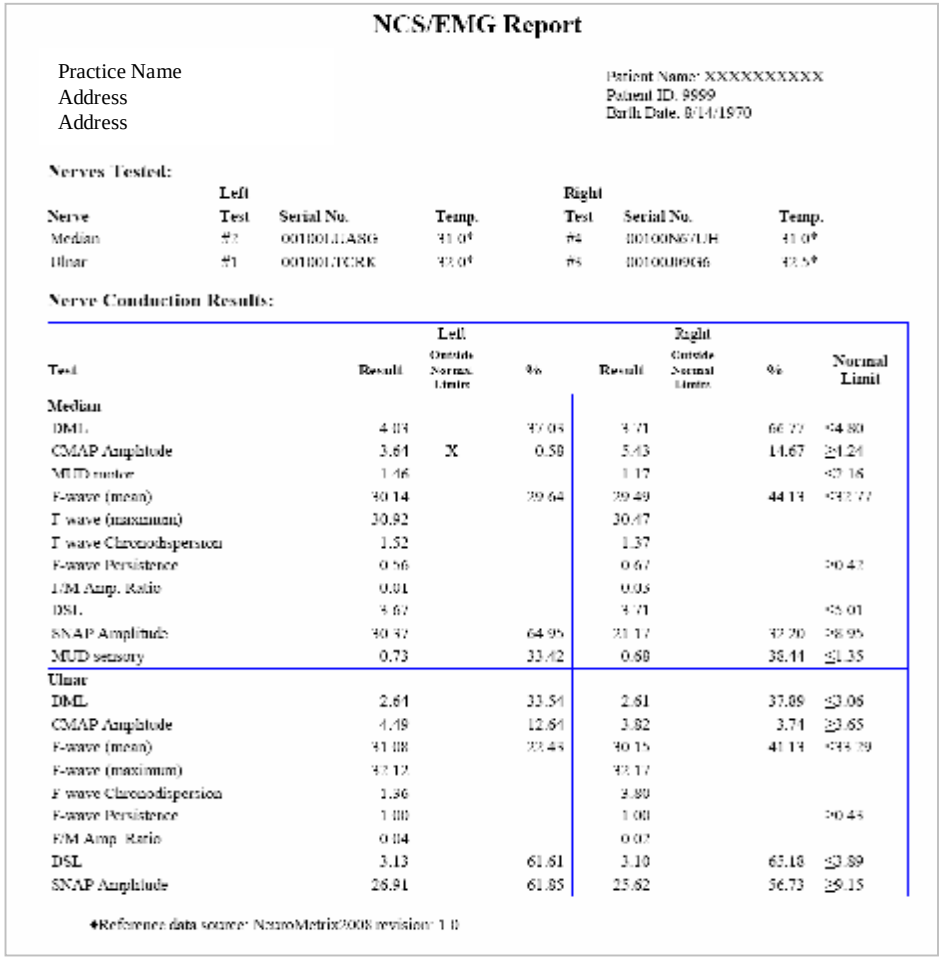
History: ☐ See patient chart

Patient is a man 37 years of age, 60" and 198lbs. Nerve conduction study performed for evaluation of upper extremity symptoms (possibly suggestive of carpal tunnel syndrome).

Physical Examination: ☐ See patient chart

Electrodiagnostic Study Methodology:

Nerve conduction study performed using equipment with the following technical specifications: Constant current stimulation (duration 100-500 usec, magnitude 0-100 mAmp, compliance >120 volt). Amplifier (two channels, common mode rejection >90 dB, noise < 2 uV rms, gain to X100,000, filter high pass 14/175 Hz for motor and sensory recordings respectively, filter low pass 2 kHz, sampling rate 20 kHz). Nerve conduction response waveforms and cursors displayed and edited, as required, in real-time. Nerve conduction response parameters including latency, conduction velocity, amplitude, and waveform configuration displayed on LCD in real time.



NCS/EMG Report

Practice Name
Address
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Patient Name: XXXXXXXXXX
Patient ID: 9999
Birth Date: 8/14/1970

Nerves Tested:

Nerve	Left Test	Left Serial No.	Left Temp.	Right Test	Right Serial No.	Right Temp.
Median	#2	0010011ASG	33.0°	#4	0010008670H	33.0°
Ulnar	#1	0010017CRK	33.0°	#5	0010010936	33.5°

Nerve Conduction Results:

Test	Left Result	Left Outside Normal Limits	Left %	Right Result	Right Outside Normal Limits	Right %	Normal Limit
Median							
DML	4.03		37.03	3.71		66.22	≤4.80
CMAP Amplitude	3.61	X	0.58	5.43		14.67	≥1.24
MUP motor	1.46			1.17			≤2.16
F-wave (mean)	30.14		39.64	29.49		44.14	≤32.77
F wave (maximum)	30.92			30.47			
F wave Chronodispersion	1.52			1.37			
F-wave Persistence	0.56			0.67			≥0.42
F/M Amp. Ratio	0.01			0.03			
DSL	3.67			3.71			≤5.01
SNAP Amplitude	30.37		64.95	33.17		57.20	≥8.95
MUP sensory	0.73		33.42	0.68		38.11	≤1.35
Ulnar							
DML	2.61		33.54	2.61		37.89	≤3.06
CMAP Amplitude	4.19		12.64	3.82		3.71	≥3.65
F-wave (mean)	31.08		33.44	30.15		41.14	≤33.79
F-wave (maximum)	33.17			33.17			
F wave Chronodispersion	1.36			2.80			
F-wave Persistence	1.00			1.00			≥0.43
F/M Amp. Ratio	0.04			0.07			
DSL	3.13		61.61	3.10		65.18	≤3.89
SNAP Amplitude	26.91		61.85	25.62		56.73	≥9.15

♦Reference data source: NeuroMetrix3008 revision: 1.0

ADVANCE NCS/EMG Report

NCS/EMG Report

Practice Name
Address
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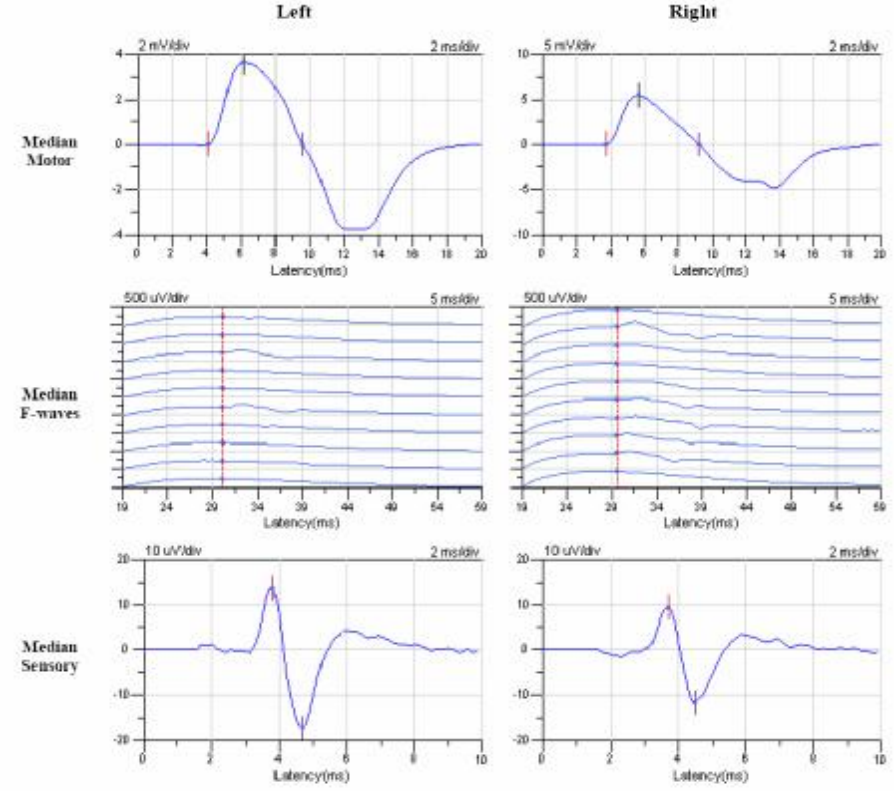
Patient Name: XXXXXXXXXX
Patient ID: 9999
Birth Date: 8/14/1970

Nerve Conduction Waveforms:



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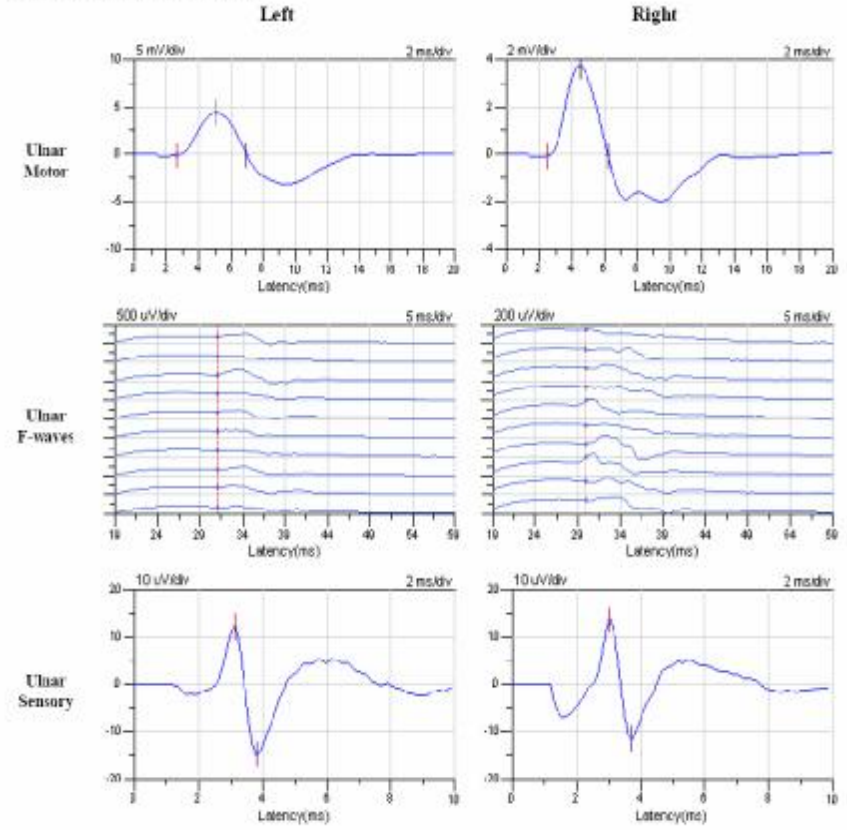
Nerve Conduction Waveforms:



ADVANCE NCS/EMG Report

NCS/EMG Report

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Patient Name: XXXXXXXXXX
Patient ID: 9999
Birth Date: 8/14/1970

Clinical Notes: ⌞ See patient chart.

Physician Signature

Date

NeuroMetrix, Inc.
ADVANCE System Summary

- ADVANCE System – Unique Technology – Unique Product
- Nerve Conduction Study & Needle EMG Capability
- Highly Portable & Compact