

John Smith, M.D.

100 Any Street
 Samletown, MA 98765

Your Practice
 Information

Received: 9/09/2009 02:58:02 PM
 Generated: 9/09/2009 03:01:24 PM

NC-stat onCall Report

Patient
 Identification

Patient: 01234
 Age: 65-69 Height: 5'8"

Office use: _____

Left

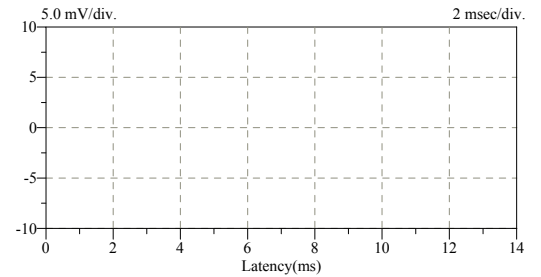
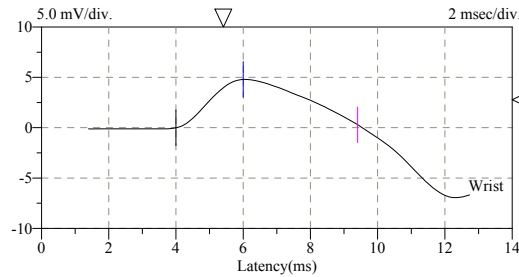
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00100XXXXX	3	Peroneal
00100XXXXX	4	Sural
00100XXXXX	5	Sup. Peroneal

Right

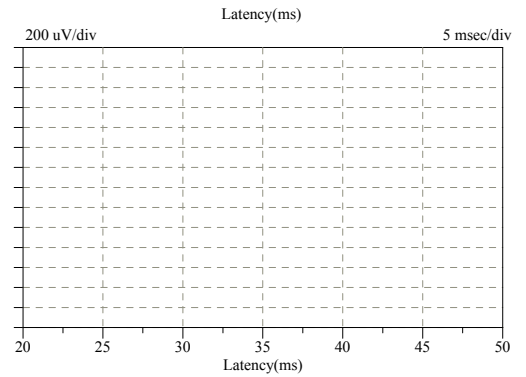
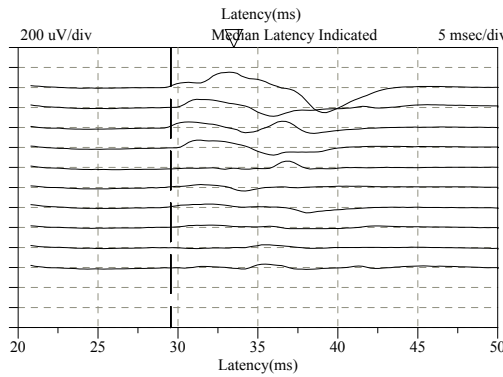
Sensor	Test	Nerve
00100XXXXX	2	Peroneal

Section 1:
 Waveform Analysis

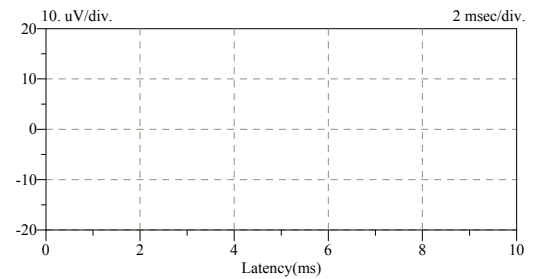
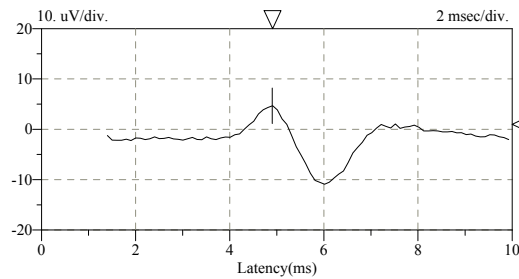
Median
 Motor



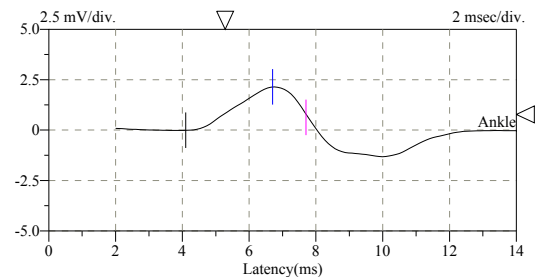
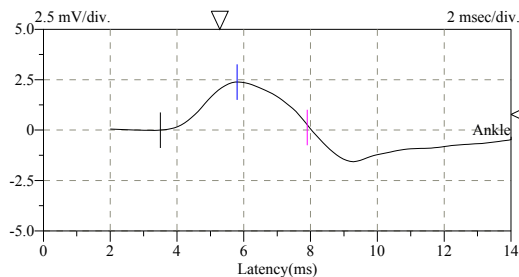
Median
 F-Waves



Median
 Sensory



Peroneal
 Motor



NC-stat onCall Report

John Smith, M.D.

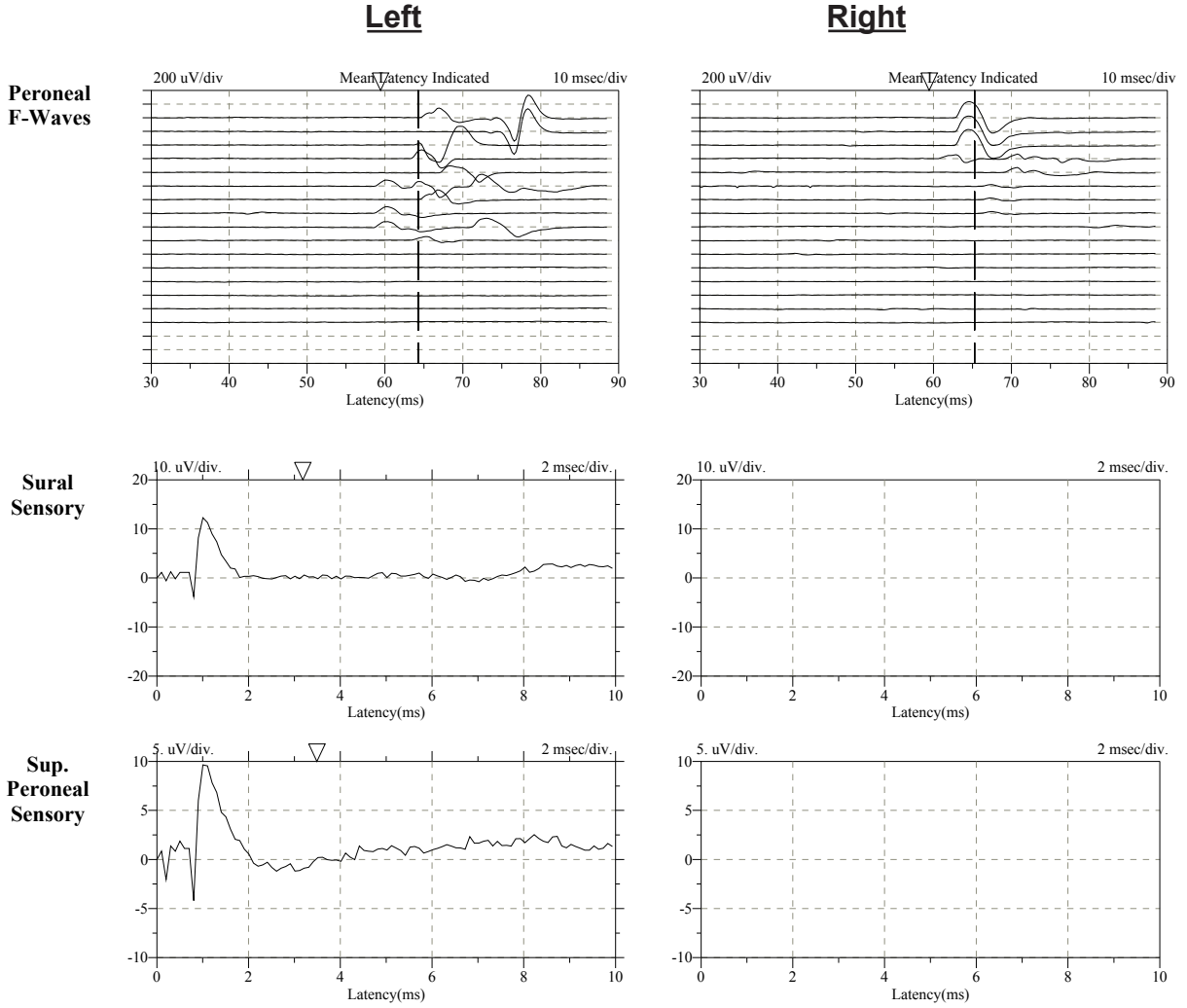
100 Any Street
Sometown, MA 98765

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Section 1: Waveform Analysis



NC-stat onCall Report

John Smith, M.D.

100 Any Street
Samletown, MA 98765

Received: 9/09/2009 02:58:02 PM
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Patient: **01234**
Age: **65-69** Height: **5'8"**

Office use: _____

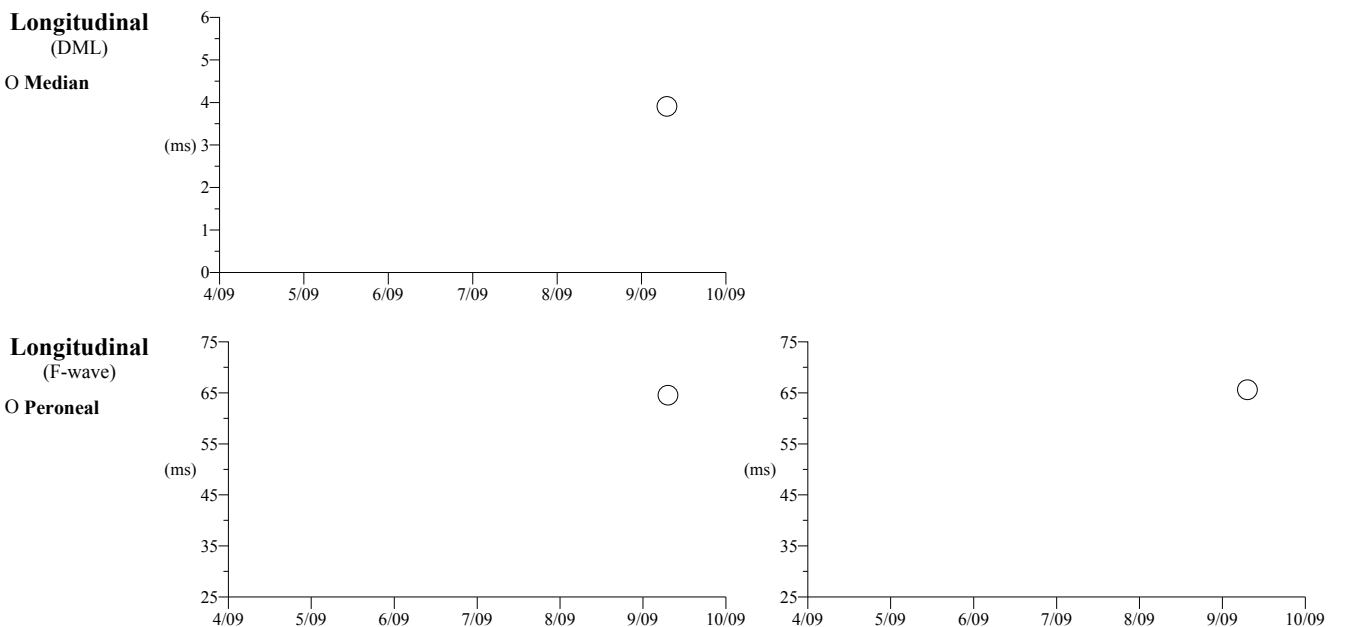
Section 2: Results Table & Comparison to Reference Range

Test	Left			Right			Ref Range
	Result	Flag	Percentile	Result	Flag	Percentile	
Median							
DML	3.91		75.3%				≤ 5.24
CMAP amplitude	4.81		47.4%				≥ 2.79
CMAP duration	5.26		6.9%				≤ 5.47
CMAP area	14.06		37.7%				≥ 8.58
F-wave(mean)	30.63		30.1%				≤ 33.49
F-wave Persistence	0.75						≥ 0.42
DSL	4.70		2.7%				≤ 4.71
SNAP amplitude	15.55						≥ 11.84
Peroneal							
DML	3.68		89.8%	4.28		57.2%	≤ 5.46
CMAP amplitude	2.49		36.2%	2.25		29.3%	≥ 0.85
CMAP duration	4.45			3.83			---
CMAP area	5.99			4.25			---
F-wave(mean)	64.53	Abnormal	0.0%	65.61	Abnormal	0.0%	≤ 59.80
F-wave(maximum)	74.38	Abnormal	0.0%	74.33	Abnormal	0.0%	≤ 63.98
F-wave(chrono)	16.38	Abnormal		13.53	Abnormal		≤ 12.10
F-wave(duration)	7.75			7.25			≤ 14.72
F/M ratio(median)	0.11			0.06			≤ 0.14
F-wave Persistence	0.63			0.56			≥ 0.06
Sural							
DSL	Absent	Abnormal					≤ 3.23
Sup. Peroneal							
DSL	Absent	Abnormal					≤ 3.49

Notes

- (1) DML (distal motor latency), DSL (distal sensory latency), MUD (median-ulnar difference), CV (conduction velocity).
- (2) All latencies measured in milliseconds. CMAP measured in millivolts. SNAP measured in microvolts.
- (3) CMAP duration measured from onset of first negative deflection to first baseline crossing
- (4) Ulnar and Tibial motor responses recorded using validated volume conduction methodology.
- (5) Peroneal motor responses recorded directly over muscle.
- (6) Median, Ulnar, Sural and Superficial Peroneal sensory responses recorded using bipolar electrode configuration.
- (7) Sural measurements marked * recorded from distal electrodes, otherwise proximal electrodes used.

Section 3: Longitudinal Tracking



**Section 4:
Study Methodology**

Patient History:

Patient is a 65-69 year old woman. Nerve conduction study performed for evaluation of diabetic peripheral neuropathy (DPN).

Study Methodology:

Nerve conduction study performed with instrumentation having the following technical specifications. Constant current stimulator: duration 50-500 usec, magnitude 0-100 mamps, compliance 400 volts. Amplifier: gain to x100,000 (automatically set by control software), filter high pass 15/175 Hz (motor/sensory), filter low pass 3 kHz. Stimulus artifact reduction circuit ties amplifier outputs to reference voltage for 1.4-2 msec following stimulus. All acquired waveforms stored digitally.

Nerve conduction studies of left median, both deep peroneal, left sural and left superficial peroneal nerves were performed. Upper extremity nerves were supramaximally stimulated 3 cm proximal to wrist crease. Lower extremity motor nerves were supramaximally stimulated at level of maleoli. Sural nerve was supramaximally stimulated 10 cm proximal to the lateral malleolus. Motor parameters include the DML (latency to initial negative deflection), CMAP amplitude (baseline to negative peak), and F-wave (latency and other diagnostic parameters determined from at least 10 F-responses in upper extremity and 20 F-responses in lower extremity). Median sensory parameters measured include the DSL (latency to negative peak, wrist to digit-3 proximal interphalangeal joint) and the SNAP amplitude (measured from negative peak to positive peak). Sural sensory parameters measured include the DSL (latency to negative peak) and the SNAP amplitude (measured from negative peak to positive peak). The sural response recorded at either a 10 cm distance (proximal electrode pair located medial to lateral malleolus) or a 14 cm distance (distal electrode pair located posterior to lateral malleolus). Skin surface temperature was measured and nerve conduction values were normalized to 32 deg-C (upper extremities), 30 deg-C (lower extremity motor) and 28 deg-C (sural). All nerve conduction parameters corrected for patient age (five year increments) and height (one inch increments) prior to determination of abnormalities.

**Section 5:
Study Results**

Study Results:

Upper extremity motor findings: The median DML was normal on the left. The median CMAP amplitude was normal on the left. The median F-wave was normal on the left.

Upper extremity sensory findings: The median DSL was normal on the left. The median SNAP amplitude was normal on the left.

Lower extremity motor findings: The peroneal DML was bilaterally normal. The peroneal CMAP amplitude was bilaterally normal. The peroneal F-wave was abnormal bilaterally.

Lower extremity sensory findings: The sural DSL (recorded from proximal electrode pair) was abnormal on the left. The superficial peroneal DSL was abnormal on the left.

Wrist skin surface temperature was 30.5 deg-C on the left. Ankle skin surface temperature was 31.0 deg-C on the left and 31.0 deg-C on the right. Sural nerve skin surface temperature was 28.5 deg-C on the left.

Computer Analysis:

The computer generated list of statements below is not a diagnosis and must be utilized by a physician in conjunction with patient history and clinical findings. Some of the listed neuropathies may not be clinically relevant in this patient. Neuropathies with very low prevalence may not be listed.

Polyneuropathy:

Based on the nerve conduction study data, consider a diabetic polyneuropathy (DPN) characterized by mild nerve conduction abnormalities.

Upper extremity nerve function is normal. This pattern suggests that the polyneuropathy is limited to the lower extremity and nerve function may also be affected by other pathophysiological factors such as lower extremity vasculopathies.

Physician Signature: _____

onCall Report Road Map

onCall Report Overview

The onCall Information System provides hardcopy or electronic documentation of study results. Reports are returned to your office via fax or email in a matter of minutes. The report is divided into 5 key sections each providing clear, concise data to help you diagnose and manage your patients.

Section 1: Waveform Analysis

Documentation of Nerve Response Waveforms, Latencies and Skin Surface Temperature are provided here.

Section 2: Results Tabulation & Comparison to Reference Range

Study parameters are documented for each nerve tested. The patient's results are compared to a normal range (individuals of similar height and age) and percentiles for all latencies are determined. Abnormal results are clearly identified in the Flag field.

Glossary of Terms

A-waves	A-waves are abnormal findings that generally indicate pathology. They are evoked responses that usually occur between the M-wave and the F-wave, or (less commonly) after the F-wave.
Chronodispersion	F-wave chronodispersion denotes the range of latencies that occur within a series of F-waves.
CMAP Amplitude	Reduction in amplitude correlates to loss of motor nerve fibers. In some studies amplitude ratios are utilized.
CMAP Duration	The duration of a CMAP waveform is measured from the first waveform deflection from the baseline to the return of the signal back to the baseline (in milliseconds). CMAPs with high duration may be indicative of demyelination.
Conduction Velocity (CV)	The fastest speed at which an impulse travels through a nerve.
Distal Motor Latency (DML)	Interval between the stimulus and the onset of the compound muscle action potential (CMAP).
Distal Sensory Latency (DSL)	Interval between the stimulus and the onset of the sensory nerve action potential (SNAP).
F-wave Duration	F-wave duration represents the median duration of a series of F-waves. The duration of a single F-wave is measured from the first waveform deflection from the baseline to the return of the signal back to the baseline.
Flag	Indicates a value outside the normal range (abnormal finding).
F-Wave Latency	The interval between the stimulus and the onset of an action potential resulting from antidromic activation of motor neurons in the spinal cord. Usually reported as the median or mean duration of a series.
MUD Motor	Difference of the median and ulnar distal motor latencies in a limb.
MUD Sensory	Difference of the median and ulnar distal sensory latencies in a limb.
Reference Range	Normal range for individuals of similar age and height. Some parameters are compared to an upper or lower limit.
Percentile	% of reference population (people of similar age and height) with a worse result.
Persistence	% of traces with F-waves. For example, 15/16 = 94% (low is abnormal).
SNAP Amplitude	Reduction in amplitude correlates to loss of sensory nerve fibers. In some studies amplitude ratios are utilized.

Section 3: Longitudinal Tracking

The onCall Information System archives all studies performed. Through centralized data management, onCall is able to generate longitudinal tracking to help you monitor disease progression and/or response to therapy over time.

Section 4: Study Methodology

Documents patient demographics and type of study performed. Provides the technical specifications of the NC-stat System. Identifies what nerves were tested and how the measurements were recorded.

Section 5: Study Results

The study findings are documented. The onCall Information System analyzes each nerve parameter measured with advanced algorithms and provides a clear, concise summary of the results of the Nerve Conduction Study.