

John Smith, M.D.

100 Any Street
Samplertown, MA 98765

Received: 9/09/2009 4:15:15 PM
Generated: 9/09/2009 4:17:35 PM

NC-stat onCall Report

Your Practice Information

Patient Identification

Patient: 01234
Age: 40-44 Height: 5'4"

Office use: _____

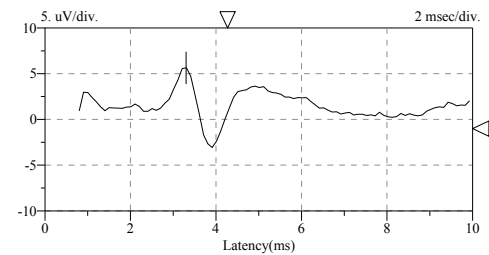
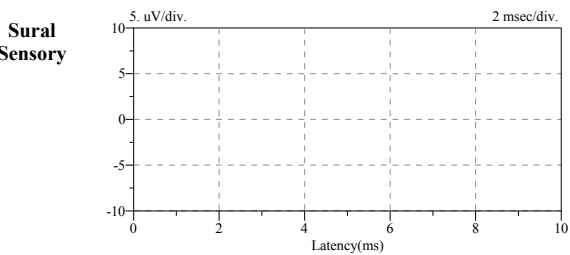
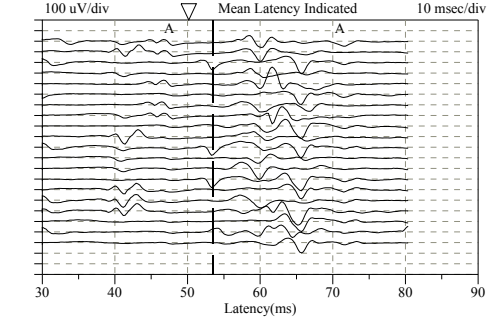
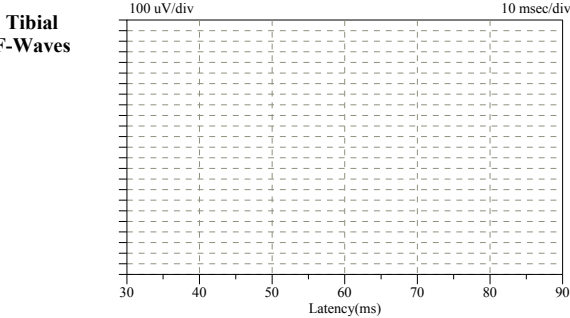
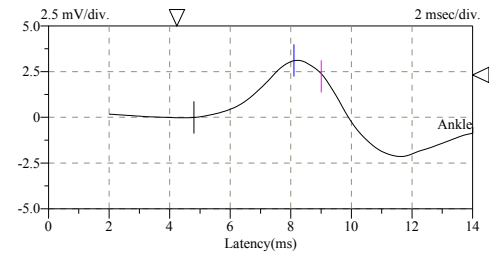
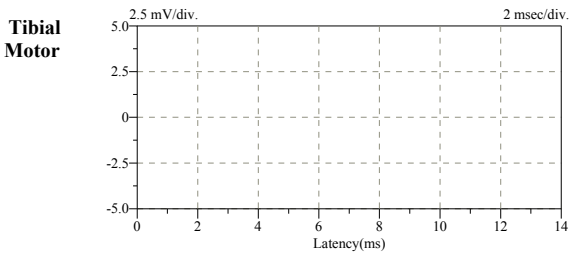
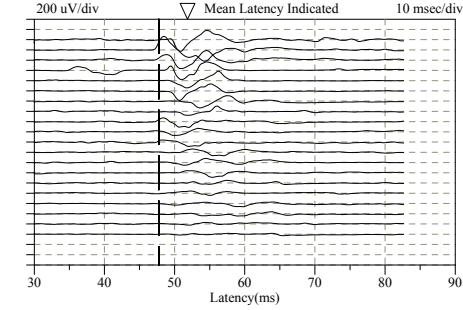
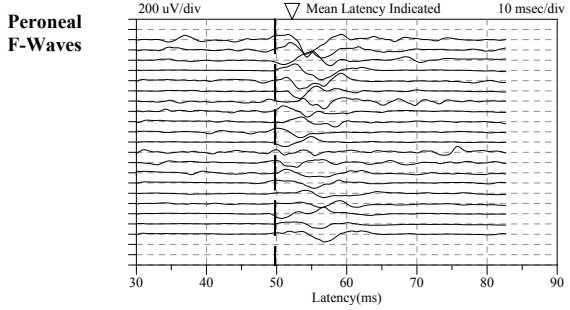
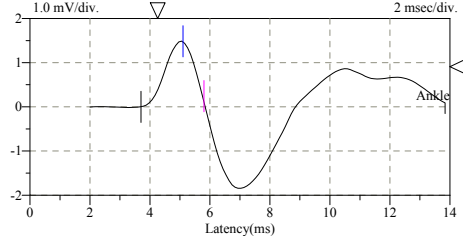
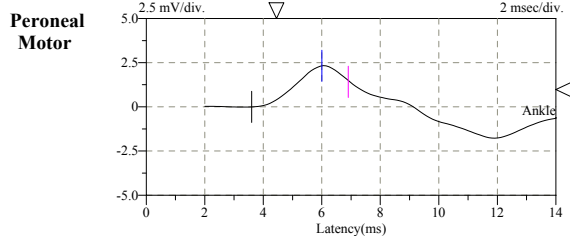
Left

Sensor	Test	Nerve
00100XXXXX	2	Peroneal

Right

Sensor	Test	Nerve
00100XXXXX	1	Peroneal
00100XXXXX	3	Tibial
00100XXXXX	4	Sural

**Section 1:
Waveform Analysis**



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Patient: **01234**
Age: **40-44** Height: **5'4"**

Office use: _____

Section 2: Results Table & Comparison to Reference Range

Test	Left			Right			Ref Range
	Result	Flag	Percentile	Result	Flag	Percentile	
Peroneal							
DML	3.87		33.7%	4.16		17.5%	∩ 4.72
CMAP amplitude	2.49		25.7%	1.71		9.4%	∩ 1.09
CMAP duration	3.59			2.23			---
CMAP area	4.69			1.58			---
F-wave(mean)	50.39		13.2%	48.81		28.7%	∩ 52.79
F-wave(maximum)	54.78		8.7%	51.09		36.2%	∩ 56.97
F-wave(chrono)	9.03			6.11			∩ 12.10
F-wave(duration)	12.38			10.50			∩ 14.72
F/M ratio(median)	0.08			0.09			∩ 0.14
F-wave Persistence	0.87			1.00			∩ 0.06
Tibial							
DML				4.71	Abnormal	0.0%	∩ 4.15
CMAP amplitude				3.12		6.4%	∩ 2.32
CMAP duration				4.88			---
CMAP area				6.27			---
F-wave(mean)				53.18	Abnormal	0.0%	∩ 49.84
F-wave(maximum)				57.23	Abnormal	0.7%	∩ 55.39
F-wave(chrono)				6.18			∩ 10.75
F-wave(duration)				16.00			∩ 18.38
F/M ratio(median)				0.04			∩ 0.23
F-wave Persistence				1.00			∩ 0.83
Awave				71.00	Abnormal		---
Sural							
DSL*				3.41		99.4%	∩ 4.45
SNAP amplitude*				10.53		85.1%	∩ 2.25
CV*				41.39		99.4%	∩ 31.70

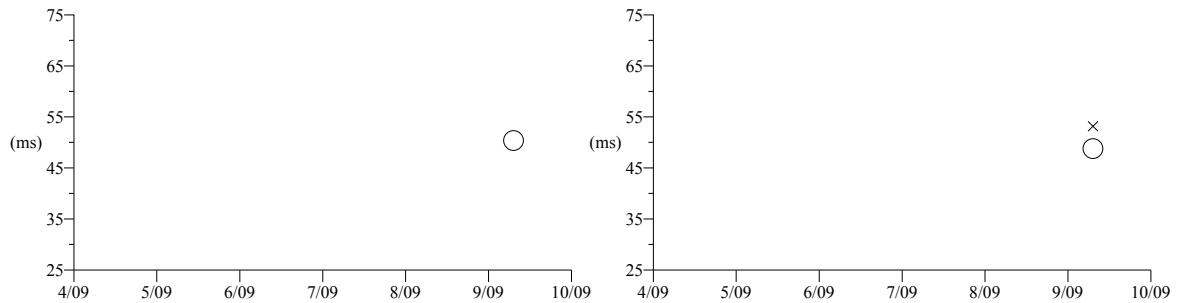
Notes

- (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) Median, 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

Longitudinal (F-wave)

O Peroneal
X Tibial



**Section 4:
Study Methodology**

Patient History:

Patient is a 40-44 year old woman. Nerve conduction study performed for evaluation of lower extremity symptoms with particular focus on sciatica.

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 both deep peroneal, right posterior tibial and right sural nerves were performed. Lower extremity motor nerves were supramaximally stimulated at level of malleoli. 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 20 F-responses). 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 30 deg-C. 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:

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

Lower extremity sensory findings: The sural DSL (recorded from distal electrode pair) was normal on the right. The sural SNAP amplitude (recorded from distal electrode pair) was normal on the right.

Ankle skin surface temperature was 31.5 deg-C on the left and 31.0 deg-C on the right. Sural nerve skin surface temperature was 29.5 deg-C on the right.

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.

Lower Extremity:

Consider a mild right L5/S1 radiculopathy.

Left peroneal nerve measurements, including proximal responses, are within normal limits. The likelihood of a left L5/S1 radiculopathy or proximal neuropathy is low.

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.