

## SAMPLE EMG/NCV REPORT - ABNORMAL STUDY

**John Smith, M.D.**  
**Diplomate, American Board of Physical Medicine and Rehabilitation**  
**Diplomate, American Board of Electrodiagnostic Medicine**  
**Precision Medical Group, Inc.**  
**1805 E. Dyer Rd., Suite #110**  
**Santa Ana, CA 92705**  
**Tel: (949) 955-0022**  
**Fax: (949) 955-0220**

1/29/2009 12:41:04 PM

**Patient:** XXXX, Delfino                      **DOB:** 12/24/1950    **Physician:** Smith  
**ID#:** XXXXXX\_DELFIN\_08071    **SEX:** Male                      **Ref. Phys:** Jones

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### **Patient Complaints:**

Neck pain with associated numbness and tingling. Low back pain with radiation into both lower extremities.

### **Patient History:**

Mr, XXXX is a 57 year-old male with a past medical history significant for cervical strain, history of spondylolisthesis and spinal stenosis, status post lumbar laminectomy and fusion L3-S1. Patient complains of neck pain, numbness and tingling with radiation down both upper extremities (right > left). Patient reports weakness in the legs, left more then the right. Patient also complains of low back pain with radiation down both lower extremities (left > right). Patient denies history of diabetes or thyroid disorder. The patient worked on cement and wood floors which required repetitive bending, stooping, squatting and lifting approximately 60lbs. Patient reports that on the date of injury, he was finishing a cement floor. He was bending over using a 2 x 4 piece of wood to finish the floor when he felt a pull in his lower back and his legs gave out. He fell to the ground on his knees. His current medications include Naprosyn, Vicodin and Captopril.

### **Physical Exam:**

**GENERAL:** No acute distress, well nourished and well developed  
**HEENT:** Normal cephalic, PERRLA, EOMI  
**EXT:** No clubbing, cyanosis or edema  
**MUSCULOSKELETAL:** No asymmetry, mass or tenderness to palpation.  
Strength is 5/5 in bilateral upper extremity.  
**NEURO:** Patient is alert, awake and oriented x 3, muscle tone is normal without any clonus. DTR is symmetrical and normal in bilateral upper extremity.  
Sensation to light touch is decreased in the right L5 and S1 distribution in both legs. Straight leg raise is positive on the right.

SPINE: There is significant tenderness to palpation in the lower lumbar paravertebrals.

Informed consent was obtained. Needle electromyography was performed with a monopolar disposable needle electrode on selected muscles as shown below. Nerve conduction study of was done today with the surface skin measure at 32 degree Celsius and above near the site of the recording electrodes. Nerve conductions were performed using standard surface conduction techniques. The patient tolerated the procedure without complications.

**Impression:**

Abnormal Electrodiagnostic Study.

1. There is evidence of an acute L5 and S1 lumbosacral radiculopathy in both lower extremities (left > right). Clinical correlation is recommended.
2. There is evidence of a C6 acute cervical radiculopathy in both upper extremities. Clinical correlation is recommended.
3. Bilateral ulnar motor CMAP amplitudes were reduced with normal onset latencies. Clinical correlation is recommended. Recommend patient return to complete bilateral ulnar inching study in both arms for further evaluation of entrapment neuropathy at the elbows.

“I declare under penalty of perjury that this statement is true and correct to the best of my knowledge and that I have not violated the Labor Code 139.3.”

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**ELECTRODIAGNOSTIC RESULTS:****EMG**

Side	Muscle	Nerve	Root	Ins Act	Fibs	Psw	Amp	Dur	Poly	Rect	Int Pat	Comment
Right	Abd Poll Brev	Median	C8-T1	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	1stDorInt	Ulnar	C8-T1	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	ExtIndicis	Radial (Post Int)	C7-8	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	ExtCarUln	Radial (Post Int)	C7-8	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	ExtCarRad	Radial	C6-7	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	BrachioRad	Radial	C5-6	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	
Right	Biceps	Musculocut	C5-6	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	
Right	Triceps	Radial	C6-7-8	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	Deltoid	Axillary	C5-6	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	C1 Parasp	Rami	C1	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	C2 Parasp	Rami	C2	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	C3 Parasp	Rami	C3	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	C4 Parasp	Rami	C4	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	C5 Parasp	Rami	C5	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	C6 Parasp	Rami	C6	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	
Right	C7 Parasp	Rami	C7	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	C8 Parasp	Rami	C8	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	T1 Parasp	Rami	T1	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	Abd Poll Brev	Median	C8-T1	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	ABD DigMinimi	Ulnar	C8-T1	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	1stDorInt	Ulnar	C8-T1	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	ExtIndicis	Radial (Post Int)	C7-8	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	ExtCarUln	Radial (Post Int)	C7-8	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	ExtCarRad	Radial	C6-7	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	PronatorTeres	Median	C6-7	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	BrachioRad	Radial	C5-6	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	
Left	Biceps	Musculocut	C5-6	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	Triceps	Radial	C6-7-8	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	Deltoid	Axillary	C5-6	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	
Left	C1 Parasp	Rami	C1	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	C2 Parasp	Rami	C2	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	C3 Parasp	Rami	C3	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	C4 Parasp	Rami	C4	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	C5 Parasp	Rami	C5	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	C6 Parasp	Rami	C6	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	
Left	C7 Parasp	Rami	C7	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	C8 Parasp	Rami	C8	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	T1 Parasp	Rami	T1	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	

Side	Muscle	Nerve	Root	Ins Act	Fibs	Psw	Amp	Dur	Poly	Recrt	Int Pat	Comment
Right	PostTibialis	Tibial	L5, S1	Incr	Nml	1+	Nml	Nml	0	Nml	Nml	
Right	MedGastroc	Tibial	S1-2	Incr	Nml	1+	Nml	Nml	0	Nml	Nml	
Right	AntTibialis	Dp Br Peron	L4-5	Incr	Nml	1+	Nml	Nml	0	Nml	Nml	
Right	BicepsFemS	Sciatic	L5-S1	Incr	Nml	1+	Nml	Nml	0	Nml	Nml	
Right	VastusMed	Femoral	L2-4	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	VastusLat	Femoral	L2-4	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	RectFemoris	Femoral	L2-4	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	L1 Parasp	Rami	L1	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	L2 Parasp	Rami	L2	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	L3 Parasp	Rami	L3	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	L4 Parasp	Rami	L4	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Right	L5 Parasp	Rami	L5	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	
Right	S1 Parasp	Rami	S1	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	
Left	PostTibialis	Tibial	L5, S1	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	
Left	MedGastroc	Tibial	S1-2	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	
Left	AntTibialis	Dp Br Peron	L4-5	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	
Left	BicepsFemS	Sciatic	L5-S1	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	
Left	VastusMed	Femoral	L2-4	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	VastusLat	Femoral	L2-4	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	RectFemoris	Femoral	L2-4	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	L1 Parasp	Rami	L1	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	L2 Parasp	Rami	L2	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	L3 Parasp	Rami	L3	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	L4 Parasp	Rami	L4	Nml	Nml	Nml	Nml	Nml	0	Nml	Nml	
Left	L5 Parasp	Rami	L5	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	
Left	S1 Parasp	Rami	S1	Nml	Nml	1+	Nml	Nml	0	Nml	Nml	

### Motor Nerves

Site	NR	Onset (ms)	Norm Onset (ms)	O-P Amp (mV)	Norm Amp (mV)	Neg Dur (ms)	Segment Name	Delta-O (ms)	Dist (cm)	Vel (m/s)	Norm Vel (m/s)
<b>Right Median (Abd Poll Brev)</b>											
Wrist		3.20	<4.0	6.16	>5.0	3.91	Elbow-Wrist	4.38	27	61.64	>50.0
Elbow		7.58		6.08		5.08					
<b>Right Ulnar (Abd Dig Min)</b>											
Wrist		2.66	<4.0	2.89	>5.0	5.23	B Elbow-Wrist	2.97	17	57.24	>50
B Elbow		5.63		2.37		5.63	A Elbow-B Elbow	2.50	12	48.00	>50
A Elbow		8.13		2.31		7.34					
<b>Right Radial (Ext Ind Prop)</b>											
Ext Ind Prop1		1.47	>1.0	9.94		7.03	Ext Ind Prop1-Ext Ind Prop1	0.00			
<b>Left Median (Abd Poll Brev)</b>											
Wrist		3.36	<4.0	6.33	>5.0	5.70	Elbow-Wrist	4.69	28	59.70	>50.0
Elbow		8.05		5.90		5.78					
<b>Left Ulnar (Abd Dig Min)</b>											
Wrist		3.67	<4.0	2.84	>5.0	3.67	B Elbow-Wrist	3.59	20.5	57.10	>50
B Elbow		7.27		2.37		2.42	A Elbow-B Elbow	2.50	15	60.00	>50
A Elbow		9.77		1.50		7.66					
<b>Left Radial (Ext Ind Prop)</b>											
Ext Ind Prop1		1.88	>1.0	4.52		6.95	Ext Ind Prop1-Ext Ind Prop1	0.00			
<b>Right Tibial (AHB)</b>											
Ankle		4.22	< 5.8	11.21	>4.0	4.14	Knee-Ankle	7.89	39	49.43	>41.0
Knee		12.11		6.92		5.16					
<b>Left Tibial (AHB)</b>											
Ankle		5.16	< 5.8	10.59	>4.0	2.81	Knee-Ankle	8.05	45	55.90	>41.0
Knee		13.20		7.17		3.05					
<b>Left Peroneal (EDB)</b>											
Ankle		4.92	<5.5	4.30	>2.5	3.98	B Fib-Ankle	6.33	31	48.97	>40.0
B Fib		11.25		3.45		4.45					

**Right Peroneal (EDB)**

Ankle	4.45	<5.5	4.87	>2.5	4.14	B Fib-Ankle	6.41	31	48.36	>40.0
B Fib	10.86		5.00		4.45					

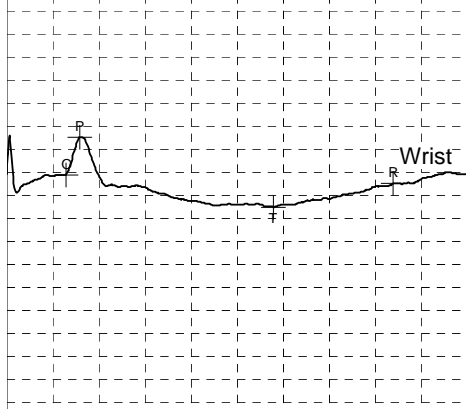
**Sensory Nerves**

Site	NR	Peak (ms)	Norm Peak (ms)	P-T Amp (µV)	Norm Amp (µV)	Segment Name	Delta-P (ms)	Dist (cm)	Vel (m/s)	Norm Vel (m/s)
<b>Right Median Anti (2nd Digit)</b>										
Wrist		3.19	<3.7	60.91	>15.0	Wrist-2nd Digit	3.19			>50
<b>Right Ulnar Anti (5th Digit)</b>										
Wrist		3.41	<3.8	50.00	>15.0	Wrist-5th Digit	3.41			>50.0
<b>Right Median and Ulnar Ortho (Wrist)</b>										
Median Palm		1.84	<2.3	144.89	>14	Median Palm-Wrist	1.84			
Ulnar Palm		2.03	<2.3	24.68	>6	Ulnar Palm-Wrist	2.03			
<b>Right Radial Anti (Base 1st Dig)</b>										
Base 1st Digit		1.72	<2.7	134.47	>13	Base 1st Digit-Base 1st Digit	1.72			
<b>Left Median Anti (2nd Digit)</b>										
Wrist		3.22	<3.7	106.74	>15.0	Wrist-2nd Digit	3.22			>50
<b>Left Ulnar Anti (5th Digit)</b>										
Wrist		5.44	<3.8	75.26	>15.0	Wrist-5th Digit	5.44			>50.0
<b>Left Median and Ulnar Ortho (Wrist)</b>										
Median Palm		2.22	<2.3	93.28	>14	Median Palm-Wrist	2.22			
Ulnar Palm		1.97	<2.3	21.75	>6	Ulnar Palm-Wrist	1.97			
<b>Left Radial Anti (Base 1st Dig)</b>										
Base 1st Digit		2.34	<2.7	24.87	>13	Base 1st Digit-Base 1st Digit	2.34			
<b>Left Dorsal Ulnar Cutaneous (Ulnar Dorsal)</b>										
Ulnar Dorsal1		1.69	<2.8	175.84	>17					
<b>Right Sural (Lat Mall)</b>										
14 cm		3.56	<4.5	30.55	>6	14 cm-Lat Mall	3.56			
<b>Right M Plantar (AHB)</b>										
Med Mall		2.59	<3.7	21.47	>10					
<b>Right L Plantar (ADM)</b>										
Med Mall		2.31	<3.7	23.84	>8					
<b>Left Sural (Lat Mall)</b>										
14 cm		2.81	<4.5	197.18	>6	14 cm-Lat Mall	2.81			
<b>Left M Plantar (AHB)</b>										
Med Mall		2.28	<3.7	25.58	>10					
<b>Left L Plantar (ADM)</b>										
Med Mall		2.25	<3.7	23.64	>8					
<b>Right Saphenous (Ant Med Mall)</b>										
Med Tibia		2.91	<4.3	15.75	>3	Med Tibia-Ant Med Mall	2.91			
<b>Left Saphenous (Ant Med Mall)</b>										
Med Tibia		2.50	<4.3	12.79	>3	Med Tibia-Ant Med Mall	2.50			

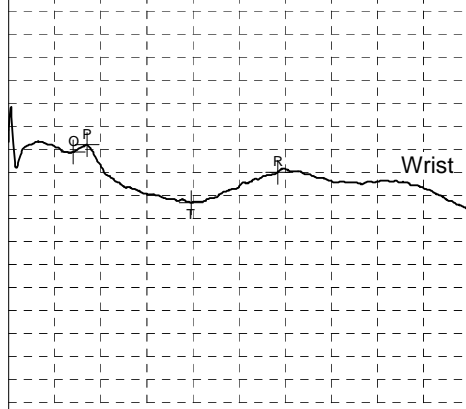
**FWave/HReflex**

<b>NR</b>	<b>Lat1 (ms)</b>	<b>Lat2 (ms)</b>	<b>Delta (ms)</b>	<b>Amp (<math>\mu</math>V)</b>
<b>Right Median-F (APB)</b>				
	28.69	0.00	28.69	
<b>Right Ulnar-F (ADM)</b>				
	30.33	0.00	30.33	
<b>Right Radial-F (Ext Ind Prop)</b>				
	23.97	0.00	23.97	
<b>Left Median-F (APB)</b>				
	26.82	0.00	26.82	
<b>Left Ulnar-F (ADM)</b>				
	29.42	0.00	29.42	
<b>Left Radial-F (Ext Ind Prop)</b>				
	24.27	0.00	24.27	
<b>Right Tibial-F (AHB)</b>				
	47.52	0.00	47.52	
<b>Left Tibial-F (AHB)</b>				
	48.55	0.00	48.55	
<b>Right Peroneal-F (EDB)</b>				
	44.73	0.00	44.73	
<b>Left Peroneal-F (EDB)</b>				
	45.34	0.00	45.34	
<b>Right Tibial H (Gastroc)</b>				
	29.30	0.00	29.30	
<b>Left Tibial H (Gastroc)</b>				
	33.41	0.00	33.41	

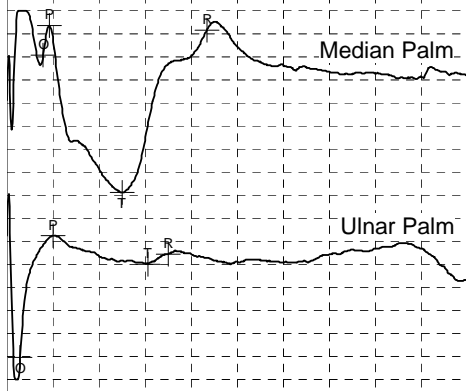
**Right Median Anti Sensory**



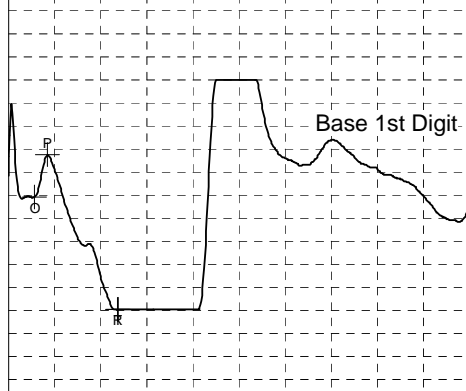
**Right Ulnar Anti Sensory**



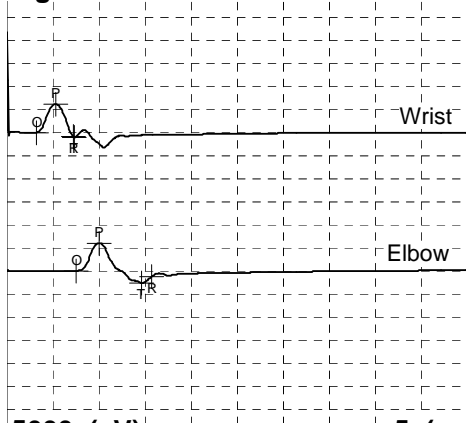
**Right Median and Ulnar Ortho Sens**



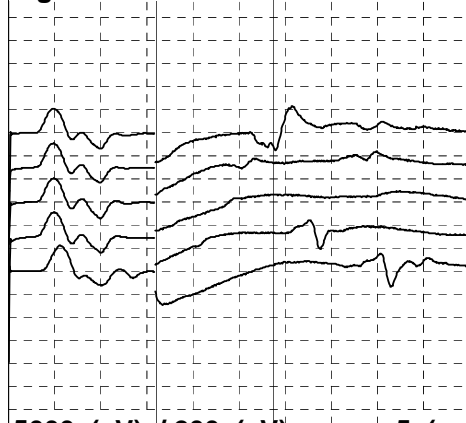
**Right Radial Anti Sensory**



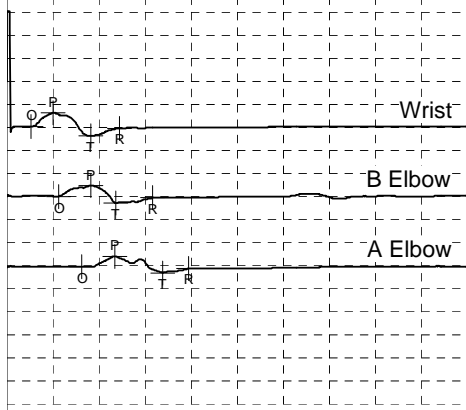
**Right Median Motor**



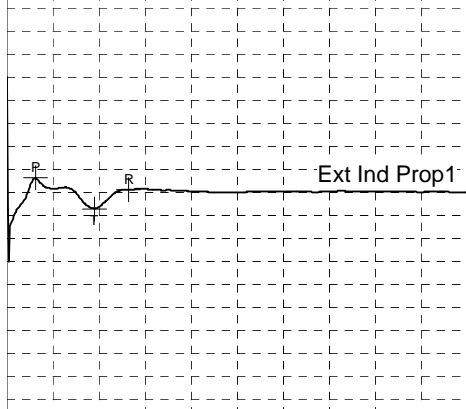
**Right Median-F**



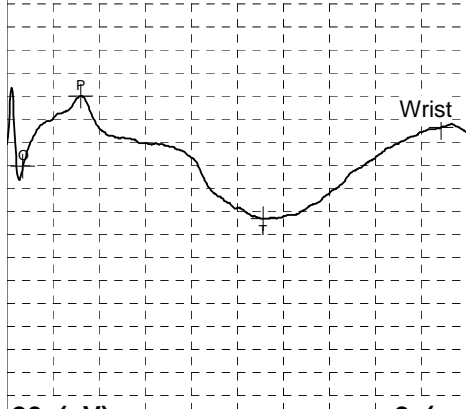
**Right Ulnar Motor**



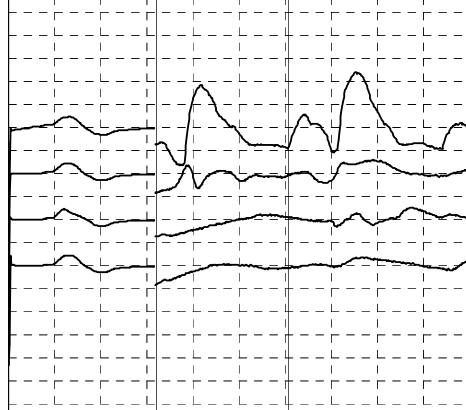
**Right Radial Motor**



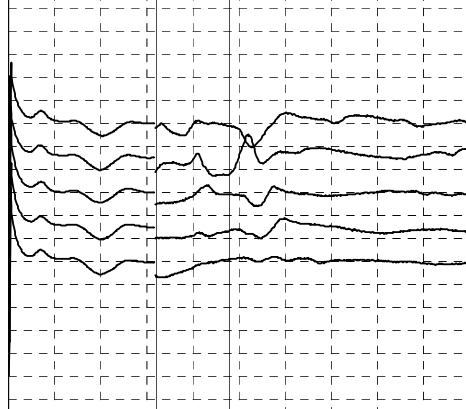
**Left Median Anti Sensory**



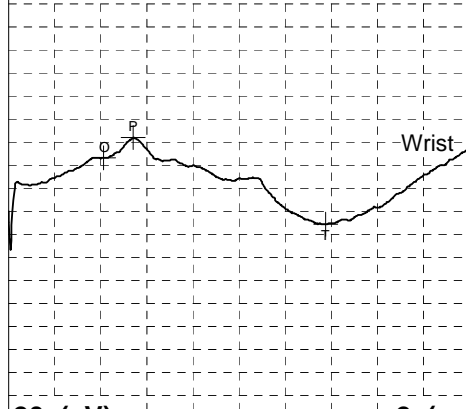
**Right Ulnar-F**



**Right Radial-F**

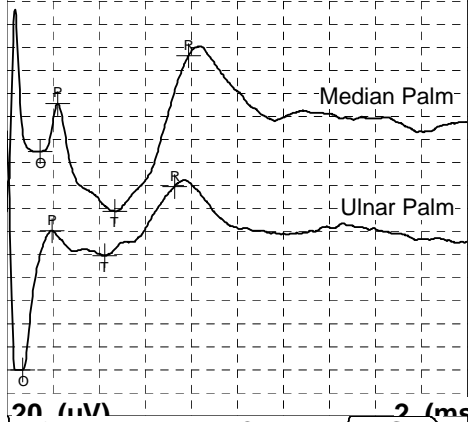


**Left Ulnar Anti Sensory**

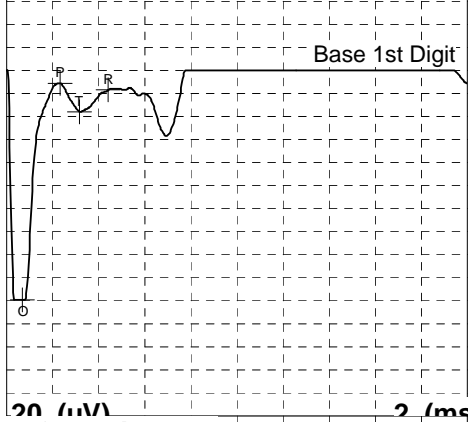




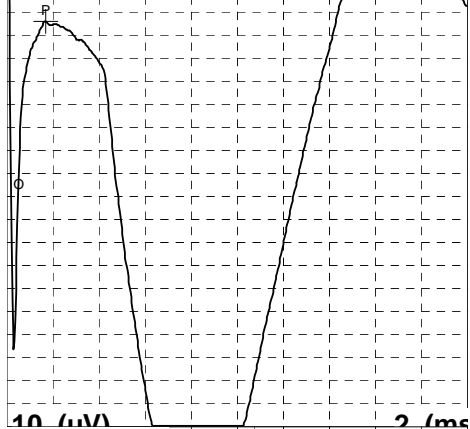
**Left Median and Ulnar Ortho Sensory**



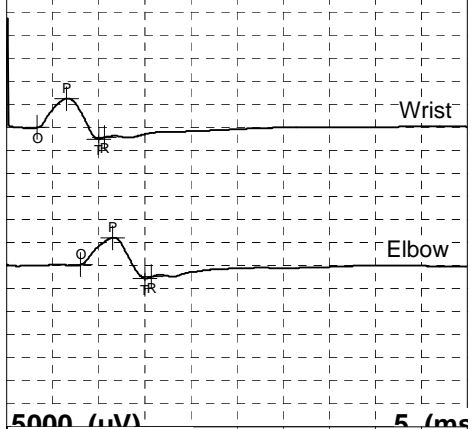
**Left Radial Anti Sensory**



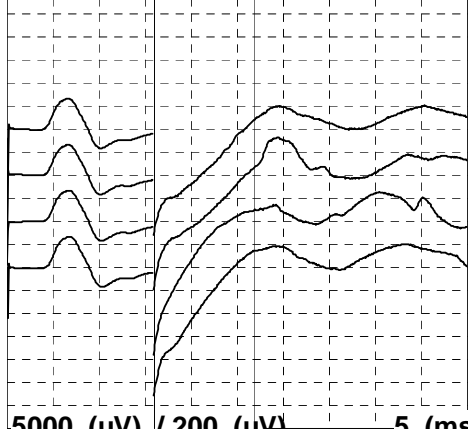
**Left Dorsal Ulnar Cutaneous Sensory**



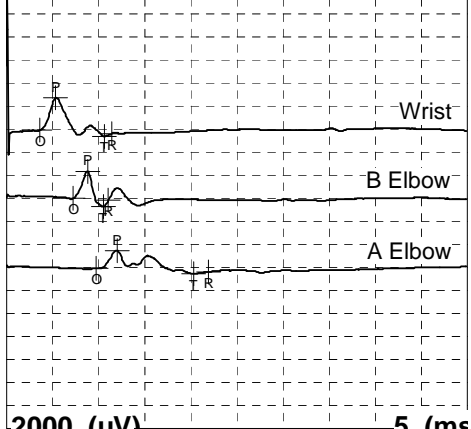
**Left Median Motor**

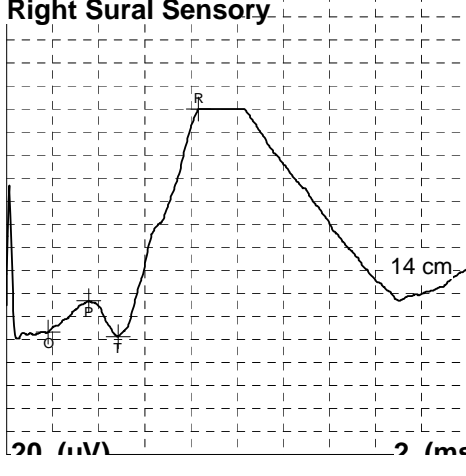
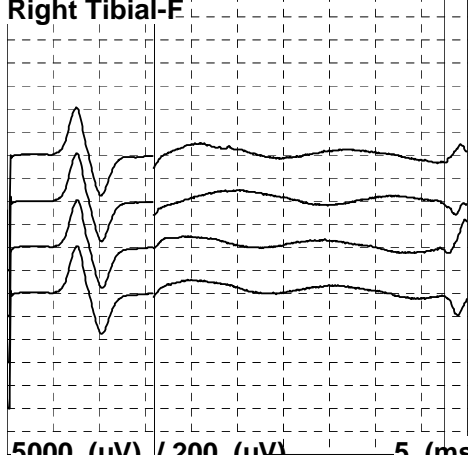
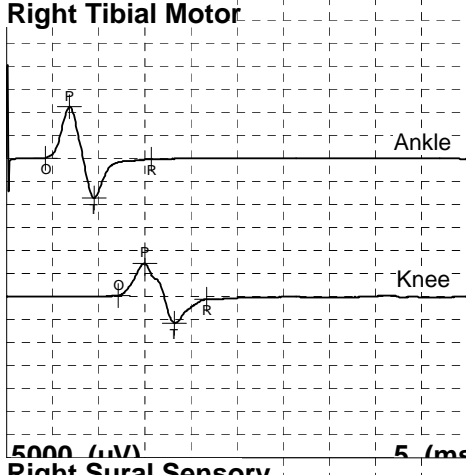
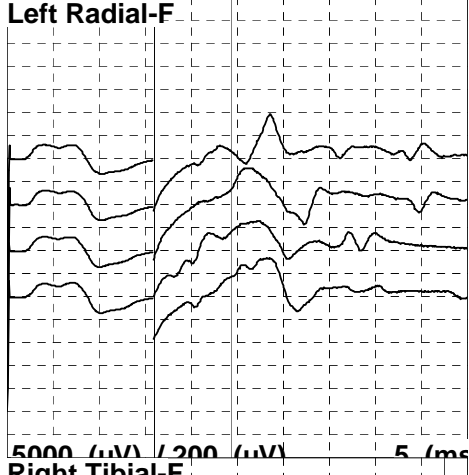
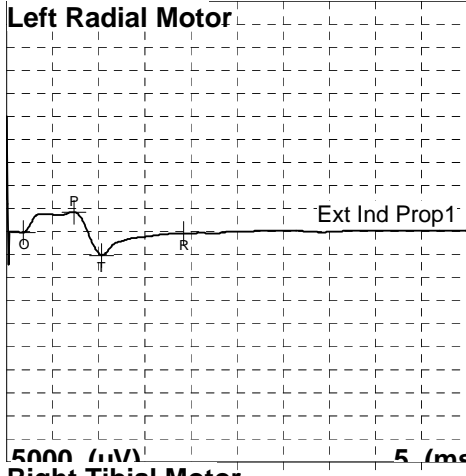
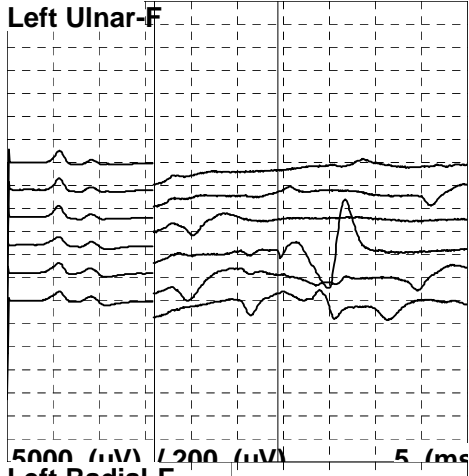


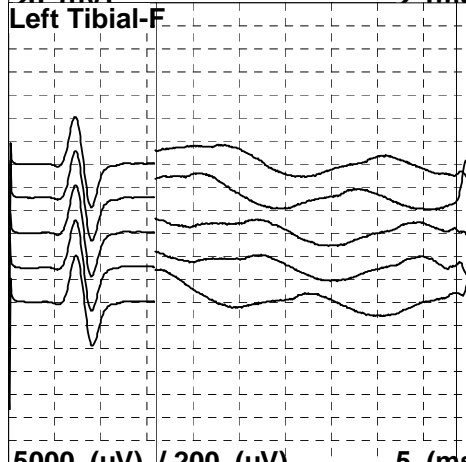
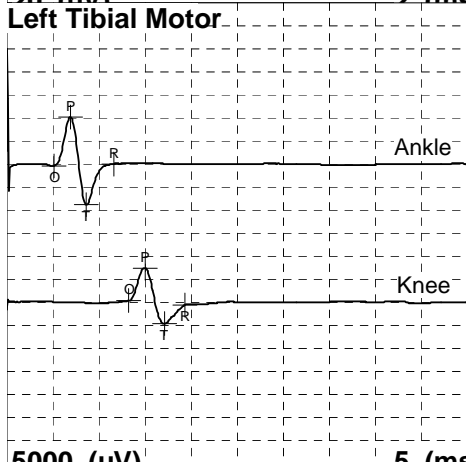
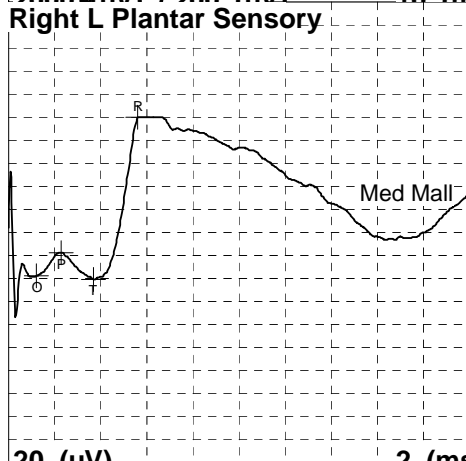
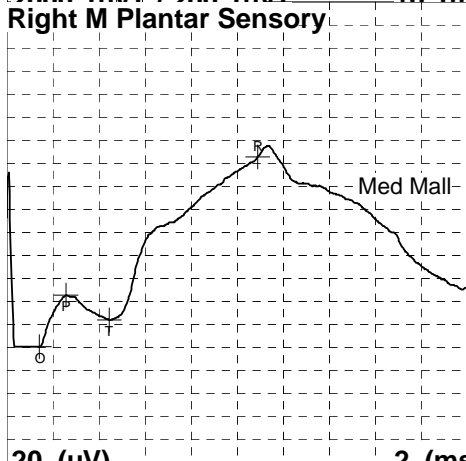
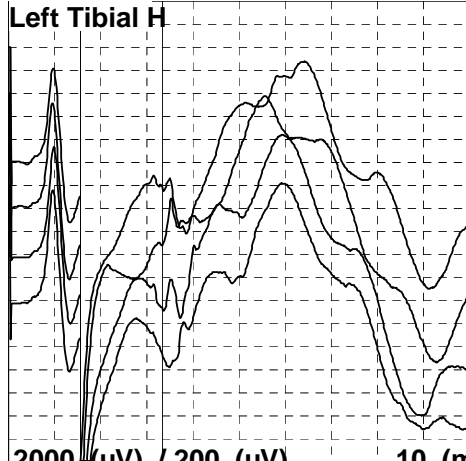
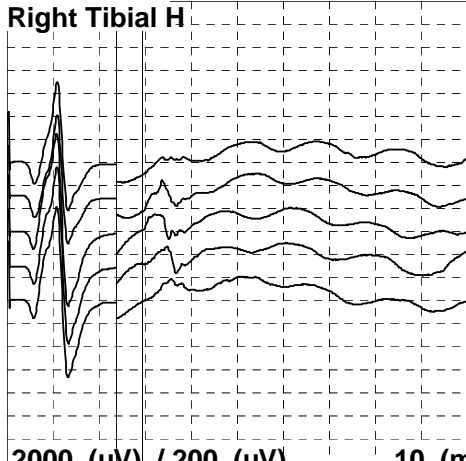
**Left Median-F**



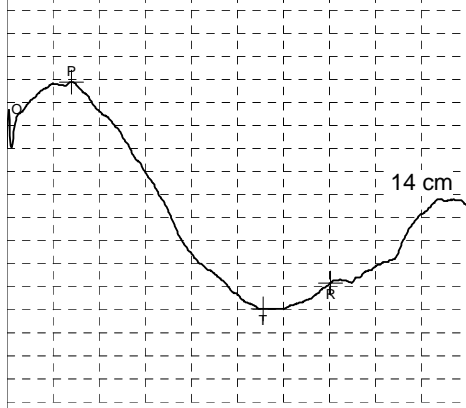
**Left Ulnar Motor**



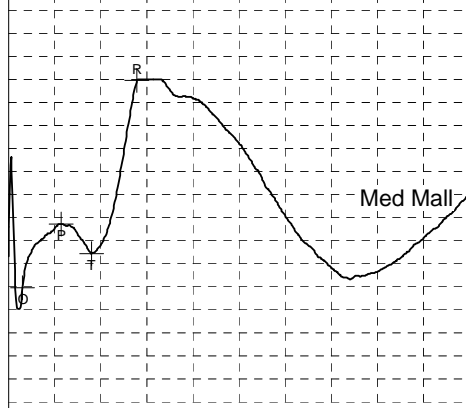




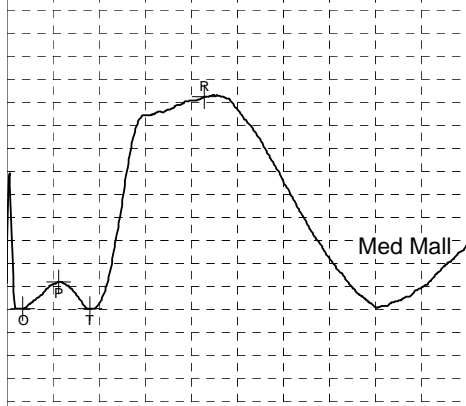
**Left Sural Sensory**



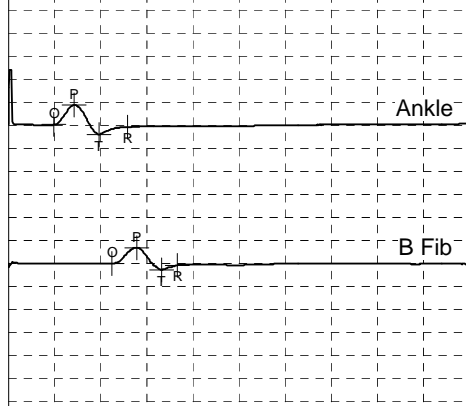
**Left M Plantar Sensory**



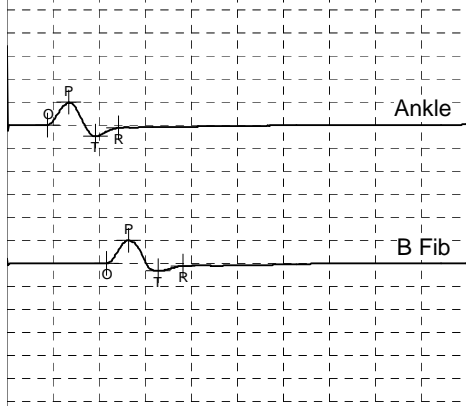
**Left L Plantar Sensory**



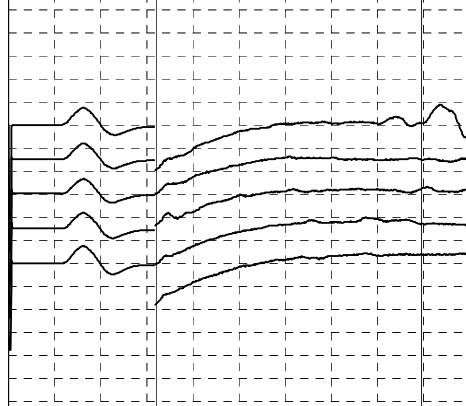
**Left Peroneal Motor**



**Right Peroneal Motor**



**Right Peroneal-F**



5000 ( $\mu\text{V}$ ) 5 (ms)

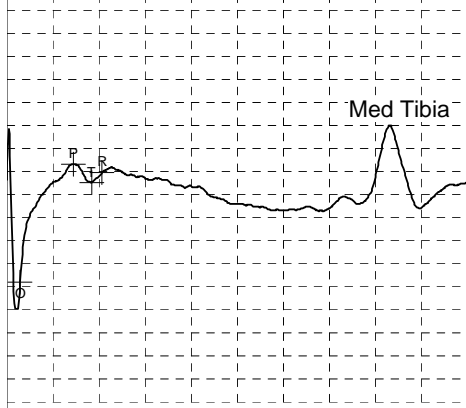
5000 ( $\mu\text{V}$ ) / 200 ( $\mu\text{V}$ ) 5 (ms)

Patient: XXXXX, Delfino

Test Date: 1/29/2009

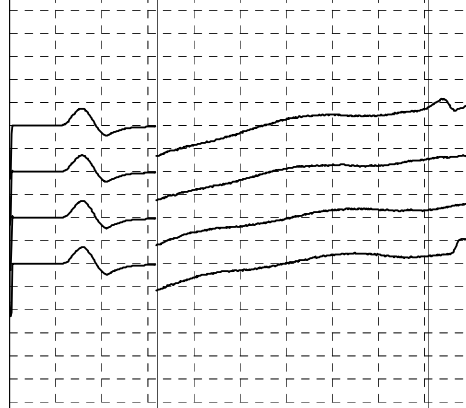
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**Right Saphenous Sensory**



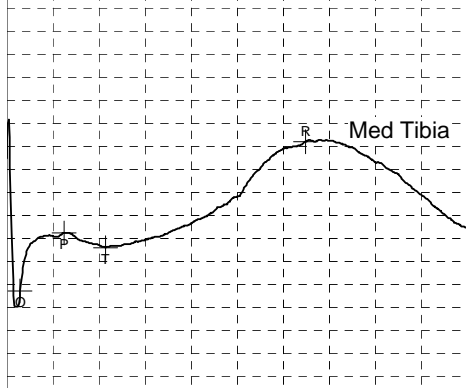
20 (uV) 2 (ms)

**Left Peroneal-F**



5000 (uV) / 200 (uV) 5 (ms)

**Left Saphenous Sensory**



20 (uV) 2 (ms)