The EMG Center
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Patient:		**DOB:**	**Date Of Service:**
Height:	**Weight:**	**Sex:**	**Ref Phys:**

CHIEF COMPLAINTS / MEDICAL HISTORY: Pt presents with L sided LBP and L knee pain, with pain/paresthesias that radiate from her posterior hip to her posterior thigh/knee, posterolateral lower leg, and dorsal foot. Reports L knee pain has been chronic, and reports symptoms radiating down her leg have been ongoing "off and on" for the past 6 months. She denies any MOI. Denies experiencing any weakness in her L leg, and denies symptoms to R leg or B uppers. Reports symptoms are worse with standing/walking or sitting for longer periods of time. PMHx includes L knee arthroscopy. Denies DM, kidney, thyroid, autoimmune disease, cancer, exposure to toxins, or known family hx of neurological disease.

PHYSICAL EXAMINATION: Sensation to light touch is normal L1-S2 dermatomes B. Patellar and Achilles tendon reflexes are normal (2+) B. Slump test (-) B, PSLR tests (-) B. Lumbar extension AROM is limited and painful. Tinel's test fib head (+) L and (-) R, (-) med ankle B. Clonus (-) B. MMT: 5/5 throughout L1-S2 myotomes B. Mild edema observed L knee. Foot temp recorded and maintained at 30C or above throughout exam.

ELECTRONEUROMYOGRAPHIC STUDY:

Nerve Conduction:

- B sural sensory and L tibial motor are WNL. B tibial H-reflex are WNL.
- L superficial peroneal sensory and B peroneal motor are WNL.

Electromyography:

- L TA and lower lumbar paraspinals demonstrate muscle membrane instability. L TA and glute med demonstrate larger than normal muscle motor units.
- All other muscles sampled, L lower extremity L2-S1, are WNL in insertional, resting, MUAP morphology, and recruitment activities.

IMPRESSIONS: This is an abnormal study.

1. **There is electrophysiologic evidence suggestive of an active / ongoing lumbar radiculopathy affecting the ventral and dorsal rami of the L5 nerve root level on the left side.**

2. **There is no electrophysiologic evidence suggestive of any focal mononeuropathy, lumbosacral plexopathy, generalized polyneuropathy, or myopathy at this time.**

Adam Soltys

Adam Soltys, PT, DPT, ECS, COMT
Board Certified Electrophysiologist

Nerve Conduction Studies

Motor Summary Table

Site	NR	Onset (ms)	Norm Onset (ms)	O-P Amp (mV)	Norm O-P Amp	Neg Dur (ms)	Full Dur (ms)	Neg Area (mV·ms)	Site1	Site2	Delta-0 (ms)	Dist (cm)	Vel (m/s)	Norm Vel (m/s)
Left Peroneal Motor (Ext Dig Brev)														
Ankle		4.7	<6.5	6.4	>1.3	6.56	20.47	21.29	Ankle	Ext Dig Brev	4.7	8.0		
B Fib		11.4		6.0		6.72	19.06	20.56	B Fib	Ankle	6.7	32.0	48	>38.0
Poplt		12.8		5.8		6.72	18.44	20.64	Poplt	B Fib	1.4	6.0	43	>42.0
Right Peroneal Motor (Ext Dig Brev)														
Ankle		4.5	<6.5	7.2	>1.3	5.63	14.69	19.54	Ankle	Ext Dig Brev	4.5	8.0		
B Fib		11.6		6.7		7.34	15.16	18.96	B Fib	Ankle	7.1	32.0	45	>38.0
Poplt		13.0		6.5		6.41	15.00	17.93	Poplt	B Fib	1.4	6.0	43	>42.0
Left Tibial Motor (Abd Hall Brev)														
Ankle		3.9	<6.1	10.7	>4.4	5.78	14.53	29.14	Ankle	Abd Hall Brev	3.9	8.0		
Poplit		11.9		7.0		6.56	15.31	23.24	Poplit	Ankle	8.0	37.0	46	>39.0

Sensory Summary Table

Site	NR	Peak (ms)	Norm Peak (ms)	O-P Amp (µV)	Norm O-P Amp	Site1	Site2	Delta-P (ms)	Dist (cm)	Vel (m/s)	Norm Vel (m/s)
Left Sup Peron Sensory (Ant Lat Mall)											
Low Leg		3.8	<4.2	8.7	>3.0	Low Leg	Ant Lat Mall	3.8	14.0	37	>33.0
Left Sural Sensory (Lat Mall)											
Calf		3.0	<4.5	8.7	>4.0	Calf	Lat Mall	3.0	14.0	47	>31.0
Right Sural Sensory (Lat Mall)											
Calf		3.4	<4.5	6.8	>4.0	Calf	Lat Mall	3.4	14.0	41	>31.0

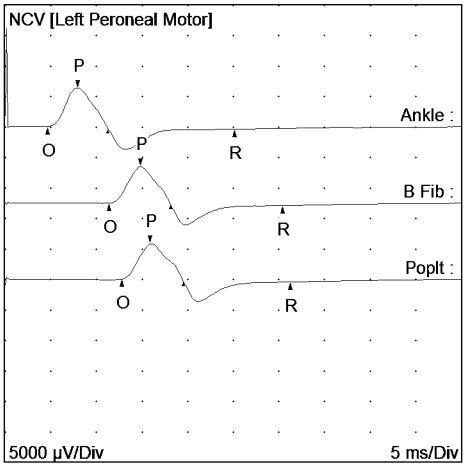
H Reflex Studies

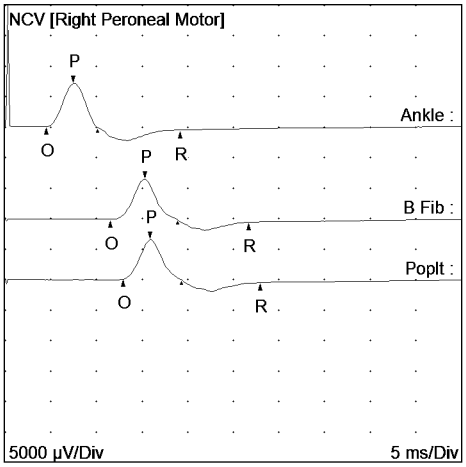
NR	H-Lat (ms)	Lat Norm (ms)	L-R H-Lat (ms)	L-R Lat Norm	Leg Length (cm)
Left Tibial (Gastroc)					
	30.52	<32	0.67	<2.0	37.00
Right Tibial (Gastroc)					
	29.85	<32	0.67	<2.0	37.00

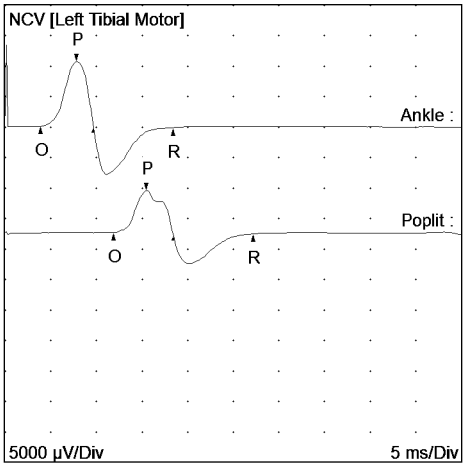
EMG

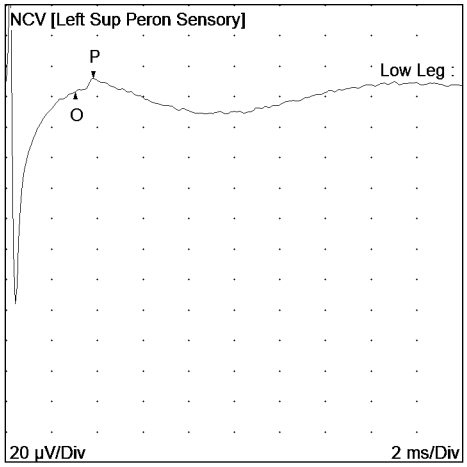
Side	Muscle	Nerve	Root	Ins Act	Fibs	Psw	Amp	Dur	Poly	Recrt	Int Pat	Comment
Left	Med Gastroc	Tibial	S1-2	Nml	0	0	Nml	Nml	Nml	Nml	Complete	
Left	Peroneus Long	Sup Br Peron	L5-S1	Nml	0	0	Nml	Nml	Nml	Nml	Complete	
Left	GluteusMed	SupGluteal	L5-S1	Nml	0	0	Nml	**Inc**	Nml	Nml	Complete	
Left	AntTibialis	Dp Br Peron	L4-5	**Inc**	**1+**	0	**Inc**	**Inc**	Nml	Nml	Complete	
Left	VastusMed	Femoral	L2-4	Nml	0	0	Nml	Nml	Nml	Nml	Complete	
Left	LumbParasp Lower	Rami		**Inc**	**1+**	0						CRD

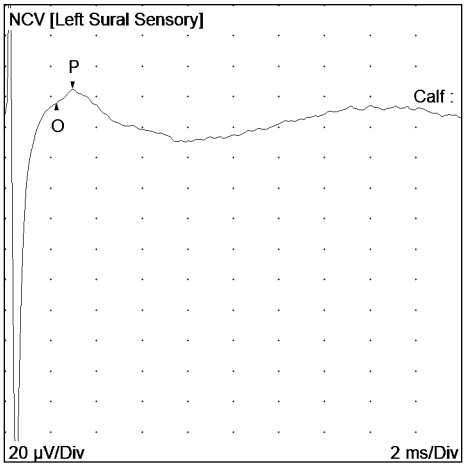
Waveforms:

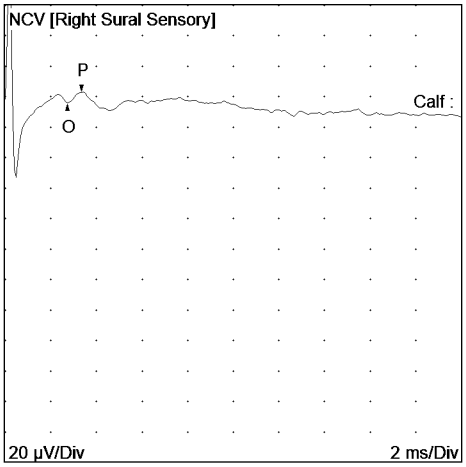


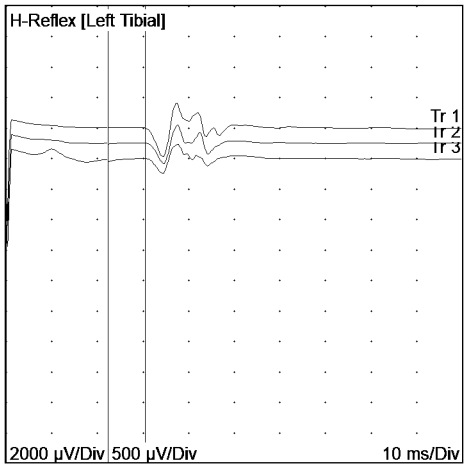


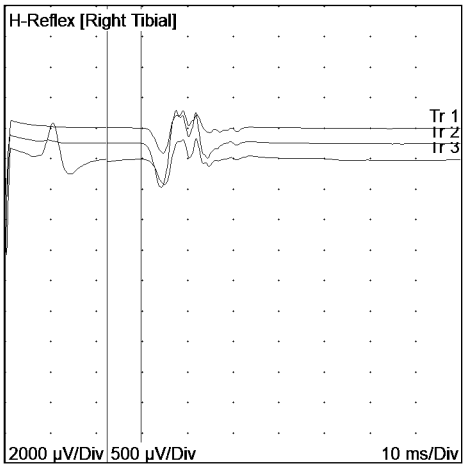


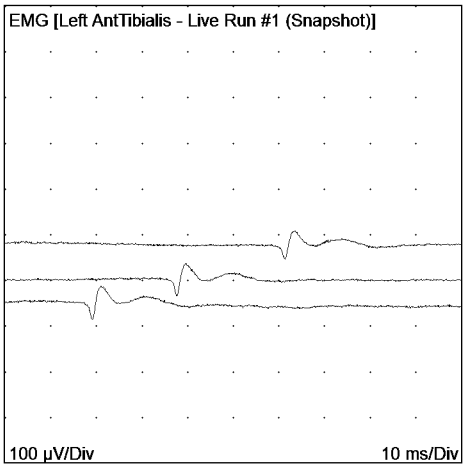

NCV [Left Sup Peron Sensory]
P
O
Low Leg :
20 µV/Div
2 ms/Div

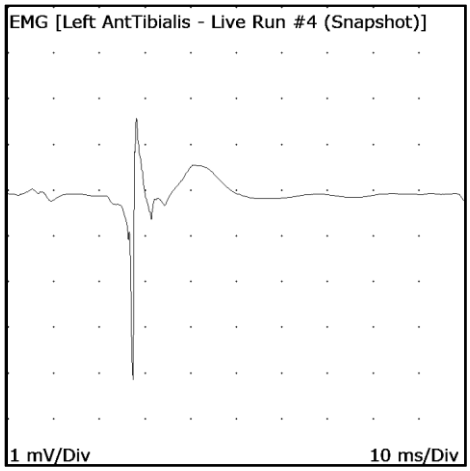

NCV [Left Sural Sensory]
P
O
Calf :
20 µV/Div
2 ms/Div

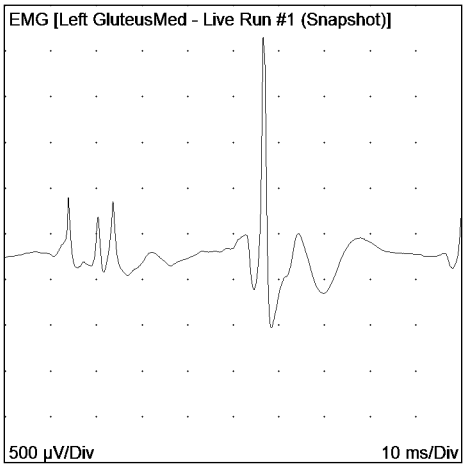

NCV [Right Sural Sensory]
P
O
Calf :
20 µV/Div
2 ms/Div

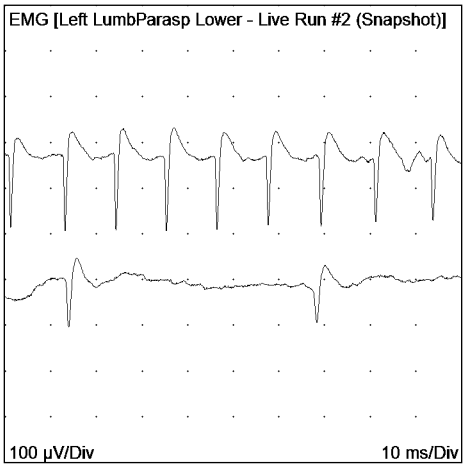

H-Reflex [Left Tibial]
Tr 1
Tr 2
Tr 3
2000 µV/Div
500 µV/Div
10 ms/Div


H-Reflex [Right Tibial]
Tr 1
Tr 2
Tr 3
2000 µV/Div
500 µV/Div
10 ms/Div


EMG [Left AntTibialis - Live Run #1 (Snapshot)]
100 µV/Div
10 ms/Div


EMG [Left AntTibialis - Live Run #4 (Snapshot)]
1 mV/Div
10 ms/Div


EMG [Left GluteusMed - Live Run #1 (Snapshot)]
500 µV/Div
10 ms/Div


EMG [Left LumbParasp Lower - Live Run #2 (Snapshot)]
100 µV/Div
10 ms/Div

	Units by Extremity		Description
	L	R	
95886 Upper			EMG Complete (5 or more muscles) each extremity; with or w/out paraspinals when performed with NCS
Lower	1		
95885 Upper			EMG Limited (<5 muscles) each extremity; with or w/out paraspinals when performed with NCS
Lower			
95907			Nerve conduction studies 1-2 tests
95908			Nerve conduction studies 3-4 tests
95909			Nerve conduction studies 5-6 tests
95910	1		Nerve conduction studies 7-8 tests
95911			Nerve conduction studies 9-10 tests
95912			Nerve conduction studies 11-12 tests
95913			Nerve conduction studies 13 tests

Diagnosis: M54.16, R20.2