



Grand Chiropractic
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Important Notice: This report contains protected health information that may not be used or disclosed unless authorized by the patient or specifically permitted by the Health Insurance Portability and Accountability Act (HIPAA).

Patient Information			
Name	Susan L. Spine	Patient ID	2341
Address	1221 Bridge St. Saint George, Utah 84271	Day Phone	435-652-8989
		Night Phone	
		Gender	Female
		Handedness	Right
Email		Birth Date	10/19/1950

Incident Information			
Name / Description	Low Back Injury		
Care Providers	Dr. Marion Stillwell	Lilian Rutherford	
Insurance 1	Bil Gateman Quicksilver Insurance 1100 St. George Blvd. Saint George, Utah 84211 435-894-1000	Insurance 2	
Policy No.	895642343	Policy No.	
Claim No.	904a	Claim No.	
Employer		Referred By	
Job Title		Purpose	
Attorney	Susan Santiago Santiago & Wells 890 Sping Village Rd. Taylorsville, UT 84133 435 727-8900	Objectives	

Exam Information			
Name / Description	Low Back Evaluation	Exam Date	11/22/2004
Contact	Dr. Marion Stillwell JTECH Medical	Tested By	Lilian Rutherford

Provider Signature

Date
11/14/2007

Incident - Notes

Ms. Spine hurt her back while lifting groceries out of her car trunk.

Glossary of Terms and Abbreviations

<p>[xxx] Indicates the repetition was excluded from statistical calculations.</p> <p><xxx> Signifies a state of ankylosis in the specified motion.</p> <p>Anky Ankylosis. "Yes" means the tester observed ankylosis, as defined by the AMA.</p> <p>Avg Average, or arithmetic mean, of a series of values or repetitions.</p> <p>Cons Consistency of effort. "Yes" indicates a CV of less than 15%, and "No" denotes a CV of 15% or more.</p> <p>CV Coefficient of variation between repetitions, which can be used as a measure of consistency. It is equal to the standard deviation divided by the mean and is expressed as a percentage.</p> <p>Dev Deviation between repetitions based on range of motion validity criteria in the AMA Guides to the Evaluation of Permanent Impairment that three consecutive repetitions must fall within 5 degrees or 10 percent of the mean, whichever is larger. Deviation is expressed in degrees if the mean is 50 degrees or less and as a percentage if the mean is greater than 50 degrees.</p> <p>Diff Percentage of side to side difference based on the test's primary stat.</p>	<p>Fatigue Percent difference between the maximum force and ending force during an individual repetition. This excludes any force exerted during the initial ready time.</p> <p>Grade Subjective form of assigning a value to a muscle test, with grade 5 usually representing full, normal resistance.</p> <p>Max Maximum value of a series of values or repetitions.</p> <p>Mean Average force exerted over a single repetition. This excludes any force exerted during the initial ready time.</p> <p>Norm Normal test result to be expected from a healthy individual. Norms may vary depending on several factors, such as patient age, gender, and weight. They are derived from a variety of sources, including the AMA and other independent research.</p> <p>% N Percent of norm. This is a comparison of the test's primary stat to the predicted norm, if available.</p> <p>Primary Stat The value, either maximum or average, used for statistical calculations such as percent difference and percent of norm.</p>
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Notes and References - Inclinometry

<p>Notes - Spine ROM</p> <ol style="list-style-type: none"> 1. An automatic subtraction dual inclinometer was used for testing, negating the need for documenting the T1 and T12 intermediate numbers. 2. Normal values are from the AMA Guides to the Evaluation of Permanent Impairment (5th Edition). 3. Ankylosis is defined by the Guides for spine range of motion as an inability to reach neutral. The joint may be either fixated or partially mobile. 4. Negative values indicate a lordotic or kyphotic curve opposite to normal. 5. Validity is determined using either deviation (Dev) or coefficient of variation (CV), as selected by the examiner. <p>Notes - Extremity ROM</p> <ol style="list-style-type: none"> 1. Normal values are from the AMA Guides to the Evaluation of Permanent Impairment (5th Edition). 2. Ankylosis is defined as a fixated, immobile joint, differing its meaning in spine range of motion. 3. Negative numbers indicate a lag condition, which signifies the joint retains partial movement but is unable to reach neutral. 	<p>References</p> <ol style="list-style-type: none"> 1. Cocchiarella L, Andersson G (eds): AMA Guides to the Evaluation of Permanent Impairment, Fifth Edition. American Medical Association 2001. 2. Gerhardt J, Cocchiarella L, Lea R. The Practical Guide to Range of Motion Assessment. American Medical Association 2001. 3. Lantz CA, Chen J, Buch D. Clinical Validity and Stability of Active and Passive Cervical Range of Motion with Regard to Total and Unilateral Uniplanar Motion. SPINE: 24, 11;1082-1089. 4. Ng JK, Kippers V, Richardson CA, Parnianpour M. Range of motion and lordosis of the lumbar spine: reliability of measurement and normative values. Spine 2001;26(1):53-60.
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Notes and References - Goniometry	
<p>Notes</p> <ol style="list-style-type: none"> 1. Normal values are from the AMA Guides to the Evaluation of Permanent Impairment (5th Edition). 2. Ankylosis is defined as a fixated, immobile joint. 3. Negative numbers indicate a lag condition, which signifies the joint retains partial movement but is unable to reach neutral. 	<p>References</p> <ol style="list-style-type: none"> 1. Cocchiarella L, Andersson G (eds): AMA Guides to the Evaluation of Permanent Impairment, Fifth Edition. American Medical Association 2001. 2. Norkin CC, White DJ. Measurement of Joint Motion: A Guide to Goniometry, 2nd edition. FA Davis Co. 1995. 3. American Society of Hand Therapists: Clinical Assessment Recommendations, 2nd edition. ASHT 1992. 4. Gajdosik RL, Bohannon RW. Clinical Measurement of Range of Motion. Review of Goniometry Emphasizing Reliability and Validity. Phys Ther 1987; 67(12):1867-72.

Notes and References - Muscle Testing	
<ol style="list-style-type: none"> 1. Reese NB. Muscle and Sensory Testing. Philadelphia: W.B. Saunders Company;1999. 2. Hislop HJ, Montgomery J. Daniels and Worthingham's Muscle Testing: Techniques of Manual Examination, 6th ed. Philadelphia: W.B. Saunders Company; 1995. 3. Cocchiarella L, Andersson G (eds): AMA Guides to the Evaluation of Permanent Impairment, Fifth Edition. American Medical Association 2001. 4. Bohannon RW. Manual muscle testing: does it meet the standards of an adequate screening test? Clinical Rehabilitation 2005;19:662-667. 	<ol style="list-style-type: none"> 5. Bohannon RW. Intertester Reliability of Hand-Held Dynamometry: A Concise Summary of Published Research. Perceptual and Motor Skills 1999;88:899-902. 6. Lee JH, et al. Trunk muscle weakness as a risk factor for low back pain. A 5-year prospective study. Spine 1999 Jan 1;24(1):54-7. 7. Vernon HT, et al. Evaluation of Neck Strength with a Modified Sphygmomanometer Dynamometer: Reliability and Validity. J Manip Phys Ther 1992;15,6:343-349. 8. Ylinen J, et al. Decreased isometric neck strength in women with chronic neck pain and the repeatability of neck strength measurements. Arch Phys Med Rehabil 2004;85(8):1303-8.

Definitions and References - Static Strength	
<p>Definitions</p> <p>NIOSH National Institute of Occupational Safety and Health.</p> <p>HSC Horizontal strength change expected when horizontal attachment position is changed for certain NIOSH static strength tests.</p> <p>IHSC Inappropriate horizontal strength change occurs when the expected increase or decrease in strength is not demonstrated for an HSC test.</p> <p>NIOSH % This value indicates how the demonstrated static strength compares to normal values published in the Work Practices Guide for Manual Lifting with 50% being average.</p> <p>Vertical Pos The height of the lifting gauge handles from the platform for a static strength test.</p> <p>Horizontal Pos Location of the lift gauge attachment point from the medial malleoli.</p> <p>Dynamic Rating The values use the Highest Mean to indicate the theoretical load a patient may be able to lift dynamically on an occasional basis (Blankenship, 1990). Frequent and constant values are derived from the occasional lift value using ratios from the Dictionary of Occupational Titles, 1991.</p>	<p>References</p> <ol style="list-style-type: none"> 1. Work Practices Guide for Manual Lifting. Washington DC; National Institute of Occupation Safety and Health; 1982. US Dept of Health and Human Services Publication No. 81-122. 2. Keyserling WM, Herrin GD, Chaffin DB, Armstrong TJ, Foss ML. Establishing an industrial strength testing program. Am Ind Hyg 1980;41; 730-73. 3. Berryhill B, Osborne P, et al. Horizontal Strength Changes: An Ergonomic Measure for Determining Validity of Effort in Impairment Evaluations a Preliminary Report. Journal of Disability, 1993:3 (1-4), 143-148. 4. Dictionary of Occupational Titles. US Dept of Labor, 1991. 5. Blankenship KL. Functional Capacity Evaluation: The Procedure Manual. The Blankenship Corporation 1994:9.38-9.65.


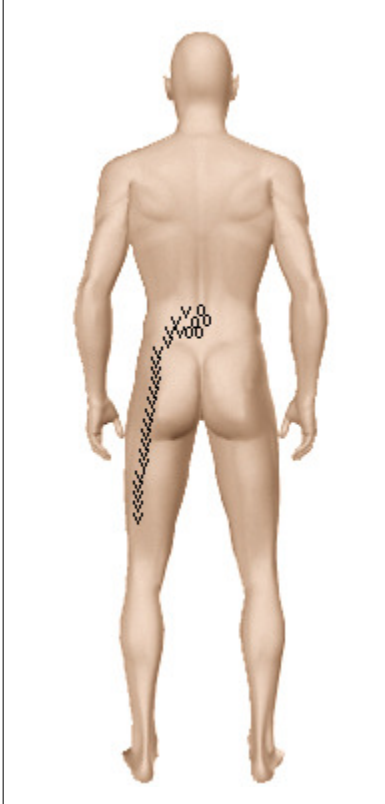
Personal Status			
Relationship Status	Married	Tobacco Use	Occasional
Education	High School	Alcohol Use	< Once/Week
Exercise	Never	Caffeine Use	Daily

Initial Complaint - Chief					
Causation	Lifting	Severity	Severe	Frequency	Constant
Status	Stable	Duration	Continuous	ADL Interference	Constant
Onset	Date	Quality Descriptions	Exacerbating Factors	Relieving Factors	
11/21/2004		Aching Shooting Throbbing	Bending Lifting Sitting Standing Walking	Resting	
Location					
Low back and right leg.					

Initial Complaint - Chief - Description
Ms. Spine reports pain in her low back radiating into her left leg. She has difficulty bending, walking, dressing and performing other activities due to the pain in her low back.

Complaint Related Medical History - OTC Medicines		
OTC Medicine	Aspirin	Results
Frequency	500 m/4 x daily	Minimal to no pain relief.

Vitals							
Height	64 in	Pulse	-	Temperature	-	Blood Pressure	133 / 90
Weight	135 lbs	Respiration	-			Arm	Left
						Posture	Sitting

Pain Evaluation			
		Pain Legend	
		– [Numbness]	v [Stabbing Pain]
		/ [Pins & Needles]	0 [Aching Pain]
		X [Burning Pain]	
Pain Scale [0 Best - 10 Worst]			
Right Now	7	At Best	5
Average	5	At Worst	9

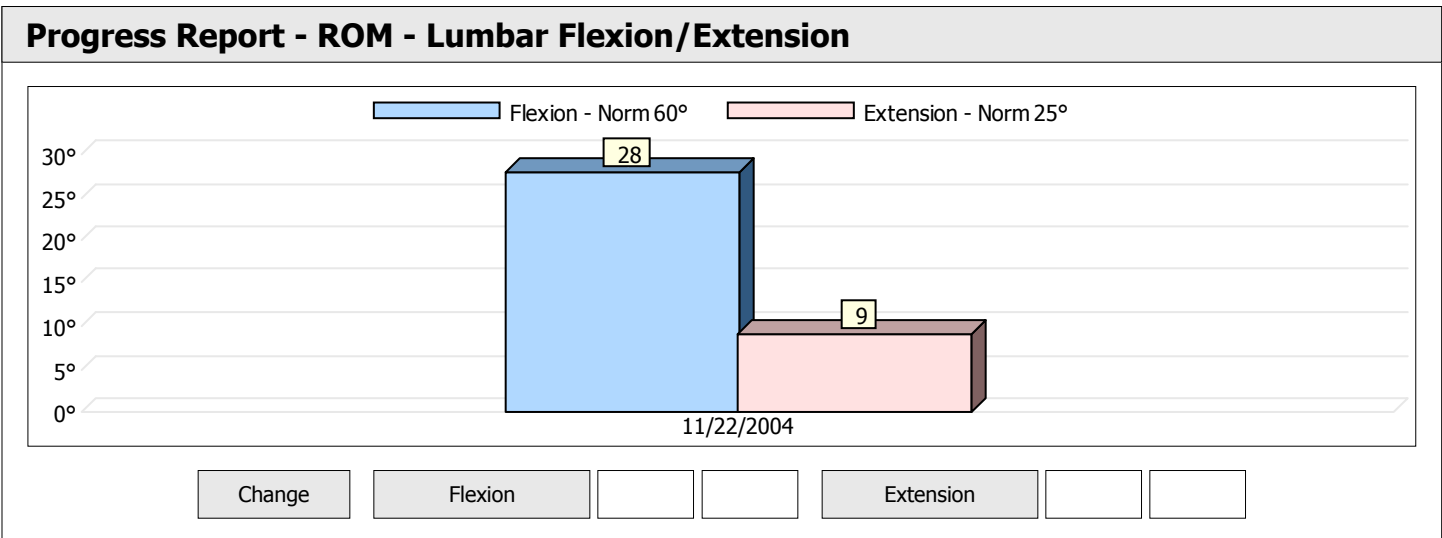
Pain Evaluation - Notes
Ms. Spine indicated that pain radiates down outside of her left leg.

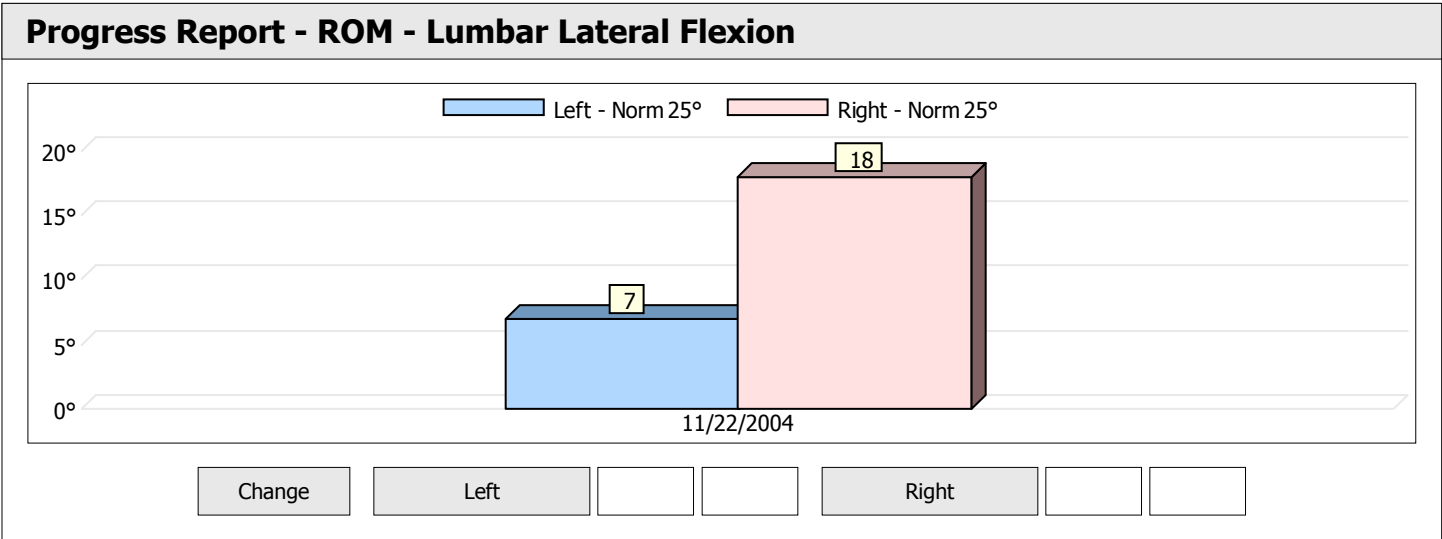
Orthopedic Tests - Lumbosacral			
	Left	Right	Notes
Bechterew's Sitting Test	Positive	Negative	Positive findings indicative of sciatica, intervertebral lesion, muscular spasm or subluxation.
Bowstring Sign	Positive	Negative	Pain or radiculopathy indicates a positive sign for lumbar nerve root compression.
Kemp's Test	Positive	Negative	Positive test indicates possible muscular strain, ligamentous sprain or pericapsular inflammation.
Toe Walk Test	Positive	Negative	A positive test indicates L5 or S1 nerve root motor deficiency

Myotomes [Lower Extremity]								
Hip	Left	Right	Knee	Left	Right	Ankle / Foot	Left	Right
Abduction [L4-S1]			Flexion [L4-S2]			Plantar Flexion [L5-S2]	×	
Adduction [L2-S1]			Extension [L2-L4]			Dorsi Flexion [L4-S2]		
Flexion [L1-L4]			× Indicates weakness noted in motion			Foot Inversion [L4-S1]		
Extension [L4-S1]	×					Foot Eversion [L4-S2]		
Internal Rotation [L4-S2]			Great Toe Flexion [L5-S2]	×				
External Rotation [L3-S2]			Great Toe Extension [L4-S1]	×				

Deep Tendon Reflexes (DTR)			
	Left	Right	Legend
Jaw			0 Absent 1+ Trace 2+ Normal 3+ Brisk 4+ Hyperactive with clonus 5+ Sustained clonus
Biceps [C5-C6]			
Brachioradialis [C5-C6]			
Triceps [C6-C7]			
Patellar [L2-L4]	2+	2+	
Achilles [S1-S2]	2+	2+	

Deep Tendon Reflexes (DTR) - Notes
Reflexes appeared normal.

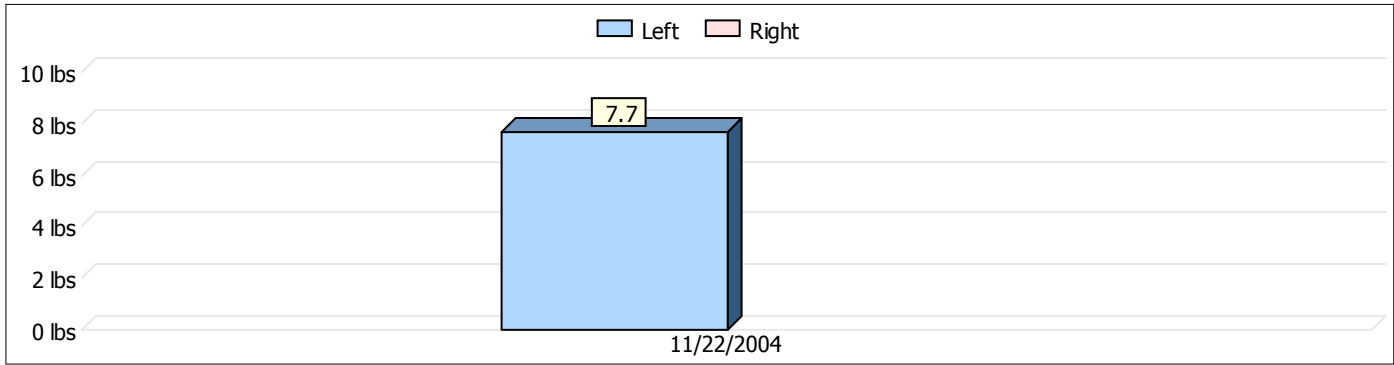




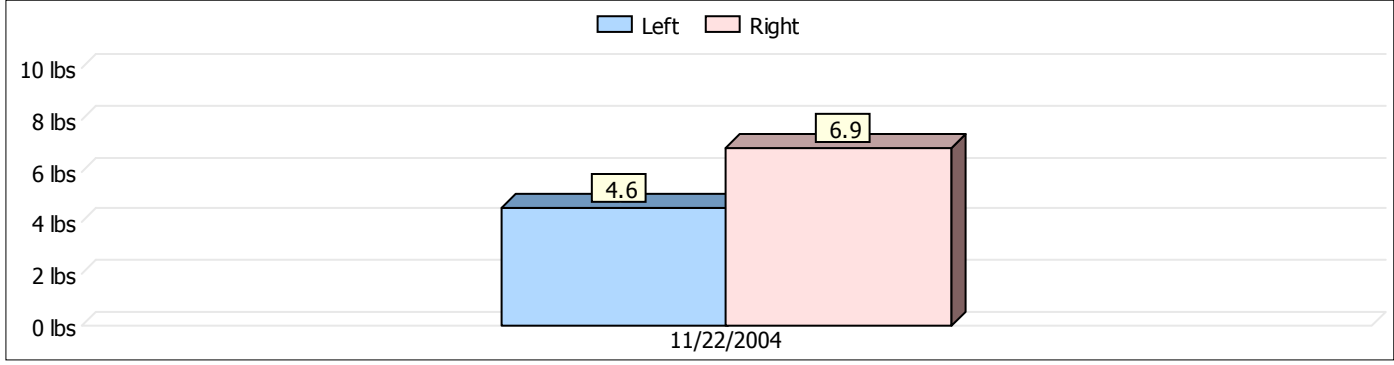
Lumbar Range of Motion (ROM) Details

Motion		1	2	3	4	5	6	Max	Valid
Flexion	Primary	32°	34°	31°	-	-	-	28°	Yes
	Secondary	7°	6°	5°	-	-	-		
	Flexion Angle	25°	28°	26°	-	-	-		
Extension	Primary	10°	11°	10°	-	-	-	9°	Yes
	Secondary	3°	2°	2°	-	-	-		
	Extension Angle	7°	9°	8°	-	-	-		
Straight Leg Raise Left	Left SLR Angle								
Straight Leg Raise Right	Right SLR Angle								
Lateral Left	Primary	8°	6°	9°	-	-	-	7°	Yes
	Secondary	2°	0°	2°	-	-	-		
	Lateral Left Angle	6°	6°	7°	-	-	-		
Lateral Right	Primary	20°	21°	20°	-	-	-	18°	Yes
	Secondary	4°	5°	2°	-	-	-		
	Lateral Right Angle	16°	16°	18°	-	-	-		
Rotation Left	Primary								
	Secondary								
	Rotation Left Angle								
Rotation Right	Primary								
	Secondary								
	Rotation Right Angle								

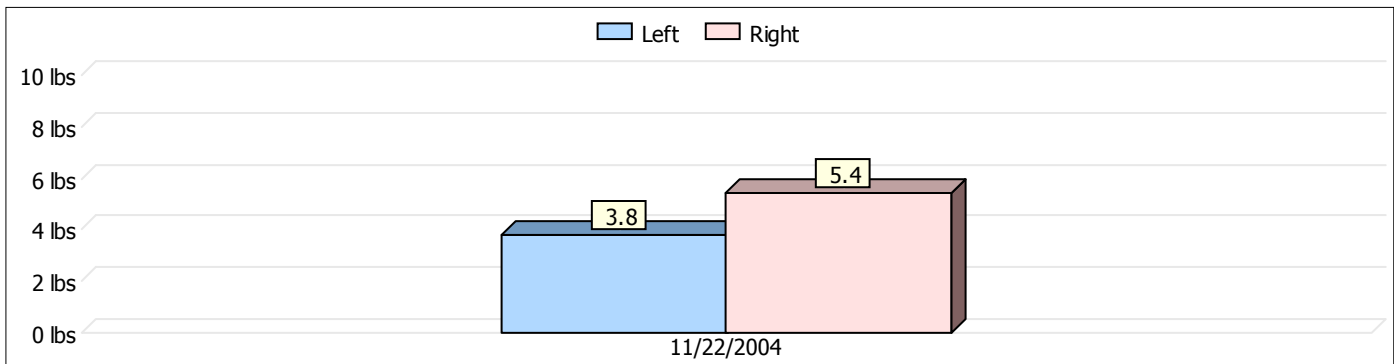
Progress Report - Muscle Test - Hip Extension (Knee Flexed)



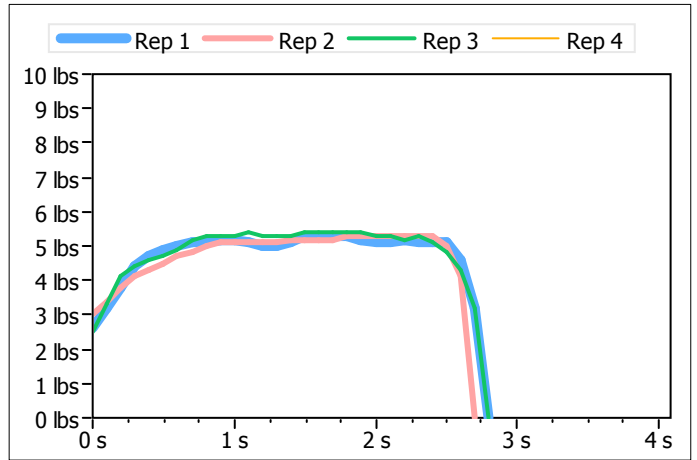
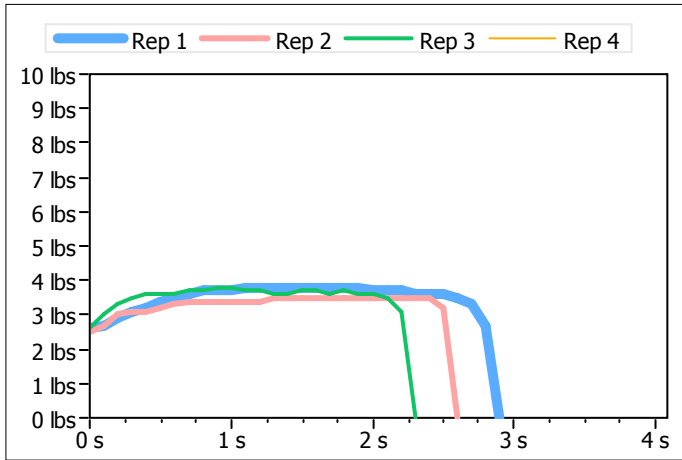
Progress Report - Muscle Test - Great Toe Flexion



Progress Report - Muscle Test - Great Toe Extension



Muscle Strength Test - Great Toe Extension



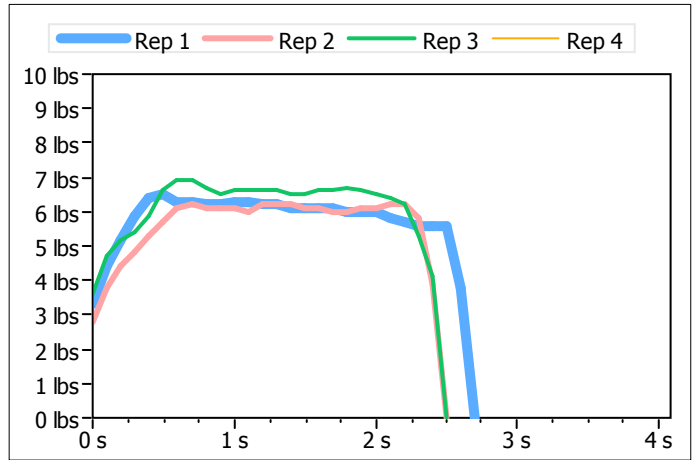
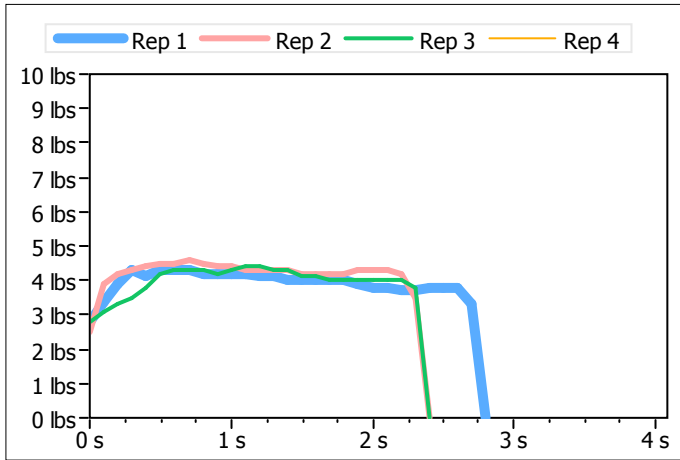
	1	2	3	4	Max	Avg	Grade	CV	Cons	Diff	Force Units	lbs
Left	3.8	3.5	3.8	-	3.8	3.7	-	3%	Yes	-30%	Rest Time	0 s
Right	5.3	5.3	5.4	-	5.4	5.3	-	0%	Yes	-	Primary Stat	Maximum

Primary Muscle [Nerve Roots] Extensor hallucis longus [L4-S1]

Muscle Strength Test - Great Toe Extension - Notes

Patient indicated that test did not cause pain, which consistent with neurological strength loss.

Muscle Strength Test - Great Toe Flexion



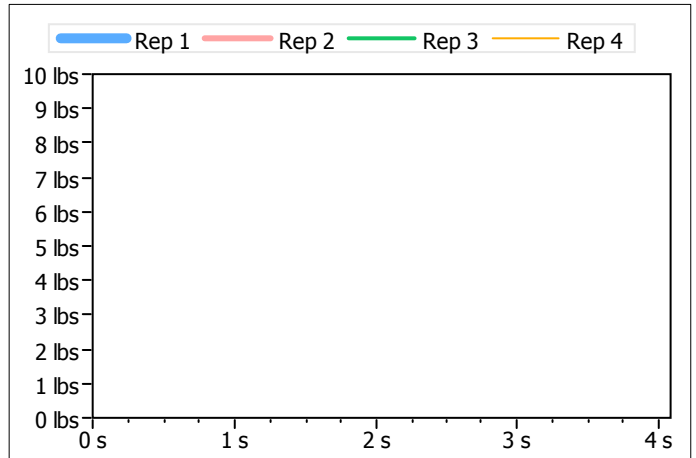
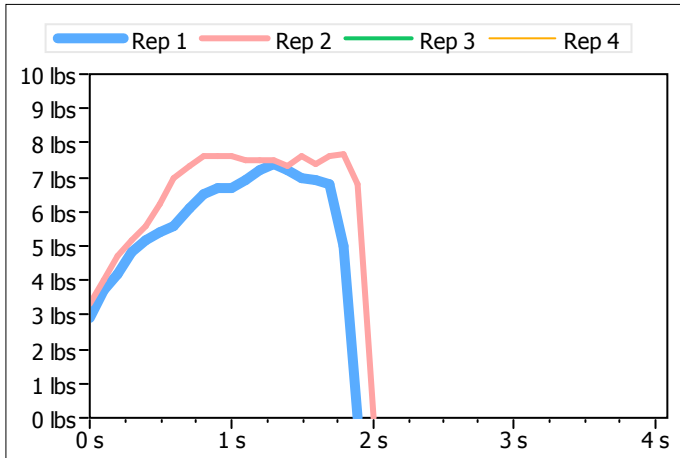
	1	2	3	4	Max	Avg	Grade	CV	Cons	Diff	Force Units	lbs
Left	4.3	4.6	4.4	-	4.6	4.4	-	2%	Yes	-33%	Rest Time	0 s
Right	6.5	6.2	6.9	-	6.9	6.5	-	4%	Yes	-	Primary Stat	Maximum

Primary Muscle [Nerve Roots] Flexor hallucis longus [L5-S2]

Muscle Strength Test - Great Toe Flexion - Notes

Ms. Spine's strength loss is consistent with L5-S1 nerve compression.

Muscle Strength Test - Hip Extension (Knee Flexed)



	1	2	3	4	Max	Avg	Grade	CV	Cons	Diff	Force Units	lbs
Left	7.4	7.7	-	-	7.7	7.5	-	1%	Yes	-	Rest Time	0 s
Right											Primary Stat	Maximum

Primary Muscle [Nerve Roots] Gluteus maximus [L5-S2]

Muscle Strength Test - Hip Extension (Knee Flexed) - Notes

Test not completed because it aggravated symptoms of pain and muscle spasm in Ms. Spine's low back.

Muscle Test Summary

	Units	Left						Right				
		Max	Avg	CV	Cons	Grade	Diff	Max	Avg	CV	Cons	Grade
Great Toe Extension	lbs	3.8	3.7	3%	Yes	-	-30% L	5.4	5.3	0%	Yes	-
Great Toe Flexion	lbs	4.6	4.4	2%	Yes	-	-33% L	6.9	6.5	4%	Yes	-
Hip Extension (Knee Flexed)	lbs	7.7	7.5	1%	Yes	-						

Strength Ratio Summary												
Neck/Trunk		Units	Motion	Max	Motion	Max	Ratio					
Neck Flexion/Extension												
Trunk Flexion/Extension												
						Left			Right			
Upper Extremity		Units	Motion	Max	Motion	Max	Ratio	Motion	Max	Motion	Max	Ratio
Shoulder Flex/Ext												
Shoulder Horiz. Abd/Add												
Shoulder Int/Ext Rot												
Elbow Flexion/Extension												
Wrist Flexion/Extension												
						Left			Right			
Lower Extremity		Units	Motion	Max	Motion	Max	Ratio	Motion	Max	Motion	Max	Ratio
Hip Flexion/Extension		lbs			Ext	7.7	-					-
Hip Abduction/Adduction												
Hip Int/Ext Rotation												
Knee Flexion/Extension												
Ankle Dorsi/Plantar												
Great Toe Flex/Ext		lbs	Flex	4.6	Ext	3.8	1.21	Flex	6.9	Ext	5.4	1.28
Foot Eversion/Inversion												