

The Comprehensive PT Management of a Patient With Chronic Low Back Pain and Lumbar Radiculopathy: A Case Report

Robin McGuire BS, CSCS

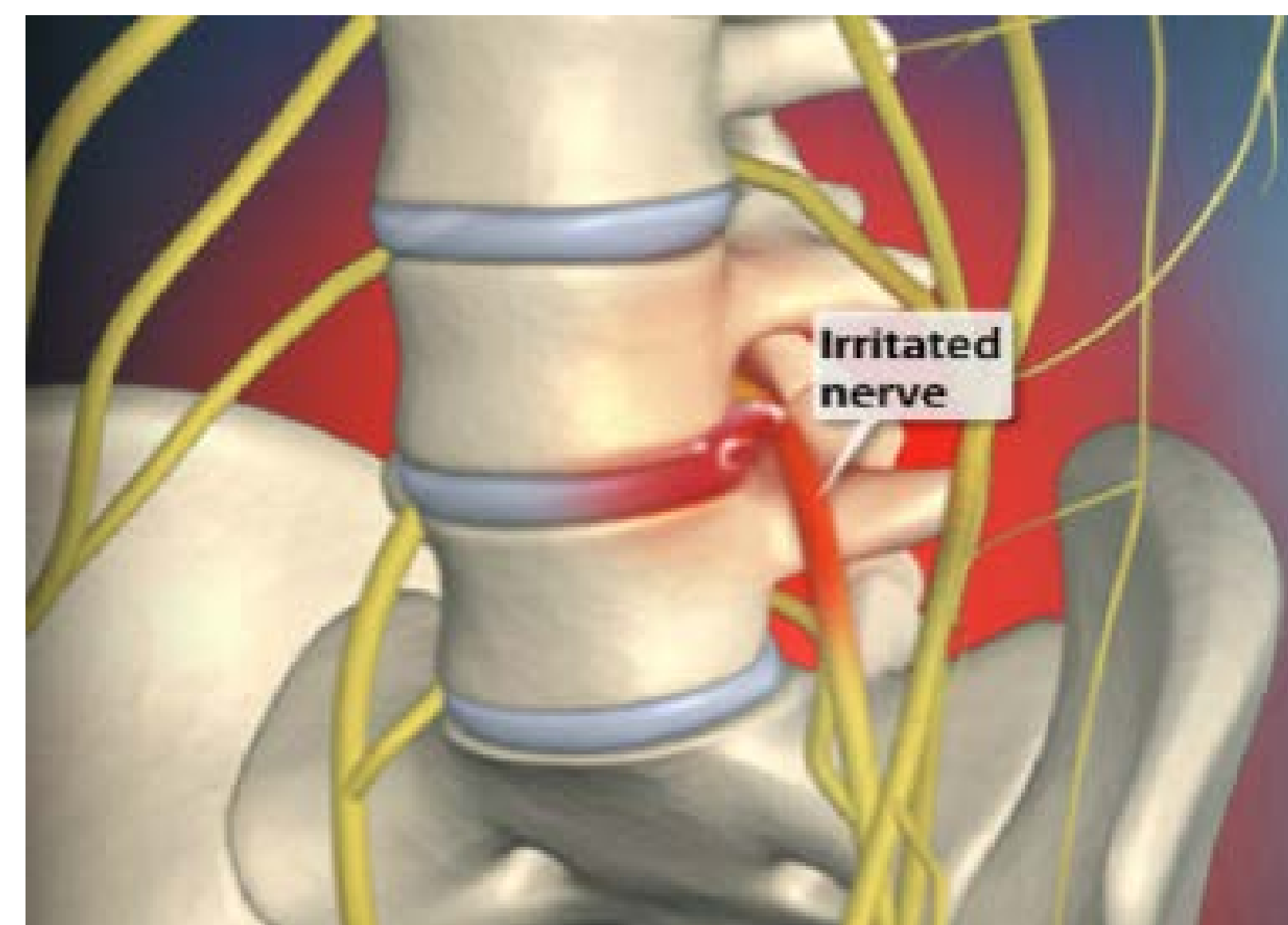


Department of Physical Therapy, University of New England, Portland, Maine

Background

What is Lumbar Radiculopathy?

- Pain originating from nerve root compression in the lumbar spine
- Patient presentation is chronic, recurring low back pain with associated radiating pain and potential sensory, strength, or reflex deficits in the involved lower extremity



Case Description

- 60 year old male with left sided low back pain radiating into the anterior left hip while bending over, twisting, and changing position
- Chief complaint: difficulty performing activities of daily living and walking more than 10 minutes
- Negative Prognostic Factors: high BMI, multiple joint replacements, physically inactive, low self-efficacy

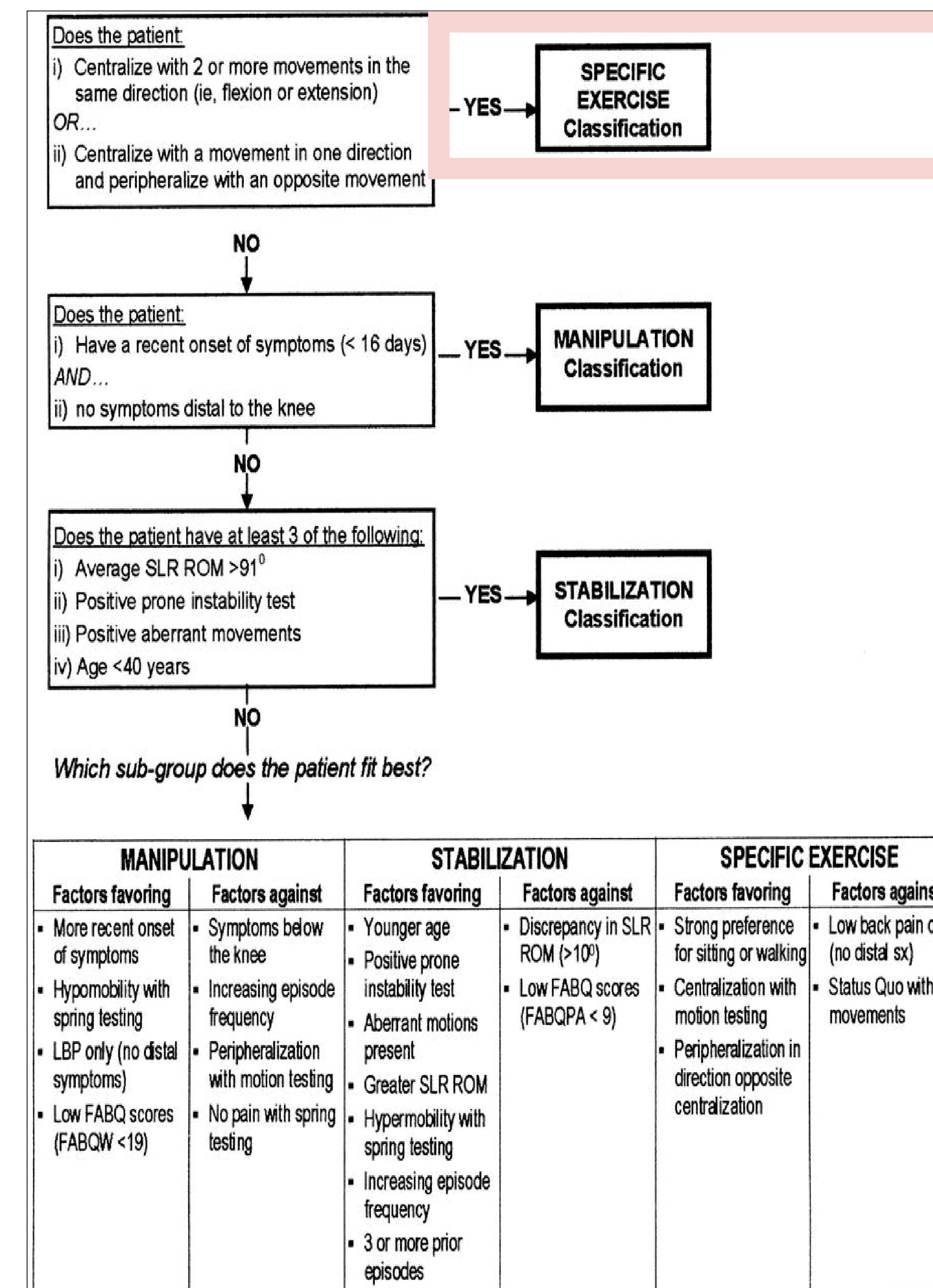
Purpose

To describe a comprehensive approach for a patient with chronic low back pain and lumbar radiculopathy using the following interventions: therapeutic exercises using directional preference, IFC, and manual traction.

Tests & Measures

Tests & Measures	Initial Evaluation		Visit 10	
	Left	Right	Left	Right
Lower Extremity MMT				
Trunk Rotation	5/5(pain)	5/5(pain)	5/5(pain)	NT
Trunk Flexion	NT	4/5(pain)	NT	NT
Trunk Extension	NT	4/5(pain)	NT	NT
Hip Flexion	3+/5	3+/5	3+/5	NT
Hip Abduction	3-/5(pain)	3+/5	4+/5	NT
Hip Adduction	3-/5(pain)	3-/5	4+/5	NT
Hip Internal Rotation	3-/5	3-/5	3+/5	3-/5
Hip External Rotation	3-/5	3-/5	3+/5	3-/5
Ankle Dorsiflexion	5/5	5/5	NT	5/5
Passive Range of Motion	Left	Right	Right	Right
Hip Internal Rotation	20 degrees	35 degrees	NT	NT
Hip External Rotation	12 degrees	30 degrees	NT	NT
Hip Flexion	85 degrees	70 degrees	NT	NT
Hip Extension	0 degrees	0 degrees	NT	NT
Active Lumbar Rotation	Within Normal Limits	Painful	NT	NT
Active Lumbar Extension/Flexion	25 degrees		NT	NT
Numeric Pain Rating Scale	4/10 best, 8/10 worst		4/10 best, 8/10 worst	
Lumbar Quadrant Test	Pain in left anterior hip	Pain in low back	NT	
Oswestry Disability Index	60% Disability		54% Disability	
Patient Specific Functional Scale	Getting in and out of bed (6/10) Standing up from flexed trunk (4/10) Total= 5/10		Total= 5/10	
Straight Leg Raise	Central pain in low back at 40 degrees	Central pain in low back at 40 degrees		
Femoral Nerve Tension Spring Test	Negative		Negative	
	Pain at spinous processes and transverse processes L2-4 ^e		NT	

Treatment Algorithm¹



Conclusion

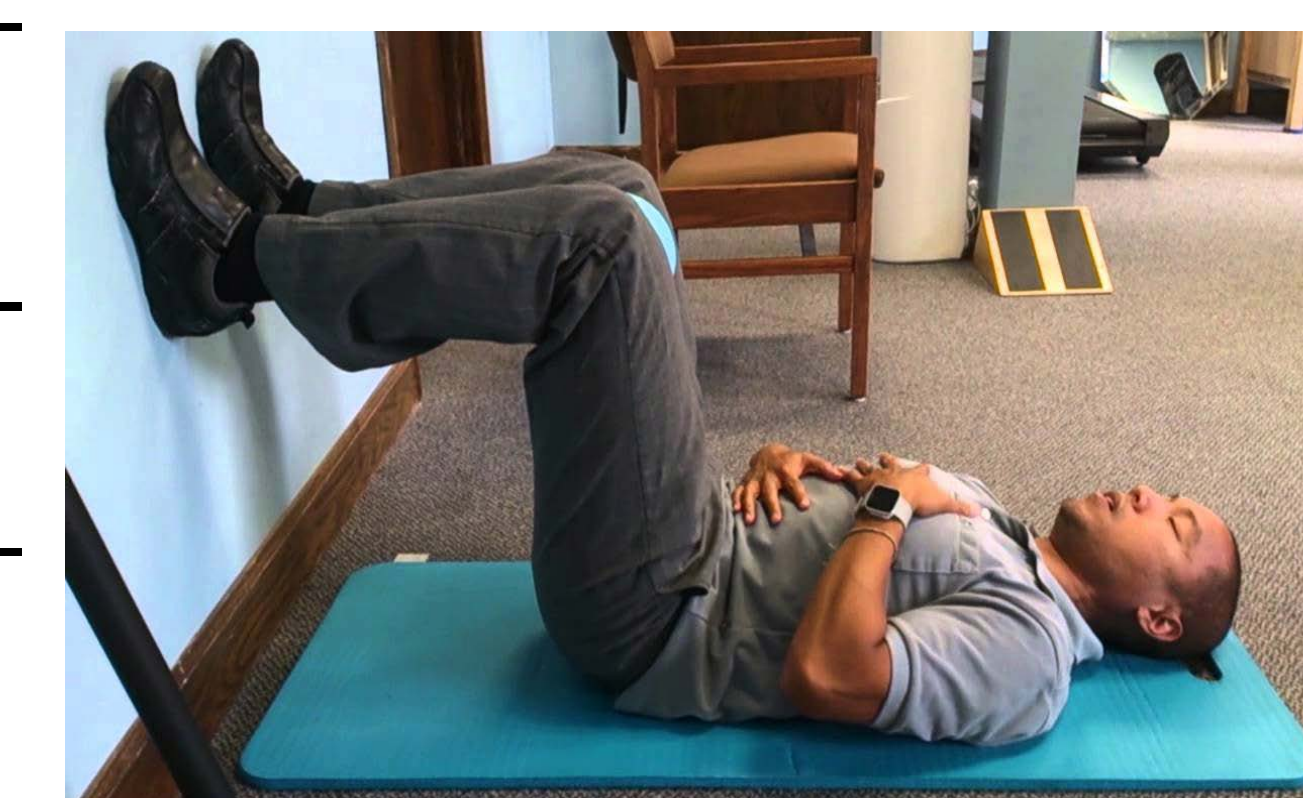
- Critical outcome measures remained unchanged and patient did not achieve goals. Factors that may have led to poor outcomes include: obesity, sedentary lifestyle, concurrent pain in other joints, low self efficacy, and pain chronicity.
- Patient displayed signs of depression. Mood disorders such as anxiety and depression are strong predictors of the transition from acute to chronic pain²
- Patient exhibited signs of central sensitization including: diffuse fluctuating pain behavior, alteration in directional preference and pain location that is common in patients with central sensitization³

Discussion

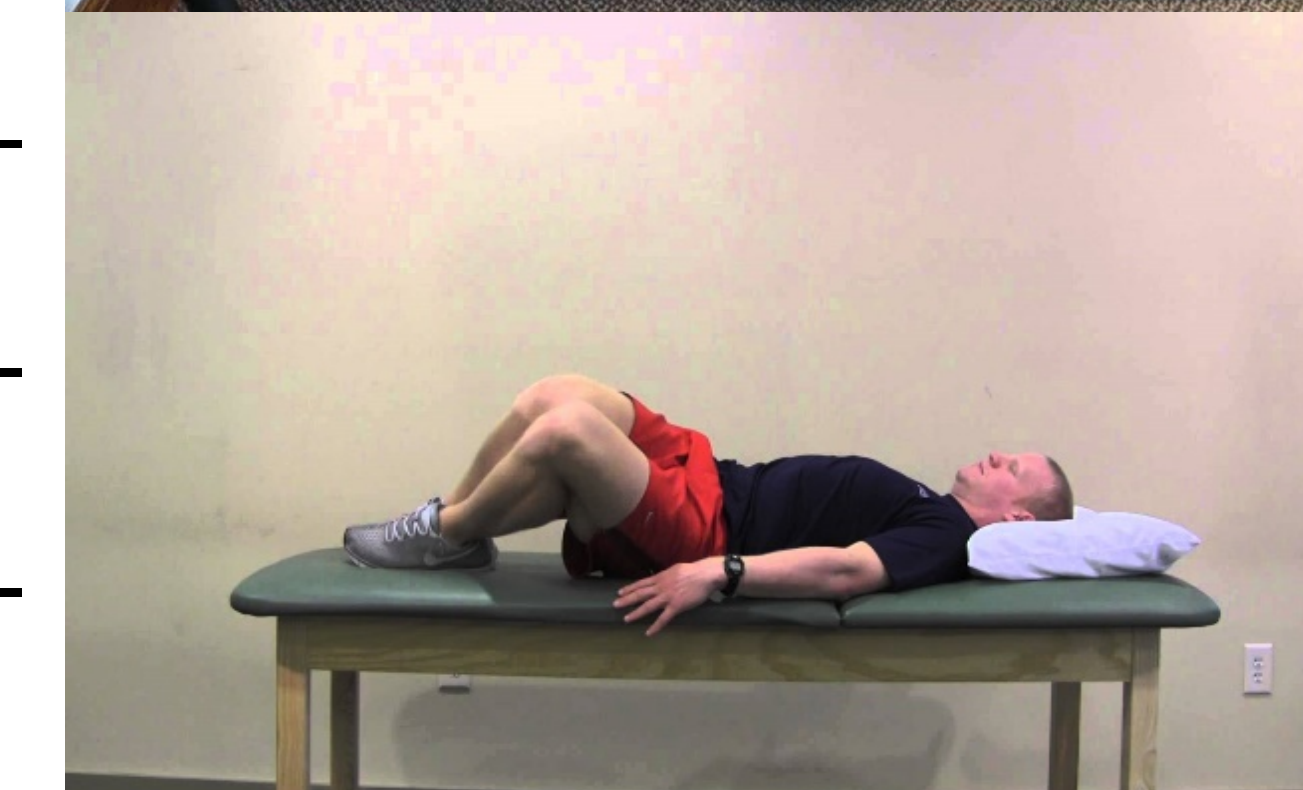
- Use of Central Sensitization Inventory as a diagnostic self reported outcome measure⁴
- Screen for mood disorders using outcome measures like the Hospital Depression and Anxiety Scale and The Center for Epidemiologic Studies-Depression Scale
- Education for patients with chronic low back pain should include explanation of neuroscience and pain behavior according to the APTA Orthopedic Section Clinical Practice Guidelines⁵

Interventions

Interventions	Treatment Day											
	1	2	3	4	5	6	7	8	9	10	11	12
Manual Therapy	Traction					x	x	x				
	Tender Point Release	x						x				x
Therapeutic Exercise	TA Activation	x	x	x	x	x		x				
	RA Activation	x	x	x	x	x		x				
	Quadruped Cat Cow											
	Hooklying L/S rotation	x	x			x	x					
Interferential Current with heat				x	x	x	x	x	x			x
Aquatic Therapy										x	x	



Transverse Abdominus: Draw belly button to spine



Rectus Abdominus: Flatten low back and draw ribs down towards feet



Hooklying lower lumbar spine rotation



Cat/Cow with emphasis on lumbar spine flexion

Acknowledgments

The author acknowledges Michael Fillyaw, PT for support and conceptualization of this case report and Nicole Ayotte, PT, for supervision and guidance during practice.

References

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