Multiple Sclerosis and Urinary Incontinence: A Case Study of Pelvic Floor Training and Postural Interventions
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INTRODUCTION
Multiple sclerosis (MS) is a progressive disease that is characterized by lesions causing loss of myelin in the central nervous system. Among the many symptoms that can occur, bowel, bladder, and sexual dysfunctions have been found in as many as 75% of the cases of men and women with the disease. Previous studies have shown statistically significant improvements for patients with urinary incontinence if pelvic floor muscle training is incorporated in treatment. Several studies have also found correlations between low back pain and pelvic floor dysfunction. This case study seeks to blend the 2 interventions - pelvic floor muscle training and low back treatment - to help a patient with multiple sclerosis and urinary incontinence. This case study prompted the following population, intervention, comparison, outcome (PICO) question: Can a patient with MS demonstrate improved urinary continence with postural interventions coupled with pelvic floor muscle training?

METHODS
This case study looked at a 40 year old woman diagnosed with MS in 2007. She had been experiencing increased urinary incontinence and urgency in the last two years, as well as increased spasms in the low back. The patient was referred to physical therapy by her gynecologist for mixed urinary incontinence (ICD-9-CM 788.33) for treatment and bladder retraining. The patient was given several interventions, including pelvic floor muscle training, spinal alignment using muscle energy techniques, bladder retraining, biofeedback, postural interventions and functional, and pelvic floor specific exercises.

FINDINGS
The following goals were set for the patient after her initial evaluation with the following outcomes:

1a. Increase strength of the pelvic floor by 1 pelvic floor muscle grade from 2/5 - 3/5, to reduce the leaking of urine, especially during walking to allow the patient to be more active.

1b. Goal met - demonstrated a 4/5 pelvic floor muscle grade at her 7th visit.

2a. Decrease resting tone of the pelvic floor to allow the patient to better empty her bladder and reduce the frequency of urination to allow the patient to be more active in her community.

2b. Goal met - reported urinating every 3 hours and reported less urine leakage, going from 4 pads daily to 1 pad daily.

3a. Decrease pelvic pain by 50% from 4/10 - 2/10 to allow the patient to more comfortably participate in sexual intercourse.

3b. Goal not met - continued pain at a 4/10 with intercourse.

4a. Improved core stabilization to promote pelvic and lumbar stability and improve overall pelvic floor function.

4b. Goal met - demonstrated good strength and form with lumbar stabilization and core exercises and maintained spinal alignment after adjustment of the sacroiliac joint.

CONCLUSION
Overall, the research was compelling for this PICO question. The research was separately shown for pelvic floor training for MS patients and the treatment of low back pain for urinary incontinence with Oxford Levels of Evidence levels ranging from 1B to 4. This case study was important because it showed the significance of bringing those two separate treatment options together to make the best outcome for a patient.