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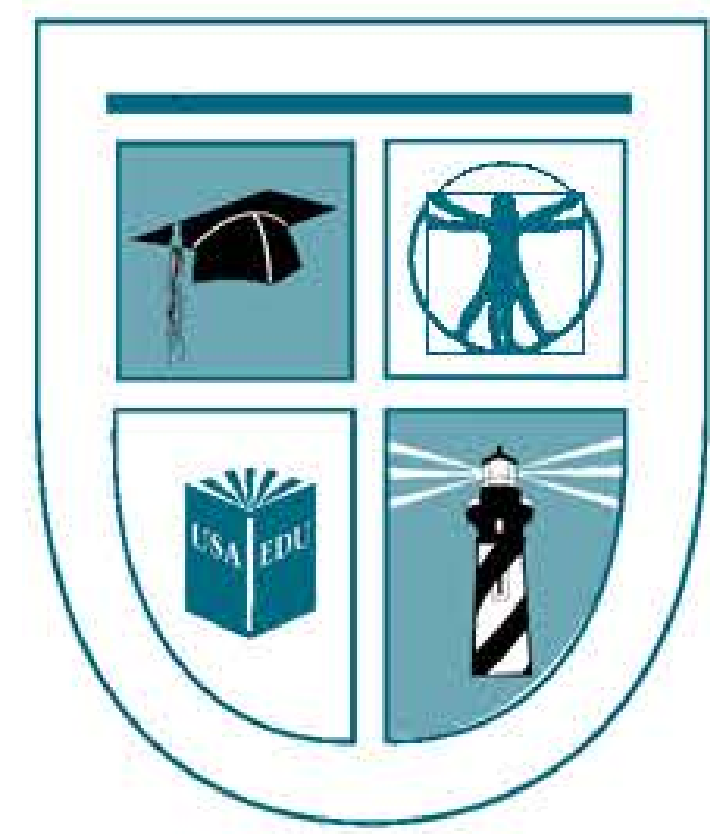


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The Management of Chronic Myofascial Thoracolumbar Pain with Dry Needling, Spinal Manipulation, Cognitive Behavioral Therapy and Exercise: A Case Report

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PURPOSE:

Myofascial pain syndrome (MPS) is a soft tissue pain condition perpetrated by myofascial trigger points (MTrP). Trigger points are associated with greater disability, poorer sleep quality and altered muscle activation patterns and are correlated with the development of central sensitization and chronic pain syndromes. Dry needling (DN) and Spinal Manipulative Therapy (SMT) can be effective interventions in reducing pain and disability associated with MTrPs. Cognitive Behavioral Therapy (CBT) is a popular non-pharmacological treatment that has shown efficacious outcomes in reducing pain and disability levels in chronic pain sufferers. The purpose of this case report is to demonstrate the efficacy of combining CBT, DN, SMT and exercise in the management of an individual with MPS.

PATIENT DESCRIPTION:

A 33-year-old male veteran with a chief complaint of a progressive increase in intermittent right mid-scapular and low back pain ranging from 5/10-10/10 on the Numeric Pain Rating Scale (NPRS) over the past 6 months. Past medical history included a L4/5 HNP eight years ago while enlisted in the U.S Navy. Physical impairments included decreased and painful active range of motion, thoracic spine and rib hypomobility, and lumbar spine hypermobility. MTrPs were identified along the T6-8 paraspinals, right rhomboids, and lumbar segments L1-2 and L4-5. Activity limitations included limited sitting, walking and any activity that required forward bending. The patient reported a loss of 2-4 hours of sleep each night due to his condition and was reliant on pain medication to return to sleep.

METHODS:

Treatment consisted of nine 30-minute treatment sessions following a one-hour initial evaluation. Pain intensity was measured with the Numeric Pain Rating Scale (NPRS), pain catastrophizing of 31/52 with the Pain Catastrophizing Scale (PCS), 72% disability with the Oswestry Disability Index (ODI), functional movement using the Selective Functional Movement Assessment (SFMA) and cited his ability to participate in CrossFit, golfing and recreational activities using the Patient Specific Functional Scale (PSFS).

INTERVENTION:

Intervention	Description/Clinical Rationale
Dry Needling	Manual/Electrical Stimulation to Thoracic and Lumbar paraspinals, pistoning to R rhomboids
Spinal Manipulative Therapy	Grades III-V to cervico-thoracic junction, mid-thoracic and costotransverse facets
Cognitive Behavioral Therapy	Attention diversion, cognitive restructuring, goal setting and maintenance strategy techniques
Therapeutic Exercise	Improving bilateral thoracic rotation, single leg and lumbopelvic stability

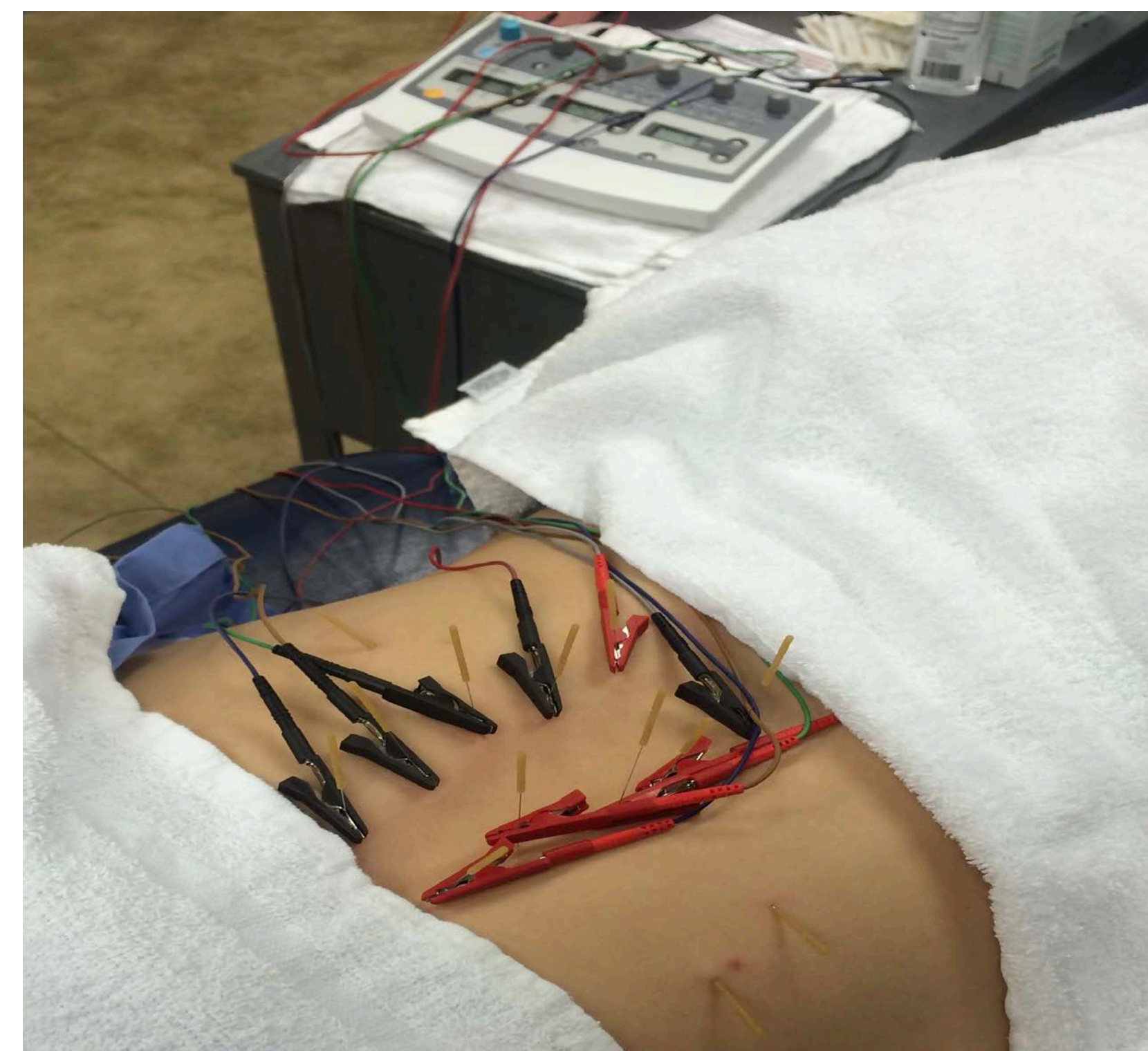


Image 1. DN + electrical stimulation to the lumbar paraspinals

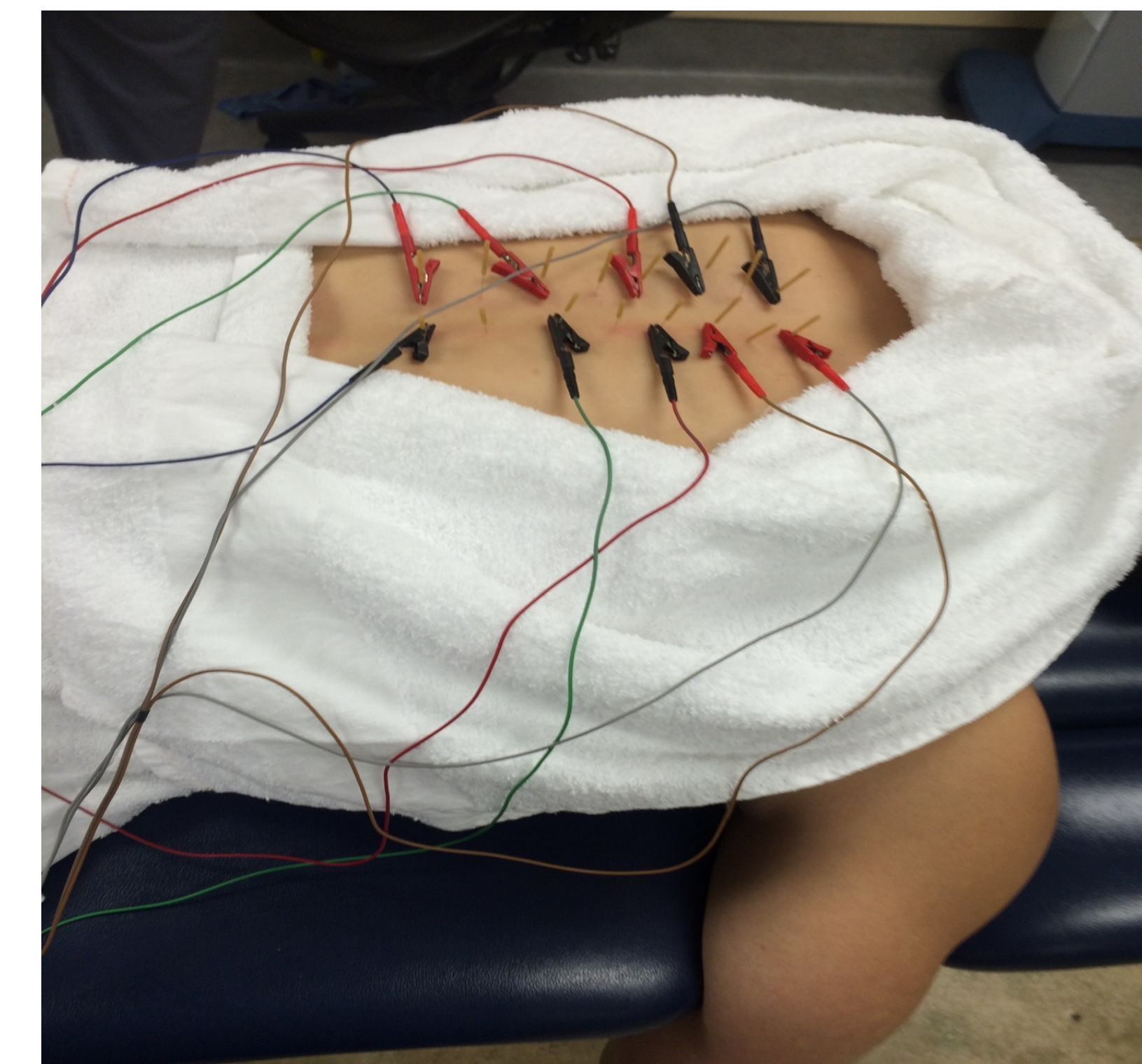


Image 2. DN + electrical stimulation to the thoracic paraspinals

RESULTS:

Outcome Measure	Initial Evaluation	Discharge Visit
NPRS	5-10/10	0-4/10
ODI	72%	8%
PCS	31/52 60%	16/52 31%
SFMA Multi-segmental Flexion Multi-segmental Rotation Single leg stance	Dysfunctional Painful	Functional Non-Painful
PSFS	2/10 Full golf swing 0/10 CrossFit	7/10 Full golf swing 8/10 CrossFit

DISCUSSION:

Initial treatments were aimed at reducing pain, providing neuroscience education and attenuating feelings of helplessness and rumination about his condition. CBT education emphasized cognitive restructuring and promoted the patients' ability and confidence to self manage symptoms. Patient reported that his sleep was no longer consistently disturbed, and no longer was taking his pain medication for symptoms or sleeping. The patient was able to return to CrossFit, including weightlifting, jumping and running. Golfing activities progressed to 80% of full swing with a driver and long irons and able to play 18 holes with minimal increase in symptoms.

CONCLUSION:

Pain intensity, catastrophizing, disability and functional movements were all improved following 10 physical therapy sessions. The outcomes of this case report suggest a multimodal treatment approach of DN, SMT, CBT and exercise may be beneficial for individuals with chronic thoracolumbar myofascial pain.

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