

CASE REPORT

TREATMENT OF HAMSTRING STRAIN IN A COLLEGIATE POLE-VAULTER INTEGRATING DRY NEEDLING WITH AN ECCENTRIC TRAINING PROGRAM: A RESIDENT'S CASE REPORT

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ABSTRACT

Background: Hamstring strain injuries are among the most common injuries seen in sports. Management is made difficult by the high recurrence rates. Typical time to return to sport varies but can be prolonged with recurrence. Eccentric strength deficits remain post-injury, contributing to reinjury. Eccentric training has shown to be an effective method at prevention of hamstring injury in multiple systematic reviews and prospective RCTs but limited prospective rehabilitation literature. Functional dry needling is a technique that has been reported to be beneficial in the management of pain and dysfunction after muscle strains, but there is limited published literature on its effects on rehabilitation or recurrence of injury.

Purpose: The purpose of this case report is to present the management and outcomes of a patient with hamstring strain, treated with functional dry needling and eccentric exercise.

Case Description: The subject was an 18-year-old collegiate pole-vaulter who presented to physical therapy with an acute hamstring strain and history of multiple strains on uninvolved extremity. He was treated in Physical Therapy three times per week for 3 weeks with progressive eccentric training and 3 sessions of functional dry needling.

Outcomes: By day 12, his eccentric strength on the involved extremity was greater than the uninvolved extremity and he reported clinically meaningful improvement in outcome scores. By Day 20, he was able to return to full sports participation without pain or lingering strength deficits.

Discussion: The patient in this case report was able to return to sport within 20 days and without recurrence. He demonstrated significant decreases in pain and dysfunction with dry needling. He had greater strength on the injured extremity compared to contra-lateral previously injured extremity.

Conclusions: This case illustrates the use of functional dry needling and eccentric exercise leading to a favorable outcome in a patient with hamstring strain.

Key words: Functional Dry Needling, Hamstring, Eccentric Exercise

Level of Evidence: Level 4

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The opinions or assertions contained herein are the private views of the authors and are not to be construed as official or reflecting the views of Baylor University, the US Military, Department of Defense or the US Government.

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