



Dry Needling of Tight Hamstrings in the Treatment of Chronic Low Back Pain

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Dear Editor-in-Chief

Chronic low back pain (CLBP) is the most common musculoskeletal disorder that occurs in more than 80% of people in their lives (1, 2). About 85% of cases with CLBP are nonspecific LBP who have tension, soreness, and/or stiffness of the lower back with unknown origins (2). CLBP has negative impact on quality of life, and it is now one of the top ten causes of years lived with disability (3, 4). LBP has economic effects with the early retirement of the patients, decreased productivity, and increasing costs to individuals and the governments (1, 3).

Lower limb muscle dysfunctions may affect spinal loading and contribute to LBP development (3). The tight hamstring is the most common dysfunction studied in LBP. It may increase posterior pelvic tilt and reduce lumbar lordosis that consequently can increase the loads on the back contributing to stiffness in the lower back and LBP development (2, 3). Considering the contribution of hamstring tightness in pathogenesis of LBP, there is a special interest, among therapists, to increasing the hamstring extensibility in clinical practice for the management of LBP (4).

A range of different interventions including surgical, medical, and rehabilitation techniques are used for the management of the LBP. Recent guidelines recommend rehabilitative interventions in CLBP (1). Despite recommendation of several rehabilitative techniques especially stretching exercises for increasing the hamstrings' extensibility, the most effective technique and duration of exercises is unknown (4). Further, the muscle stretching is a time consuming technique and may not be effective in improving hamstring flexibility.

Dry needling (DN) is a relatively new modality in physiotherapy used for various conditions (5,6). Recently, it has been reported that one session dry needling for shortened hamstring in healthy subjects increased the hamstring length and compliance with a large effect size. The authors suggested the use of DN as a novel strategy for increasing muscle flexibility (7).

According to these promising findings on the hamstrings compliance after DN, we propose that the DN to be considered for increasing the hamstrings flexibility as a method to improve the



pain and flexibility in patients with CLBP. We suggest three points on the hamstrings to be needled using fast-in and fast-out technique, each for 1 minute, for a total 3 minutes (Table 1). Clinical

trials should be conducted to test this hypothesis on the effectiveness of DN in CLBP patients with tight hamstrings.

Table 1: Protocol for dry needling (DN) of tight hamstrings in chronic low back pain

<i>Muscles</i>	<i>Point for DN</i>	<i>Technique</i>	<i>Time</i>	<i>Total DN time</i>
Biceps Femoris Long head	30% of a line from ischial tuberosity to fibular head	Fast-in and fast-out	1 min	3
Short head	60% of a line from ischial tuberosity to fibular head	Fast-in and fast-out	1 min	
Semitendinosus and Semimembranosus	60% of a line from ischial tuberosity to medial femoral epicondyle	Fast-in and fast-out	1 min	

Conflict of interest

The authors declare that there is no conflict of interests.

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