



JHT READ FOR CREDIT ARTICLE #399.

Practice Forum

Conservative treatment of Myofascial Trigger Points and joint mobilization for management in patients with thumb carpometacarpal osteoarthritis



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In an attempt to decrease pain and increase function in patients with CMC OA, these authors have described the combination of two techniques that can be performed to treat this common problem. Before applying the techniques, each therapist must determine if the application of the technique falls within their scope of practice. — KRISTIN VALDES, OTD, OT, CHT, Practice Forum Editor

Due to the inherently unstable saddle joint and extrinsic tendon forces, the thumb carpometacarpal (CMC) joint is the most commonly affected site for osteoarthritis (OA) in hands.¹ There exists a strong association between excessive joint laxity and the development of premature joint degenerative changes and proprioceptive deficits of the ligaments of the CMC joint.² Excessive laxity is one of the most common activating and perpetuating factors that may provoke Myofascial Trigger Points (MTrPs).³

A combined program of joint mobilization techniques and specific therapy to treat muscle MTrPs is expected to help the patient to reduce pain and improve function. Mobilization of the CMC has been demonstrated to relieve pain and improve function although these techniques are mainly intended for relieving the joint compression forces and the localized pain in the joint line.^{4,5}

According to the published patterns of pain, the following muscles should be examined when the patient complains of pain in the first CMC area⁶: 1) Muscles most frequently referring pain: supinator, scalene, brachialis, brachioradialis, opponens pollicis and adductor pollicis; and 2) Muscles that can also refer pain to this area: infraspinatus, extensor carpi radialis longus, subclavius, first dorsal interosseous and flexor pollicis longus. A recent review showed that either conservative or invasive approaches are effective for myofascial pain, independently when they were used alone or combined.^{7,8}

Interventions

Joint mobilization

Different modalities of treatment can be applied, based on traction or gliding.⁹ If the objective is to relieve pain grade I these techniques are mainly indicated. For periarticular muscle relaxation Grade II techniques are mainly recommended. However, if the objective is to increase joint mobility, a grade III will be considered as the most indicated for the thumb CMC joint, as described by Kaltenborn.^{10,11}

1. To perform the mobilization technique, the subject is seated with his arm in the anatomical position, the elbow at 90° flexion, the forearm neutral, and the dorsum of the hand facing the body of the therapist, Fig. 1a.
2. The therapist grasped the right-thumb metacarpal bone of the patient with his right thumb and index finger and distracted the joint, retracting the thumb and made a specific Kaltenborn mobilization of posterioranterior gliding with a short amplitude, 3 sets of 10 repetitions of each, as long as there is no pain during the application of the technique (Fig. 1b–c).¹¹
3. If the technique is applied in Grade III repetitions may be better changed by a continuous application of the technique for at least 10 min, although to achieve elongation effects recommendations are to increase the time of application.

MTrPs treatment

The therapist explores the muscle doing perpendicular palpation to the direction of the band fibers to feel taut bands and after

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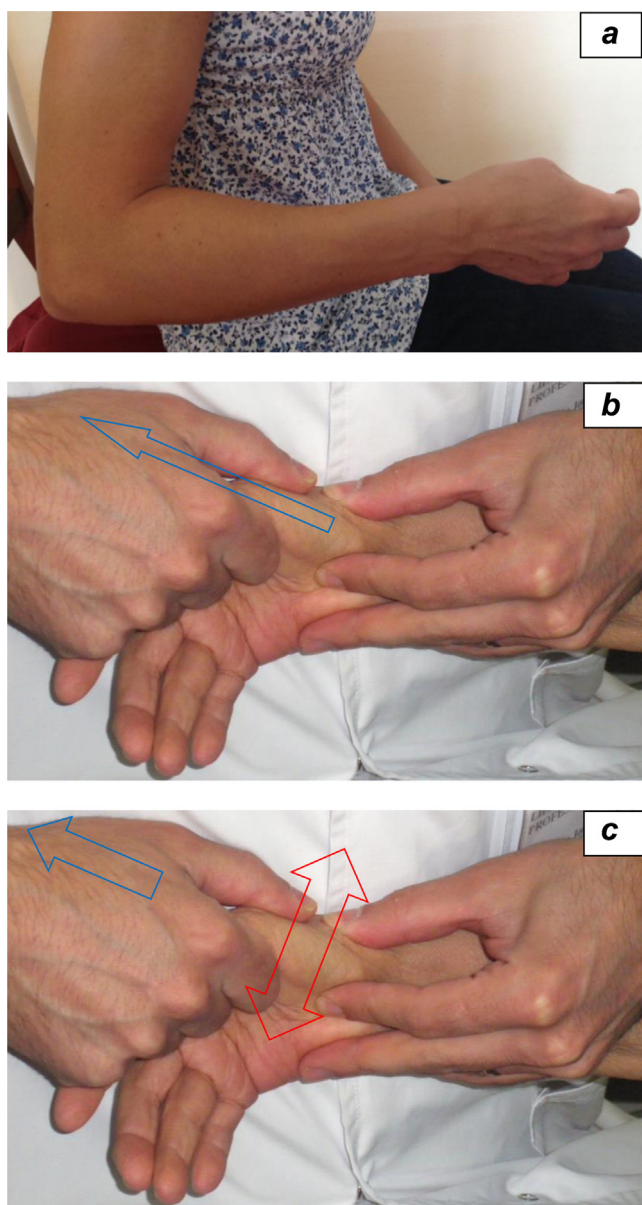


Fig. 1. Kaltenborn mobilization technique: a) The subject position; b) distraction of the CMC joint; c) Specific Kaltenborn mobilization of anterior-posterior gliding.

that the therapist moves longitudinally to the selected taut band to feel if there is some painful spot or nodule into the taut band (Fig. 2a). When we palpate the MTrP will leave free the place where the MTrP is located in order to insert the needle just into the MTrP (Fig. 2b).

Depending on the patient tolerance to pain, different techniques may be performed (Fig. 2c):

1. Rolling or twisting techniques of the needle, with the objective to stretch the shortened citoesqueletic structures characteristic in the MTrP.
2. Multiple rapid needle insertion,¹² that usually provokes more local pain but also provokes more local Twitch Responses, which have been correlated with effectiveness of treatment.^{13,14}

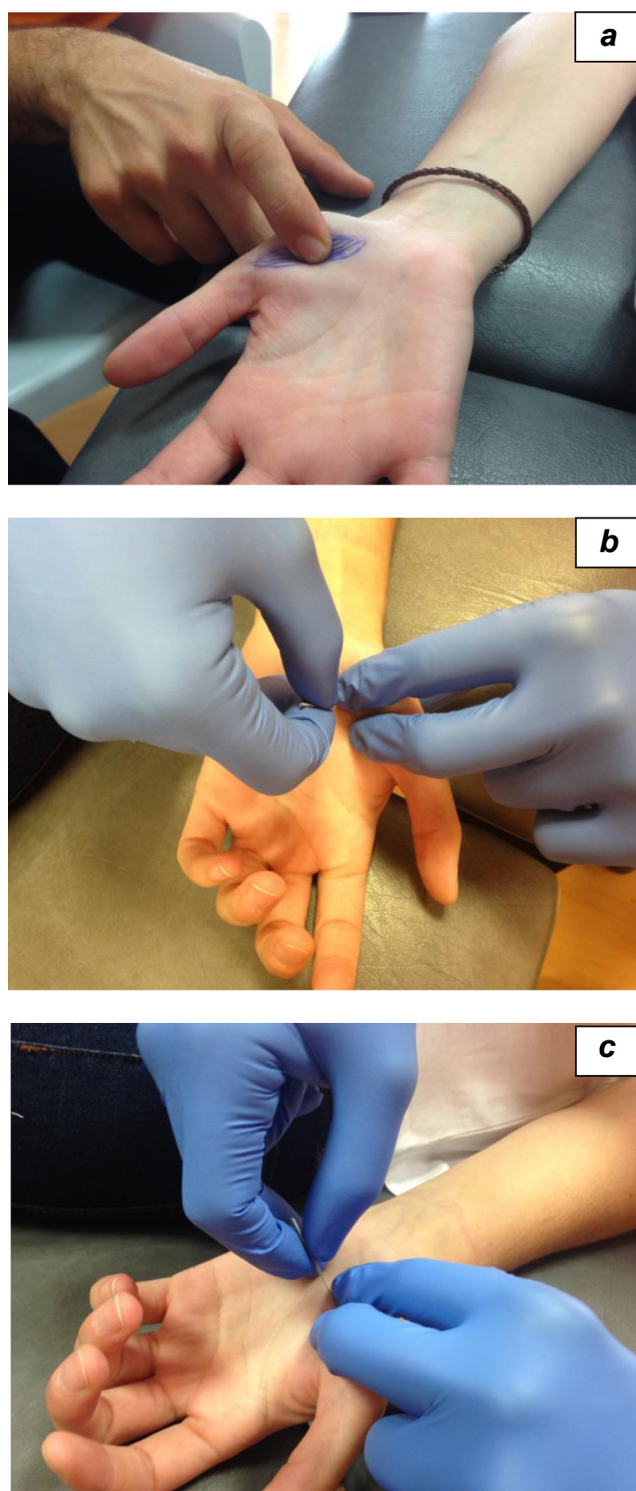


Fig. 2. Myofascial Trigger Points technique: a) Perpendicular palpation; b) Insert the needle just into the Myofascial Trigger Points; c) Rolling or twisting techniques of the needle.

A program of joint mobilization combined with specific MTrP therapy can decrease pain and improve function in individuals with CMC OA. This integrated approach, combining joint and muscle techniques can be added to the hand therapist's "tool box" of efficacious interventions.

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