

## **Can limb lengthening be approached as an acute miofascial syndrome?**

### **Fascia rehabilitation in limb lengthening.**

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#### **Background:**

The limb lengthening shows a progressive shortening of all soft tissues, usually resulting in retractions, contractures and pain. To avoid and/or treat these complications, it is essential an intensive rehab program, regarding these several aspects.

Traditionally, Physiotherapy in limb lengthening is based on passive stretching, which causes tissue inflammation, joint retraction and pain, leading to impaired functional outcomes, discomfort and traumatic experiences to the patients submitted to this treatment, mainly the child age group. Continue nociceptive activation sequent muscle stretching, muscle and periosteal irritation, nerve stress and infection may start motor reflex response, which leads to spasms and pain.

#### **Objectives:**

To propose a new, more efficient and less painful physiotherapy approach for patients undergoing limb lengthening.

#### **Approach:**

The basis of the indicated physical therapy technique is an approach using a combination of several manual therapies techniques, such as Raymond Sohier, Maitland and Osteopathy, considering the wires and interosseous pins. This approach understands every physiotherapy session as an acute miofascial pain syndrome, faced by the patient's limb undergoing lengthening.

#### **Results:**

Nine patients, totaling 19 surgeries were treated through smooth movements on the fascia. Thereby a peripheral desensitization happens: This approach on the involved muscle, restore its physiological tonus, decreasing motor reflex impulse and so, decreasing spasm and miofascial pain. It produces tissue mobility, elasticity on the adhered fibers, analgesia that in turn increases voluntary muscle activity and joint mobilization. This increases range of motion and provides afferent nervous impulses from joint receptors. This approach may avoid a whole sequence of harmful events. *Fig 1.*

It is necessary to make a proper diagnosis of the patient's situation, considering his evolution in the treatment, the phase in which he is, presence of pain condition, strength, mobility and flexibility in every single session of physiotherapy. Special attention to the shortening of the fascia tissues, as an important barrier to the maintenance of joint mobility and proper tension of the tissues. Components not always highlighted as sensory systems proprioception and biomechanical characteristics of specific fascia tissues may be the key to a more adequate rehabilitation, allowing better functional outcomes.