

Does Myofascial Self-Help Manipulation influence Tissue Regeneration and Cellulite?

A Clinical and Literature Overview

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BACKGROUND: In women, bands of connective tissue at the buttocks and
posterior and lateral thighs are oriented longitudinally. These bands form the
fibrous septae that localize adipose deposits into channels. In people with
cellulite, the skin surface changes through a reactive process to sustained
hypodermal pressure caused by fat accumulation.[1;2]. Myofascial self-help
treatments of cellulite have not been well established. To our knowledge, no
overview has analyzed the relationship between myofascial self-help
manipulation, tissue regeneration and cellulite. The aim of this overview is to
explore a new hypothesis on how this form of tissue stimulation can effect
metabolic and biomechanical properties of tissue, in particular for cellulite.

METHODS: Systematic literature searches were conducted with PubMed,
PEDro, Google Scholar and Science Direct/Elsevier from 1994 to July 2015 to
identify eligible studies using the key words “cellulite” in connection with:
“tissue regeneration”, “hydration”, “oxidative stress”, “myofascial” and
“self-help treatment”. In this overview 20 clinical studies were included.

RESULTS: Actual studies have indicated that cellulite depression is
associated with the presence of the underlying thick fibrous septae, which are
perpendicular to the skin surface and mostly ramified. Oxidative stress and
deficiencies in lymphatic drainage and microvascular circulation also promote
cellulite.[1;2] A tool-assisted tissue manipulation in form of a self-help
treatment revealed significant changes ($p < 0.001$) in stiffness, elasticity, local
temperature and hydration.[3;4]

A decrease in stiffness and increase in elasticity indicates a loosening of the
adhesions of the underlying ramified, thick, fibrous, myofascial septa. Changes
in local temperature improved the microvascular circulation which possibly
reduces oxidative stress. A higher hydrated tissue state a better lymphatic
drainage and microvascular circulation and, a reduction of liquid accumulation
can be therefore assumed. These bio-physiological effects may reduce the
oedema and the following reduction of pressure in the tissue; this might

improve the natural lipolysis.

CONCLUSION: The scant available literature suggests that cellulite can be influenced by changing the thickness of the myofascial septae, lymphatic drainage, microvascular circulation and oxidative stress. Application of self-help treatment with this myofascial manipulation tool resulted in clinically highly significant improvements of the bio-mechanical tissues and hydration properties that can possibly influence tissue regeneration and cellulite. Surprisingly few studies were found relating to the eligibility criteria, indicating a need for further basic research to understand and confirm these possible effects on the metabolic and cellular level.

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