

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

### A Clinical and Literature Overview

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**KEYWORDS:** Tissue Regeneration; Cellulite; Self-Tool Assisted Myofascial  
Manipulation.

**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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