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Mechano-stimulation: Scientific overview and added-value in aesthetic medicine

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Introduction: The Mechano-stimulation is a non invasive and safe technique delivered by a French medical device and designed for the treatment of connective tissue thanks to different types of treatment heads. The mechanical stimulation produced by the treatment heads send a message to various cells – endothelial cells, fibroblasts, adipocytes- and trigger various biological responses.

Material & Methods: Review of the different articles published on the effects of mechanical stimulation on different cell types and overview of different clinical practices regarding the combination of mechano-stimulation with different techniques used in aesthetic medicine.

Results: Numerous studies have been carried out on the role of mechanical stimulation on cells behavior. Numerous tissular and cellular modifications have been described. Most of the observations indicate an improvement of skin trophicity. The anatomical and physiological targets of Mechano-stimulation are mainly the structural and functional elements of the connective tissue: fibroblasts, adipocytes, blood and lymphatic vessels. This technique showed clinical efficacy in the treatment of excess fat, cellulite and skin aging linked with well documented circulatory, trophic, anti-fibrosis and pro-lipolytic properties.

Conclusion: Mechano-stimulation is an evidence-based technology which can be proposed in aesthetic dermatology to 1) enlarge practice with non-invasive and non-aggressive treatments 2) combine to others aesthetic procedures in order to alleviate them, make the treatments pleasurable for the patient and optimize the final aesthetic outcome 3) Reduce and follow eventual after-effects.