



Does Tapping a Facial Bone with a Needle Stimulate Collagen, Medical Evidence

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Abstract

Tapping a facial bone has been proposed as a potential method for stimulating collagen production, a key element in anti-aging therapies and skin regeneration. However, direct evidence supporting the efficacy of facial bone tapping with a needle for collagen stimulation is limited. Existing research in related areas, such as microneedling, offers some insights into the potential effects of percutaneous stimulation on collagen synthesis.

The primary goal of this white paper is to explore the scientific basis behind this theory, focusing on the mechanical and biological impacts of needling techniques on collagen production. We will analyze current studies on procedures like microneedling, which cause micro-traumas that elicit skin and tissue responses, potentially leading to increased collagen synthesis.

The paper places particular emphasis on the possible influence of bone tapping on collagen production, skin elasticity, and overall facial rejuvenation. We will also consider the broader dermatological and cosmetic implications, reviewing the therapeutic potential and safety of this method. While initial findings suggest that targeted needling may stimulate regenerative processes, further clinical trials are necessary to confirm its effectiveness and refine the use of facial bone tapping in aesthetic medicine.

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Introduction

Facial tapping is a technique rooted in traditional Chinese medicine, with the core premise being that tapping certain points on the face can increase blood circulation, reduce tension, and revitalize the skin. This practice is often associated with acupuncture, which involves applying pressure to specific facial (or bodily) points to elicit therapeutic effects. Historically, facial tapping is performed using fingers or specialized tools, but the use of needles for facial bone tapping has also been suggested as a method for enhancing collagen production.

Proponents of facial tapping claim that the technique can rejuvenate the skin by improving circulation and stimulating the body's natural healing mechanisms. However, scientific evidence supporting these claims remains limited. Despite anecdotal support, further research is necessary to substantiate the effectiveness of facial tapping, particularly when combined with needling techniques for collagen stimulation.

Problem Statement

Collagen production and skin regeneration are key focuses in aesthetic medicine, particularly for addressing the visible signs of aging. Numerous techniques have been developed to stimulate collagen synthesis, enhance skin elasticity, and improve overall skin health. Yet, the potential of tapping the facial bone with a needle as a method to boost collagen production remains largely unexplored. Determining whether this practice can promote collagen synthesis and contribute to facial rejuvenation could provide valuable insights for non-surgical anti-aging treatments. Currently, there is a lack of scientific data on both the efficacy and safety of using needles in facial bone tapping, highlighting the need for more research in this area.

Literature Review

This whitepaper leverages existing research to explore whether tapping a facial bone with a needle could stimulate collagen production. Although no direct studies on this specific technique are available, related findings in the areas of microneedling, percutaneous therapy, and acupuncture provide valuable insights into the potential mechanisms and effects of facial bone tapping.

For instance, **M. Sifaki** and colleagues examined a needle shaping procedure using acupuncture needles combined with electrical currents, demonstrating a reduction in wrinkles and increased neo-collagen production. Similarly, **E. Caberlotta** explored the effects of a skin-massaging device on dermal proteins, contributing to a better understanding of how mechanical stimulation can influence skin structure.

M. Aust et al. conducted a comprehensive analysis involving 480 patients treated with percutaneous collagen induction therapy (microneedling), reporting significant improvements in collagen production and skin elasticity. Likewise, **C. Iosifidis** and **I. Goutos** reviewed the application of microneedling for non-atrophic scars, further underscoring the role of needling techniques in skin regeneration.

In another study, **Correa et al.** investigated the combination of percutaneous collagen induction therapy with hyaluronic acid, revealing enhanced collagen production and tissue repair. **G. Ablon** also contributed to the body of knowledge on microneedling, focusing on its role in collagen remodeling and skin rejuvenation.

Finally, **H. Cheng** highlighted the potential of facial acupuncture in reducing folds and wrinkles, emphasizing the benefits of needling-based therapies in aesthetic treatments. These studies collectively suggest that mechanical stimulation through needling, whether through microneedling or acupuncture, can promote collagen production and tissue repair, providing a strong basis for further investigation into the effectiveness of facial bone tapping with needles for skin rejuvenation.

Methodology

This white paper focuses on reviewing existing literature revolving around the concept of tapping a facial bone with a needle to stimulate collagen production. The main objective is to discuss findings from related studies on microneedling, skin stimulation, and collagen induction to provide a closer insight into this procedure. Through analysis of percutaneous collagen induction therapy, facial acupuncture, and mechanical stimuli that may influence collagen synthesis, this

whitepaper strives to evaluate the viability and potential benefits of skin rejuvenation approaches that focus on needling the facial bone. The whitepaper sheds more light onto the potential pathways through which these methods increase skin collagen production and improve overall skin health.

Results/Findings

Current studies directly addressing facial bone tapping with a needle for collagen production are lacking. However, evidence from related approaches such as microneedling and other needling techniques offers valuable insights into the potential of this strategy.

M. Sifaki et al. studied 54 women undergoing a needle shaping procedure using acupuncture needles combined with electrical currents. Their findings revealed an increase in neo-collagen production and a reduction in fine lines and wrinkles, with around 45% of participants rating their satisfaction as excellent. The procedure required no downtime and produced results lasting up to a year.

E. Caberlotto et al. evaluated the effects of a skin-massaging device on dermal protein expression in wrinkles. They found that mechanical stimulation increased collagen production, with the best results occurring when the device was combined with an anti-aging formulation.

M. Aust et al. conducted a large retrospective study on 480 patients treated with percutaneous collagen induction therapy (Medical Roll-CIT). Results showed a 60-80% improvement in skin texture, supported by histological evidence of increased collagen and elastin production six months post-treatment. This therapy was shown to be a simple and fast treatment for wrinkles and scars.

C. Iosifidis and I. Goutos reviewed microneedling for non-atrophic scars, showing improved pliability, vascularity, and pigmentation in scars. The treatment also enhanced collagen alignment in the dermis, contributing to better scar and skin structure over time.

In another study, **M. Aust et al.** highlighted that percutaneous collagen induction therapy rejuvenates the skin without causing hyperpigmentation or damaging the epidermis, making it a minimally invasive option for skin enhancement.

M.E.A.B. Correa et al. studied the combination of percutaneous collagen induction therapy with hyaluronic acid in rats. The combination increased collagen production and accelerated tissue repair by promoting a faster inflammatory response, suggesting that this approach enhances skin regeneration.

G. Ablon confirmed that microneedling induces ongoing collagen remodeling, with collagen III converting to collagen I, tightening the skin. The study emphasized the procedure's minimal discomfort, affordability, and low downtime.

M. Merati et al. reported that adding novel growth factors to microneedling elevated the results by further enhancing skin texture and hydration. Growth factors, acting as messengers for cell repair and proliferation, in combination with microneedling, improve collagen remodeling.

M. Alqam et al. supported microneedling as a minimally invasive method for managing facial wrinkles. Their study showed significant increases in collagen types I, III, and VII, contributing to improved skin elasticity and rejuvenation.

Lastly, **H. Cheng et al.** demonstrated that facial acupuncture improved nasolabial folds and marionette lines. Acupuncture, which operates on principles similar to acupressure (and by extension, facial tapping), increases blood flow and stimulates collagen and elastin production by balancing the body's Qi.

While direct studies on facial bone tapping with needles are absent, the combined evidence from these studies indicates that percutaneous needling techniques, including microneedling and acupuncture, promote collagen synthesis and skin rejuvenation. This suggests that facial bone tapping may hold promise as a potential non-invasive anti-aging treatment, though further research is required to establish its efficacy.

Discussion

Although no direct evidence exists regarding the effects of tapping a facial bone with a needle on collagen production, related studies on procedures like microneedling and facial acupuncture offer valuable insights. These techniques have shown significant potential in promoting collagen synthesis, enhancing skin texture, and contributing to overall skin rejuvenation. Based on the success of these approaches, it is plausible that facial bone tapping with a needle, as a form of mechanical stimulation, could produce similar effects.

For example, **M. Sifaki et al.** demonstrated that a needle shaping procedure combining acupuncture needles with electrical currents significantly boosted neo-collagen production and reduced the appearance of wrinkles, with high patient satisfaction. Similarly, **M. Aust et al.** found that percutaneous collagen induction therapy increased skin tightness and collagen and elastin production, emphasizing the potential of mechanical stimulation to activate collagen pathways. These results suggest that tapping-based methods could exhibit similar collagen-enhancing effects.

E. Caberlotto et al. also highlighted that mechanical stimulation via massaging devices led to increased expression of dermal proteins, including collagen. This relationship between collagen synthesis and physical manipulation reinforces the idea that methods involving mechanical stimulation, such as facial tapping with a needle, may promote collagen remodeling and provide anti-aging benefits. Additionally, **H. Cheng et al.** examined facial acupuncture and reported improvements in nasolabial folds due to increased collagen and elastin levels. Since acupuncture and facial bone tapping both involve mechanical stimulation and manipulation of the skin, it is reasonable to infer that similar benefits might arise from the latter.

While the exact mechanisms and outcomes of facial bone tapping with a needle remain unstudied, parallels can be drawn with microneedling and facial acupuncture. The mechanical stimulation may activate collagen pathways, improve skin elasticity, and promote tissue regeneration. Nevertheless, further research is required to explore the specific effects of tapping a facial bone with a needle on collagen production and to determine both its short- and long-term benefits.

Conclusion

This white paper concludes that, although there is no direct evidence supporting the efficacy of tapping a facial bone with a needle to stimulate collagen synthesis, insights from related procedures suggest that this technique could be effective. Like microneedling and facial acupuncture, facial bone tapping relies on mechanical stimulation, a method proven to increase collagen production, improve skin texture, reduce the appearance of fine lines and wrinkles, and offer overall anti-aging benefits.

The studies reviewed in this white paper highlight how mechanical stimulation can activate biological pathways involved in tissue repair and collagen remodeling. For instance, procedures like microneedling and acupuncture have demonstrated their ability to enhance collagen production and improve skin elasticity by promoting controlled microtrauma to the skin. This triggers the body's natural healing response, which includes collagen synthesis and tissue regeneration. These findings suggest that tapping a facial bone with a needle may harness similar mechanisms, offering a minimally invasive approach to promoting skin health, elasticity, and collagen production.

Additionally, this technique may serve as an alternative or complement to other non-surgical anti-aging treatments. By targeting deeper facial structures, such as the bone, the mechanical stimulus could potentially produce longer-lasting or more profound effects on collagen synthesis than surface-level treatments. The possible benefits of facial bone tapping with a needle could extend beyond skin rejuvenation to include improved facial contouring, enhanced skin resilience, and an overall more youthful appearance.

However, more research is needed to directly evaluate the impact of facial bone tapping with a needle on collagen production. Further clinical studies could clarify the precise biological mechanisms involved, assess the safety and effectiveness of this method, and optimize its application within aesthetic medicine. In doing so, this research could unlock new possibilities for innovative, minimally invasive anti-aging treatments that capitalize on the body's natural regenerative capabilities.

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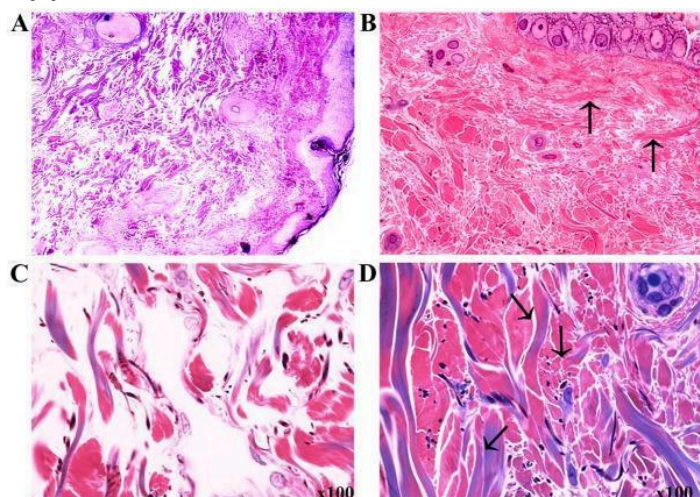
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Appendices



Histological evaluation by light microscopy of biopsies taken before and after needle shaping treatment.

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Conflicts of Interest

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Contact Information

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