

ANATOMY-BASED FACIAL REMODELLING WITH MICRO-FOCUSED ULTRASOUND USING MP MODE

Ramon Tardin, MD, unveils a structured, multi-layered approach for precision lifting and submental contouring



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FACIAL AGEING TYPICALLY presents in the form of sagging tissues, soft tissue descent, and submental fullness, particularly in the lower third of the face. These changes negatively impact aesthetic proportions, self-image, and facial symmetry. For patients unwilling or unready to undergo invasive lifting procedures, non-invasive methods offering tissue contraction and contour definition have become increasingly popular.

Among energy-based devices (EBDs), micro-focused ultrasound (MFU) has been widely recognised for its ability to deliver thermal energy at precise depths, particularly at the level of the SMAS and subcutaneous fat. The micro-focused ultrasound (MFU) with MP (micro-pulse) mode

further enhances the capabilities of MFU by allowing denser thermal coagulation zones with controlled energy delivery, improving collagen remodelling and adipose tissue contouring without excessive discomfort or downtime¹⁻⁴.

This article introduces a layered, anatomy-based protocol using Ultraformer MPT (Classys®, Seoul, Republic of Korea) with Normal and MP mode, implemented in a female patient with complaints of lower-face laxity and submental fat. Emphasis is placed on targeting retro-ligamentous zones, using varied transducer depths and pulse densities, and tailoring treatment to facial anatomy. The outcomes demonstrate how the anatomical planning with MP mode energy delivery results in effective, safe, and reproducible facial remodelling.

Methods

Device and protocol

All procedures were performed using the Ultraformer MPT equipped with both Normal and MP mode cartridges. A layered energy delivery approach was employed, utilising 3.0 mm, 4.5 mm, and 6.0 mm cartridges for the lower face and submental region. The MP mode was selectively applied, especially in the submental and midface regions, to achieve higher pulse density without increasing energy output.

Patient selection

A female patient (age 47; Fitzpatrick types II-III) presented with varying degrees of lower-face sagging, loss of mandibular definition, and submental fat accumulation. The patient was evaluated and photographed using the VECTRA® H2 system (Canfield Scientific, Parsippany, NJ, USA) under standardised conditions. No anaesthesia was used, and informed consent was obtained for all procedures and clinical use of photographs.

Anatomical mapping and target zones

Prior to treatment, detailed anatomical mapping was performed to define safe zones and avoid critical neurovascular structures. Retro-ligamentous zones posterior to facial retaining ligaments, where tissue resistance is lower, were identified as key target regions. These zones are known to respond well to focused ultrasound and facilitate repositioning of sagging tissues by acting as vectors of contraction. Mapping was used to guide energy deposition with precision and reproducibility.

Case series summary

A 47-year-old female presented with mild skin laxity and moderate submental fullness. Treatment focused on layered energy application in the submental region using MP mode with the 6.0 mm cartridge,

followed by 4.5 mm and 3.0 mm cartridges to sequentially reach the subcutaneous fat and dermis. The midface was treated with half-normal, half-MP mode delivery, providing both structural lifting and dermal tightening. The patient reported mild discomfort (5/10) and transient oedema that resolved within 72 hours. At 60-day follow-up, jawline definition improved, with visible lifting of the midface.

Discussion

This series illustrates several key insights regarding the clinical application of MFU with MP mode:

Retro-ligamentous targeting enhances structural lift

The use of anatomical guidance allows the energy to be directed into low-resistance tissue planes that support facial repositioning. Retro-ligamentous zones respond effectively to MFU due to their capacity for thermal-induced contraction without compromising overlying structures.

Layered protocol with cartridge stacking

Layered application of 6.0 mm, 4.5 mm, and 3.0 mm cartridges facilitates three-dimensional tissue remodelling by sequentially targeting multiple anatomical layers, including the SMAS, deep fat, and dermis. This

“By layering energy and targeting retro-ligamentous zones, we achieved lifting, contouring, and collagen stimulation – all in a single, well-tolerated session.”



Figure 1 Patient treated with Ultraformer MPT using a layered protocol combining MP and Normal modes. At 60-day follow-up, visible midface lift and improved jawline definition were observed.

'vertical stacking' technique promotes simultaneous lifting, fat repositioning, and collagen stimulation^{1,5}.

MP mode enables high pulse density without aggression

Rather than increasing energy output, MP mode focuses on increasing the number of coagulation points, achieving better tissue contraction and adipose remodelling with lower risk of discomfort or side effects. The submental fat compartment, in particular, benefits from MP-mode selective lipolysis, yielding a more defined cervico-mental angle with preserved overlying structure^{2,6,7}.

Safety and tolerability

All procedures were well tolerated in the absence of anaesthesia, with adverse effects limited to mild, self-limiting oedema. This underscores the safety profile of MFU when

anatomical planning and appropriate parameters are applied. Pain scores remained below 5/10, and adverse events were limited to mild in severity^{1,8,9}.

High patient satisfaction


Satisfaction score was between 9 and 10 out of 10. The patient perceived visible results after a single session and expressed willingness to undergo annual maintenance^{2,9,10}.

Conclusion

This case highlights the effectiveness and reproducibility of an anatomy-based protocol using micro-focused ultrasound with MP mode. The integration of retro-ligamentous targeting, layered energy delivery, and MP pulse density contributes to a multi-dimensional approach that addresses both soft tissue sagging and submental adiposity.

By relying on shot count rather

than high energy, this technique minimises pain and recovery time while maximising results. The outcomes support the use of MFU with MP mode as a clinically structured, patient-tailored, and safe method for facial rejuvenation, particularly in the lower face and neck region.

More than just a treatment modality, this protocol represents a scalable and teachable framework for practitioners aiming to achieve consistent, natural-looking results in aesthetic practice. 

► *Find out more at: [classys.com](https://www.classys.com)*

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