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Femme Lifting Protocol: Personalized Application of Introductory Microfocused Ultrasound in the Treatment of Vaginal Sagging

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Abstract: *Vaginal laxity is a common condition in women over 40, resulting from factors such as aging, hormonal changes, pregnancy, and childbirth, directly impacting women's quality of life and self-esteem. In recent years, intimate aesthetics has gained prominence by offering safe and effective treatments with a minimally invasive approach and the use of technologies that enhance results with similar effects to surgical procedures. Among these resources, microfocused ultrasound (HIFU – High-Intensity Focused Ultrasound) has established itself as a promising technology for improving vaginal laxity, promoting neocollagenesis, reorganization of collagen fibers, and improving tissue firmness. Consequently, it prevents and treats urinary incontinence, increases lubrication, and enhances sexual pleasure.*

This article presents the Femme Lifting protocol, authored by specialist Daniela Moleiro, developed based on the clinical classification of vaginal laxity into three levels: mild, moderate, and severe. The proposal is to customize the microfocused ultrasound application parameters according to the degree of sagging, optimizing results and ensuring procedure safety. The clinical evaluation criteria, technical parameters used, and vaginal tip application technique are described, focusing on functional and aesthetic results.

The observed benefits include improved vaginal tone, increased lubrication, enhanced sensitivity, and restored self-esteem. The Femme Lifting protocol is proposed as an innovative and effective tool for aesthetic healthcare professionals working with intimate technologies, respecting the principles of safety, ethics, and women's well-being.

Key words*: microfocused ultrasound, intimate aesthetics, collagen, Femme Lift, HIFU, intimate harmonization, gynecology, vaginal laxity, intimate rejuvenation, Femme Lifting protocol.*

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I. Introduction

Vaginal laxity, known as vaginal laxity, is a common complaint, especially after the fourth decade of life, when hormonal changes associated with menopause and cumulative gynecological events such as pregnancies, vaginal births, and surgeries accelerate collagen loss and the disorganization of elastic fibers in the vaginal wall. Studies in populations treated in urogynecology indicate a prevalence of self-reported symptoms between 35% and 38%, related to worsening sexual function, a sensation of vaginal "fullness," mild prolapse, and urinary stress symptoms, negatively impacting women's quality of life and self-esteem [3,5,28].

In recent years, intimate aesthetics has gained prominence by offering minimally invasive approaches capable of achieving results comparable, in some cases, to those obtained with traditional surgical techniques, but with lower morbidity and shorter recovery times. Notable technologies include fractional lasers, microablative radiofrequency, and, more recently, high-intensity microfocused ultrasound (HIFU/MFU), whose focused thermal effect reaches greater depths of the vaginal mucosa without significant epithelial damage, triggering immediate collagen contraction, neocollagenesis, and extracellular matrix reorganization [1, 6, 27, 28].

Kolczewskietal. (2022) demonstrated that two intravaginal applications of MFU, six weeks apart, resulted in statistically significant improvements in the Vaginal Laxity Questionnaire (VLQ), Vaginal Health Index (VHI), and Female Sexual Function Index (FSFI) scores up to six months of follow-up, with no serious

adverse events. Histological findings revealed epithelial thickening, improved vascularization, and increased estrogen receptor expression in the lamina propria [5,7].

Furthermore, a recent retrospective analysis evaluating MFU for stress urinary incontinence showed complete symptom resolution in 43% of patients and a marked decrease in ICIQSF (International Consultation on Incontinence Questionnaire - Short Form) scores, reinforcing the hypothesis that improved pelvic tissue support via collagen remodeling contributes to sphincter control [6].

The growing appreciation for intimate health and female sexual well-being has driven the consolidation of aesthetic gynecology as a growing subspecialty. According to Güneş and Alinsod (2018), the demand for vaginal rejuvenation treatments is not limited to aesthetic purposes, but is directly associated with improved sexual function, lubrication, self-esteem, and quality of life for women. Major gynecological societies still disagree on the standardization of these approaches, but they recognize that energy-based treatments, when performed by qualified professionals and with appropriate indication, have significant therapeutic potential, especially in mild to moderate cases of vaginal laxity and genitourinary atrophy [1, 27, 28].

In addition to the anatomical and functional impact, technologies such as HIFU have shown significant benefits in the psychosocial aspects of patients. In their analysis, Kolczewski et al. (2022) highlight the high rate of satisfaction with the treatment, mentioning that 92% of participants reported noticeable improvements in vaginal firmness and function, without requiring interruption of routine activities. These data reinforce the added value of microfocused ultrasound as a safe and effective alternative in clinical practice, providing functional and aesthetic rejuvenation with minimal complications and a high rate of patient adherence [3]. Another relevant point is the absence of significant complications reported in studies on the use of HIFU in intimate aesthetics, which strengthens its safety profile. Compared to surgical procedures such as vaginoplasty, which involve longer recovery times and risk of infection, the application of microfocused ultrasound stands out for being outpatient, painless in most cases, and with minimal post-procedure discomfort [1]. This characteristic makes the treatment more accessible for patients who desire functional and aesthetic improvements but are unwilling to undergo invasive interventions or lengthy recovery periods.

Finally, it is important to emphasize that the effects of HIFU extend beyond the vaginal mucosa, promoting a three-dimensional reorganization of the local connective tissue. The immediate contraction of collagen fibers, combined with the progressive stimulation of neocollagenesis, results in increased tone, elasticity, and vaginal hydration. These mechanisms restore not only the anatomical integrity of the region but also its physiological function, which positively impacts sexual response and comfort during intercourse [3]. Consolidating microfocused ultrasound as an innovative tool within the therapeutic arsenal of regenerative and functional gynecology {28}.

Mechanism of Action of High-Intensity Focused Ultrasound

High-Intensity Focused Ultrasound is a non-invasive thermal energy technology that uses highly focused ultrasound beams to deliver precise biological effects in deep tissue layers without compromising superficial structures. The energy emitted by the transducer is converted into heat upon reaching a focal point, raising the local temperature to between 55°C and 65°C, sufficient to induce collagen denaturation, immediate fiber contraction, and activation of tissue regeneration mechanisms, including neocollagenesis and neoelastogenesis.{28}

In the vaginal mucosa, the mechanism of action of HIFU involves the formation of thermal coagulation points (TCPs) at specific depths of the vaginal wall (lamina propria and underlying muscle layer). Using depths of 3.0 mm and 4.5 mm, they promote reorganization of the extracellular matrix, stimulate the production of new collagen fibers, and improve local vascularization. This process results in increased epithelial thickness, improved vaginal trophism, lubrication, and tissue elasticity. It is indicated for improving the function of urinary incontinence, vaginal flatus, and recurrent urinary tract infections.

The main physiological effects of high-intensity microfocused ultrasound include:

Neocollagenesis: stimulation of fibroblasts and deposition of new type I and III collagen fibers;

Immediate tissue retraction: contraction of existing collagen and reduction of laxity;

Improved vaginal and urinary tract firmness and support;

Increased local vascularization, promoting tissue nutrition and natural lubrication;

Stimulation of sensitivity and sexual response by restoring the function of superficial nerve endings.

Form

Clinical Classification of Vaginal Laxity

Adequate assessment of the degree of vaginal laxity is essential for customizing vaginal microfocused ultrasound (HIFU) in the Femme Lifting protocol. Based on medical history, physical examination, and standardized scales, the classification is divided into three levels: mild, moderate, and intense. This allows for precise adjustment of energy parameters, line density, and number of sessions, ensuring therapeutic efficacy and safety [5,7].

Mild Sagging

Patient profile: generally between 30 and 40 years old, with nulliparity or a single vaginal birth, possibly with mild initial complaints.

Predominant complaints: slight sensation of excessive laxity, mild dryness, or reduced sensitivity, with no significant impact on relationships or self-esteem.

Subjective assessment: scores between "slightly loose" and "moderately loose" on the Vaginal Laxity Questionnaire (VLQ);

Clinical examination: satisfactory vaginal tone, without evident laxity; slight mobility of the mucosa on palpation.

Femme Lifting protocol: moderate energy application, reduced number of lines, and 1 session, with semiannual reinforcement or under evaluation.

Moderate Sagging

Patient profile: 40 to 55 years old, multiple vaginal births, early menopause.

Predominant complaints: sensation of a "very open vagina," decreased sexual pleasure, moderate dryness, and mild symptoms of urinary incontinence.

Subjective assessment: intermediate VLQ score and reduced Vaginal Health Index (VHI);

Clinical examination: ambiguous opening of the introitus, reduced tone, and slight laxity; speculum examination may reveal visibly less intact mucosa;

Femme Lifting Protocol: standard energy, intermediate line density, 2 sessions 90 days apart for reassessment.

Severe Sagging

Patient profile: over 55 years of age, multiple births, established menopause, history of hysterectomy or severe vaginal atrophy.

Predominant complaints: moderate urinary incontinence, sexual dysfunction, virtually no lubrication, significantly reduced sensitivity.

Subjective assessment: low VLQ and VHI scores; many report "very loose."

Clinical examination: evident opening of the vaginal canal, marked laxity of the mucosa and introitus.

Femme Lifting Protocol: higher energy (with strict temperature control), full coverage with high line density, at least 3 sessions per year, and after the complete cycle, a semiannual reinforcement evaluation.

Auxiliary Assessment Criteria

VLQ: subjective instrument that categorizes the perception of vaginal laxity on a 7-point Likert scale, validated in clinical studies.

VHI: index that assesses elasticity, moisture, pH, volume, and epithelial integrity; significant improvement after energy treatments.

Physical examination, photodocumentation, and, when available, transvaginal ultrasound or tonometry, to identify tissue changes such as reduced thickness or tension. One analysis showed increased vaginal wall thickness after radiofrequency or microfocused ultrasound {28}.

The literature reinforces that semiquantifying vaginal laxity is essential for tailoring energy protocols to individual needs, maximizing functional (such as improved continence and intimate sensation) and aesthetic results while minimizing risks. Therefore, the Femme Lifting protocol combines subjective (VLQ), objective (VHI, clinical examination), and clinical history assessments to develop a therapeutic plan aligned with the latest evidence.

Degree of Laxity	Typical Age	Main Complaints	VLQ & VHI	Protocol (energy / lines / sessions)
Gentle	30–45 years	Mild laxity, slight dryness	slightly/moderately loose	Energy 0.2–0.4 J, 350º rotation. Angle 5, 350º rotation. Total of 50 lines, 2.5 mm pitch, 1 session per year + reinforcement
Moderate	40–55 years	Moderate laxity, early urinary symptoms	Medium VLQ, slightly reduced VHI	Energy 0.2–0.5 J, 350º rotation. Angle 5, 60 lines per depth and per ring, 2.5 mm pitch, suggested 2 sessions per year
Severe	> 55 years	Incontinence, sexual dysfunction, no lubrication	Very loose, low VHI	Energy 0.3–0.5 J, 350º rotation. Angle 5, 70 lines per depth and per ring, 2.5 mm pitch, suggested 2 sessions per year

Femme Lifting Protocol – Clinical Technique

Feminine intimate rejuvenation using HIFU has gained recognition in the fields of aesthetics and intimate health. This protocol is indicated for treating vaginal laxity, tissue laxity, and vaginal flatus, promoting functional, aesthetic, and quality-of-life improvements for patients.

Microfocused ultrasound generates high-frequency mechanical waves that, when focused on specific points, produce heat through molecular friction in the target tissues. This heat induces controlled collagen denaturation, activating the processes of neocollagenesis, elastogenesis, and tissue contraction, promoting vaginal wall tightening and reducing laxity.

Objective of the Technique

Clinical Evaluation and Customization

The protocol indication should be based on a detailed clinical evaluation, considering:

Degree of vaginal laxity (mild, moderate, or severe).

Presence of vaginal flatus.

Assessment of pelvic floor muscle tone.

Functional complaints (loss of lubrication, discomfort, changes in sexual satisfaction).

Technical parameters (adaptable depending on the equipment used)

Power (joules, lines, tip depth);

Number of lines per session;

Trigger levels;

Interval between sessions.

Equipment Images

Figure 1: Screen showing all the settings configured in the HIFU e quipment for use in the Femme Lifting protocol.

Application Technique

Patient Preparation

To properly prepare the patient, she was instructed to cleanse the vulvar and perineal areas with mild soap and thoroughly disinfect them. It should be noted that the vaginal introitus area should not be subjected to direct sanitizing to preserve the natural flora of the mucosa. Before the procedure began, all steps were explained to the patient, including post-treatment instructions and clarification of the expected results, as described in the informed consent form, accompanied by the physical evaluation form.

Figure 2: Preparation for the procedure using an internal absorbent soaked in 50mg lidocaine.

Handpiece and Tip Preparation

The device's handpiece must be wrapped (figure 3), and the device's tip was prepared by applying a specific conductive gel to the head (figure 4), followed by covering it with a sterile, single-use condom (figure 5), compatible with the thermal and structural properties of the device. The entire process was designed to ensure safety, asepsis, and patient comfort.

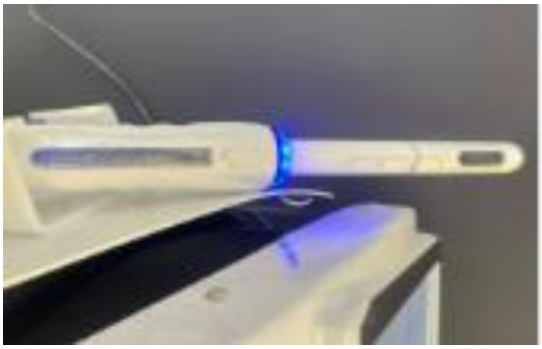

Figure 3: Handpiece wrapped with transparent PVC film.

Figure 4: Application of conductive gel to the head.

Figure 5: Covering the tip with a condom, taking care that the condom does not remove the gel from the transducer's trigger area

Figure 6: Final arrangement of the tip ready for application

Positioning

During the procedure, the patient should remain in a supine position, with legs slightly apart, hips well-positioned, and in a relaxed state (figure 7).

Figure 7: Positioning of the patient on the stretcher.

The condom-covered tip should be inserted until it is fully seated in the vaginal canal. From this point, it is recommended to observe the transducer markings and segment the vaginal cavity into anatomical quadrants (anterior, posterior, lateral, and vaginal roof) according to the therapeutic plan, need, and anatomical size.

Figure 8: Start of application, insertion of the applicator into the patient's vaginal canal.

Application can follow two types of motion, depending on the chosen protocol (total or selective):

360º rotation: continuous application throughout the entire vaginal circumference;

Segmented: targeted application to specific areas, with areas of greater looseness, such as the anterior wall in cases of more pronounced vaginal flatus.

The shots should be delivered linearly, starting at the vaginal fornix. With each shot, the tip is rotated with small spacing between the lines and progressively withdrawn until it reaches the introitus. When available, the device's automatic configuration can be used, in which the number of lines is pre-determined and the rotation occurs automatically. After the cycle, the tip returns to its initial position and is carefully removed from the vaginal canal.

Figure 9: Application of the Femme Lifting technique in the vaginal canal.

Each indentation should respect the useful length of the transducer (e.g., 2.5 cm), and it is common to use three to four sets of lines per session. It is essential to keep the transducer stable in each position before firing, ensuring controlled overlap of the lines for uniform and effective coverage of the vaginal mucosa.

The particularities of each patient must be considered when conducting treatment, respecting their physiological and historical conditions. Situations such as the postpartum period, menopause, or post-gynecological surgery require adaptations in the approach, reception, and treatment planning, always prioritizing safety, comfort, and respect for each woman's individuality.

Post-Care for Microfocused Ultrasound in Intimate Aesthetics

After the application of microfocused ultrasound in intimate treatments, certain precautions are recommended to optimize results and preserve the integrity of the treated mucosa. Although the procedure presents a low risk of complications, simple self-care measures contribute significantly to patient comfort and the tissue regeneration process.

Avoiding sexual intercourse for 7 days is one of the primary recommendations. During this period, the vaginal mucosa is undergoing controlled inflammatory reorganization, and sexual activity can cause friction, discomfort, or even predispose to local infections. Studies on energy-based technologies, such as HIFU, indicate that the average abstinence period varies between 5 and 7 days, adjusted according to individual sensitivity and the protocols of the treating professional [1,2].

Avoiding direct sun exposure to the intimate area, especially if the vulva or external perineum was manipulated, is also recommended. The skin may be more sensitive, and sun exposure can aggravate inflammatory processes or cause hyperpigmentation. If the patient wears shorter underwear or frequents environments such as beaches and pools, the use of colorless sunscreen and a physical barrier is recommended [3].

Avoid excessive manipulation of the treated area for the first 24 hours. This includes avoiding massage, friction, or pressure in the area, which can intensify local edema or the sensation of temporary discomfort.

Intimate hygiene and skincare routines should be gentle and adapted. Patients should avoid using abrasive soaps, vaginal douches, or products containing alcohol and fragrances, opting instead for intimate hygiene products formulated for sensitive skin or with a balanced pH [4].

Keeping the area moisturized with specific products, such as physiological intimate moisturizers based on hyaluronic acid or D-panthenol, is highly beneficial, as it contributes to mucosal regeneration and improves elasticity in the weeks following the procedure [2].

Avoiding the use of systemic anti-inflammatories, unless specifically recommended by a doctor, is recommended, as the controlled inflammatory response induced by ultrasound is essential for stimulating collagen production and tissue regeneration [5].

Return to daily activities is generally immediate, as long as local sensitivity is respected. It is recommended to avoid intense or high-impact physical exercise on the day of the procedure, especially if there is redness, mild swelling, or momentary discomfort.

Important Warnings

Between the 3rd and 10th day after the procedure, yellowish mucus or discharge may be released, without a foul odor, pain, or other signs of infection. This finding is not considered a complication, but rather part of the expected physiological inflammatory response associated with the thermal action of the ultrasound. The discharge represents the leakage of contents from the remodeling and repair process of the vaginal mucosa.

If the patient notices this leakage, she can use a daily sanitary pad, solely for comfort and personal hygiene. There is no need for clinical alarm or prescription medication. This reaction is self-limiting and generally disappears within a few days, signaling the activation of the controlled and effective regenerative process promoted by the technology [2,5].

Clinical Results Observed

Throughout the application of the Femme Lifting Protocol, a series of positive results were observed, both functionally and aesthetically. Patients frequently reported improved vaginal wall firmness, increased natural lubrication, greater comfort during sexual intercourse, and an overall feeling of intimate rejuvenation. These results were noticeable within the first few weeks after treatment and progressively improved over the months.

These findings are consistent with what has been demonstrated in the scientific literature. A study by Kolczewski et al. [22] evaluated women undergoing intravaginal HIFU and observed, among other results, significant improvements in vaginal laxity, vaginal health, and sexual function, with no significant adverse effects. Histological analysis revealed increased epithelial thickness and increased expression of hormone receptors in the vaginal mucosa, corroborating the reported clinical effects.

In another study conducted by Choi et al. [15], 89% of patients treated with HIFU reported improved sexual intercourse and reduced sensations of looseness. Song et al. (2023) also highlight the effectiveness of HIFU in improving stress urinary incontinence, with complete resolution of symptoms in over 40% of patients evaluated.

These data reinforce the effectiveness of the technique, especially when applied in a personalized manner, according to the clinical particularities of each patient.

Improved vaginal firmness and elasticity;

Increased natural lubrication;

Reported improvement in sexual intercourse;

Reduced sensations of looseness;

Improved self-esteem and intimate well-being.

If possible, include clinical reports or qualitative data from your experience.

Form

Safety and Ethical Considerations

The application of HIFU in intimate aesthetics requires responsibility, technical preparation, and professional ethics. Because this is a procedure that involves a woman's intimate anatomy, the approach must be respectful, clear, and based on trust between the professional and the patient. One of the most important points is a thorough prior evaluation, taking into account the gynecological history, the patient's general health status, and the patient's true expectations regarding the treatment.

From a technical standpoint, the safety of the procedure is well documented in the literature. Studies show that, when performed correctly, HIFU has a low risk of complications and is well tolerated by most patients [6].

Minor adverse effects, such as local heat or mild discomfort, are transient and self-limiting.

It is essential to sign an informed consent form, in which the patient must be informed about the procedure, its benefits, limitations, and possible reactions. Ethical conduct also involves the professional's training: it is essential that the professional has in-depth knowledge of the equipment used, adheres to biosafety standards, and is up-to-date on the method's indications and contraindications. Acting within the legal limits of the profession is essential to ensure the quality and credibility of care.

Aseptic precautions and contraindications;

Medical or multidisciplinary evaluation;

Informed consent;

Importance of the professional's technical training.

II. Conclusion

The Femme Lifting Protocol, by incorporating microfocused ultrasound technology into a personalized therapeutic approach, represents a significant advancement in the aesthetic and functional care of women's intimate health. Its application has demonstrated not only clinical improvement in vaginal laxity but also positive impacts on patients' self-esteem, quality of emotional relationships, and sexual well-being.

The protocol's main strength lies in its ability to adapt to individual needs, offering safety, efficacy, and comfort. Furthermore, its in-office performance and rapid recovery make the method accessible and viable for the daily routine of modern women.

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