

GS Power Protocol: Safe Anatomical Strategy For Gluteal Remodeling With Lipomodulatory Blends, Collagen Biostimulator And Hyaluronic Acid

Sá, GS; Ruiz-Silva, C; Moleiro, D

(Faculdade CTA; Degree In Pharmacy, Brazil).

(Faculdade CTA; College Of Int. Medicine And Aesthetics Harold Gillies, USA, Phd, Msc, PT, Brazil).

(Faculdade CTA; College Of Int. Medicine And Aesthetics Harold Gillies, USA, Phd, Msc, PT, Brasil).

Abstract

The present study aims to describe the GS Power Protocol, developed by Professor Dr. Gleide Sá, based on anatomical principles validated by Moleiro; Ruiz et al. (2025) and focused on non-surgical gluteal remodeling. The method works on three therapeutic fronts integrated in female gluteal harmonization: orthomolecular supplementation, collagen biostimulation and filling with hyaluronic acid. The proposal is to offer a safe and physiologically based alternative to gluteal augmentation surgical techniques, such as the Brazilian Butt Lift (BBL), which is currently associated with the risk of fat embolism as warned by the International Society of Aesthetic Plastic Surgery (ISAPS, 2023). The GS Power protocol respects superficial anatomical planes, prioritizing vascular preservation, modulation of subcutaneous adipose tissue and improvement of dermal quality, with progressive and natural results, achieving female gluteal harmonization with shapes and contours of the Brazilian biotype.

Key Word: Glutes, applied anatomy, collagen biostimulators, hyaluronic acid, Brazilian Butt Lift, gluteal harmonization.

Date of Submission: 01-11-2025

Date of Acceptance: 10-11-2025

I. Introduction

Body contour and, in particular, the gluteal shape, play a central role in aesthetic perception and body harmony. The advancement of injectable techniques, collagen biostimulators, and hyaluronic acid fillers has enabled expressive results without the need for invasive surgical interventions. However, procedures such as the Brazilian Butt Lift (BBL), based on autologous fat grafting, after liposuction surgery, have been widely questioned for their serious complications, including fat embolism, which can lead to the death of the patient (ISAPS, 2023).

The International Society of Aesthetic Plastic Surgery has published alerts emphasizing that the main cause of death in these procedures is the inadvertent injection of fat into the intramuscular plane, with accidental penetration into large vessels, especially the inferior and superior gluteal arteries and veins, by the introduction of a caliber cannula with pressure of deposits in planes through the infragluteal pertuitus (Miller et al., 2022; ISAPS, 2023).

In this scenario, non-surgical clinical protocols that respect superficial anatomical planes gain relevance. The GS Power Protocol, developed by Professor Dr. Gleide Sá, represents a therapeutic innovation that combines lipomodulatory and orthomolecular mixtures, collagen biostimulators and cross-linked hyaluronic acid fillers and with specific viscoelasticity for body areas subjected to pressure and body weight, with a focus on anatomical safety and aesthetic customization.

The anatomical basis of the method is supported by the study of Moleiro; Ruiz et al.(2025), published in the *IOSR Journal Medical Sciences*, entitled "*Anatomy in Fresh Frozen Corpses for Gluteal Harmonization*", which describes, with topographic precision, the safe application plans for collagen biostimulators, lipolytic actives, and cross-linked hyaluronic acid fillers. The research shows that the superficial and intermediate subcutaneous plane is the safest for aesthetic performance, as it maintains distance from deep neurovascular structures, preventing iatrogenic complications. In addition to being applied with an 18Gx70mm cannula in the superficial area, referencing areas of distance with vessels and nerves of thick caliber pointed out as a risk area in BBL plastic surgery (Miller et al., 2022; ISAPS, 2023).

Based on this knowledge, GS Power has been structured in three complementary phases, which act synergistically to prepare, regenerate and remodel the gluteal tissue.

In the first phase, orthomolecular supplementation is carried out with amino acids, vitamins, beta phosphate, and hexapeptide-38, lipomodulatory actives that stimulate selective adipogenesis (Lefebvre et al., 2020). This phase aims to restore hydration, nutrition and tissue trophism, in addition to preparing the subcutaneous tissue to receive collagen biostimulation and subsequent cross-linked hyaluronic acid.

The second phase uses poly-L-lactic acid (PLLA) or calcium hydroxyapatite, with biocompatible polymers that stimulate neocollagenesis, improve skin firmness, and promote a gradual increase in dermal thickness in the application region, acting in a predictable and safe manner (Beer et al., 2020; Sundaram et al., 2021).

Finally, the third phase comprises filling with hyaluronic acid (HA) in anatomical points of gluteal beautification, a concept adapted from facial harmonization (Casabona & Kaye, 2021). This punctual application allows for lifting, projection and symmetry effects to be achieved with smaller volumes of product, respecting the patient's investment and individual morphology, recognizing that, in Brazil, there is a significant diversity of gluteal shapes, such as round, square, heart and mixed types (Babuccu et al., 2002; Miller; Ruiz et al., 2025).

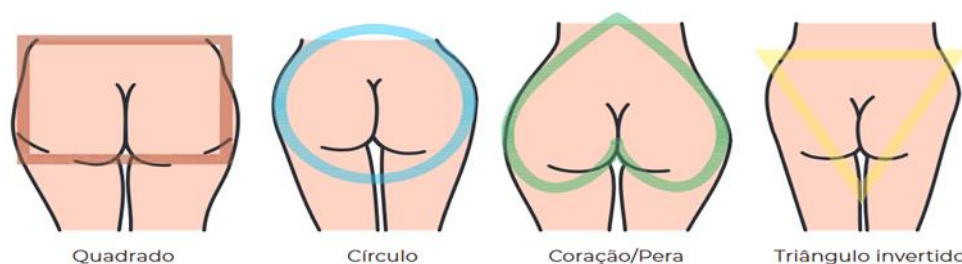


Figure 1: The shapes of the buttocks can be classified by some into four types. They are characterized by the position of the pelvis and hip bones, the amount of fat acquired, and the way it is distributed

In this way, the GS Power Protocol stands out as a safe and scientifically based clinical alternative, capable of reshaping the buttocks with a low risk of complications and physiologically integrated results. Being a multilayer treatment, that is, global treatment of the gluteal region with the proposal of harmonization (set of procedures with the objective of promoting beauty, health and self-esteem). The materials, methods, and physiological mechanisms that support its efficacy and safety will be detailed below.

II. Gluteal Anatomy Applied To Aesthetic Harmonization

Three-dimensional anatomical understanding of the gluteal region is indispensable for the safe and effective execution of any remodeling technique, collagen biostimulation or temporary and absorbable implants with hyaluronic acid. The anatomy of the gluteal combines bulky muscle structures, complex adipose planes, and a rich neurovascular network, which makes it essential to master the tissue layers and risk areas to avoid iatrogenic complications.

Anatomical studies on *fresh frozen* specimens demonstrate that knowledge of the safe planes and anatomical relationships between gluteal fascia, subcutaneous tissue and deep musculature is crucial to ensure safety in injectable procedures.

Anatomical Structure in Tissue Layers

The gluteal region is composed of five main layers, from superficial to deep:

1. **Epidermis and dermis** – Surface layers responsible for protection, hydration and skin texture. The mean thickness ranges from 1.5 to 2.0 mm, dermal vascularization comes from superficial perforating branches of the superior and inferior gluteal artery.
2. **Subcutaneous tissue (hypodermis)** – A layer composed of lobes of yellow and orange adipose tissue, separated by fibrous septa. It is in this layer that most of the applications of the GS Power Protocol are carried out, as it contains reduced vascular and nerve density, being considered a safe zone for injections.
 - Average thickness: 20–50 mm in women; 15–35 mm in men.
 - Function: energy reserve, body shaping, impact absorption.
 - Histological composition: mature unilocular adipocytes, fibroblasts, and interlobular capillaries.
3. **Superficial gluteal fascia** – Fibrous structure that separates adipose tissue from the muscular plane. It acts as a natural anatomical barrier, preventing deep migration of injectable products.
4. **Muscle layer** – Made up of the gluteus maximus, medius and minimus muscles, which overlap in a superoinferior and anteroposterior direction.
 - The gluteus maximus is the main muscle volume and covers the others.

- Its fibers originate in the thoracolumbar fascia and insert into the fascia lata and femur (iliotibial tract and gluteal tuberosity).
- The intramuscular plane should not be penetrated in injectable aesthetic procedures, as it contains arteries and large veins, with a risk of fat embolism if reached.

5. **Deep plane (fascia and subgluteal space)** – Layer of greatest risk, where the main branches of the superior and inferior gluteal arteries and veins pass, as well as the sciatic nerve. It is strictly contraindicated to use any injectable substance at this level.

Vascularization of the Gluteal Region

The gluteal region is irrigated by branches of the internal iliac artery, including:

- **Superior gluteal artery:** emerges above the piriformis muscle, running laterally between the gluteus medius and minimus. It irrigates the upper and lateral portion of the buttock.
- **Inferior gluteal artery:** exits below the piriformis, running under the gluteus maximus. It provides perforating branches to the muscle and deep subcutaneous tissue.
- **Corresponding gluteal veins** accompany the arteries, with drainage into the internal iliac system.

Inadvertent penetration into any of these structures can cause fat embolism or tissue necrosis. Therefore, safety protocols recommend slow injections, with prior aspiration and the use of a blunt cannula (18G≥22G) in the superficial subcutaneous plane (ISAPS, 2023; Miller et al., 2022).

Innervation

The sensory and motor innervation of the gluteal region comes mainly from the branches of the sacral plexus:

- **Superior gluteal nerve:** innervates the gluteus medius, minimus, and tensor fasciae latae.
- **Inferior gluteal nerve:** innervates the gluteus maximus.
- **Posterior femoral cutaneous nerve:** supplies superficial sensory branches to the inferior gluteal skin.
- **Sciatic nerve:** a deep, large-caliber structure that passes inferior to the piriformis muscle. It is the main **anatomical marker of risk** for intramuscular applications.

During aesthetic procedures, it is essential to avoid trajectories that coincide with the axis of the sciatic nerve (posteromedial path of the inferior gluteal), since its injury can cause severe pain, paresthesia, or motor deficit.

Risk Areas and Safety Zones

Based on Moleiro's anatomical cartography; Ruiz et al. (2025) and in the recommendations of ISAPS (2023), the gluteal region can be divided into risk and safety zones:

Zone	Anatomical location	Structures at risk	Recommendation
A. Zona superior lateral (segura)	Superolateral region of the gluteus medius, above the line of the greater trochanter	Superficial cutaneous branches	Ideal area for biostimulators and subcutaneous fillers
B. Middle zone (moderate care)	Center of the buttock, over the gluteus maximus	Deep muscular branches of the inferior gluteal artery	Surface application, blunt cannula, compulsory aspiration
C. Medial lower zone (high cliff)	Region close to the gluteal groove and the path of the sciatic nerve	Inferior gluteal artery and vein, sciatic nerve	Avoid application altogether
D. Deep central zone (high risk)	Intramuscular plane of the gluteus maximus	Deep venous plexuses	Contraindicated for any type of injection

Anatomical Correlation and Clinical Application in the GS Power Protocol

The GS Power Protocol is based precisely on the use of subcutaneous safe zones, with controlled action on the superficial layers of fat and fascia, according to the anatomical cartography presented. During the supplementation, biostimulation and filling phases, the application is made above the gluteal fascia and between the subcutaneous tissue, with an angle of 10–15° and slow retrotractive movement, minimizing the risk of muscle penetration.

The use of fresh frozen anatomical specimens for teaching and protocol validation allowed:

- To determine the average thickness of subcutaneous adipose tissue in different biotypes;
- Identify homogeneous dispersion planes of biostimulators and fillers;
- Map safe trajectories for cannulas, avoiding crossing large arteries and sensitive nerves.

This evidence strengthens the clinical applicability of GS Power as a technique based on anatomy, physiology and safety, contributing to the training of trained professionals who are aware of the importance of anatomical planning in body aesthetics.

Technical Security Considerations

To minimize risks, it is recommended to:

- Always work with blunt cannulas (18Gx70mm);
- Compulsory aspiration before each injection;
- Use of low angles and more superficial planes and in the superficial and deep subcutaneous layer;
- Avoid regions close to the intergluteal line, deep intragluteal, deep muscle overflow, and sciatic pathway;
- Record photodocumentation and previous anatomical marking at 90°, 45°, and posterior with muscle contraction and relaxation position;
- In case of radiating pain, abnormal resistance to the insertion of the cannula or blood reflux, immediately stop the procedure.

Anatomical Conclusion

The three-dimensional anatomical domain of the gluteal region is the pillar of safe body harmonization. The execution of the GS Power Protocol, when based on anatomical study and understanding of risk zones, guarantees not only superior aesthetic results, but also the functional and vascular preservation of tissues. This approach, validated by studies with *fresh frozen pieces*, represents the future of evidence-based aesthetics: uniting science, technique, and art to achieve beauty, health, and safety.

III. Materials And Methods

Study design

This is a longitudinal observational descriptive study, based on clinical practice in private practice and courses/consultations carried out by the GS Power team, with a retro-prospective evaluation of procedures performed between October 1, 2022 and October 1, 2025. >4,000 buttocks (approximately 2,100 patients) were included, treated according to the GS Power protocol applied in a standardized way by the team of Prof. Dr. Gleide de Sá.

Ethical approval and consent

The study was conducted in accordance with the Declaration of Helsinki. All patients signed a specific informed consent form for aesthetic treatment and for the use of clinical images for scientific and educational purposes.

Inclusion and exclusion criteria

Inclusion Criteria:

- Adult patients (≥ 18 years old) who sought non-surgical gluteal remodeling and accepted the GS Power protocol;
- Availability for a minimum follow-up of 6 months post-procedure;
- Standardized pre- and post-treatment photographs and signing of consent for image use.

Exclusion Criteria:

- History of recent gluteal and surgical procedures (last 12 months) that could prevent comparative evaluation;
- Uncontrolled systemic diseases (e.g., metabolic decompensation, coagulation disorders, diabetes, and autoimmune diseases);
- Pregnancy or lactation at the time of treatment;
- Known allergy or contraindication to any component of the mixtures and products used in the protocol.

Population and sample size

A >4,000 buttocks treated over 3 years were evaluated, distributed by sex, age group, buttock type, and aesthetic priorities recorded in a standardized clinical record. The sample includes patients with a variety of gluteal shapes (round, square, heart, mixed) and with complaints of trochanteric depressions, cellulite, stretch marks, and asymmetries.

Variable	Media $\pm$ PD/n (%)	Observation
Age (years)	37.8 $\pm$ 9.6 (18–65)	—
Female	1.982 (94,3 %)	—
BMI (kg/m ²)	24.6 $\pm$ 3.4 (19–32)	Extreme values excluded
Buttock Type	Round (32%) • Square (26%) • Heart (29%) • Mixed (13%)	Classification adapted from Babuccu et al., 2002
Main complaints	Cellulite (68%) • Trochanteric depressions (55%) • Mild flaccidity (42%) • Stretch marks (38%)	—

Variable	Media± PD/n (%)	Observation
Average sessions per patient	6.4 ± 1.8	Includes supplementation + biostimulation + filler
Average follow-up time	9.2 ± 3.1 months	—

IV. Protocol Description (GS Power) — Default Sequence

The standard protocol follows three sequential and integrated phases:

Phase 1 — Orthomolecular supplementation and tissue preparation (Biological preparation):

- Objective: to nourish, hydrate, reduce fibrosis/imperfections and create favorable "terrain" for selective adipogenesis.
- Typical composition of the mixture: selected amino acids (collagen precursors), non-cross-linked hyaluronic acid, organic silicon, glycine, proline, lysine, hexapeptide-38 (concentration and dilution adapted according to prescription/technical signature).
- Session schedule: usual protocol of 2-4 sessions, spaced 7 or 15 days apart, adapted to the clinical response; The prescription is individualized according to the initial evaluation.
- Application technique: superficial subcutaneous injections in lines and points that coincide with the depressions, areas of cellulite and regions to be volumized later, always avoiding deep planes. Cannula technique according to anatomy and local planning.

Phase 2 — Collagen Biostimulation (PLLA/Sculptra):

- Objective: to increase dermal thickness, promote neocollagenesis, and provide tissue support.
- Product: poly-L-lactic acid (PLLA) or calcium hydroxyapatites reconstituted according to manufacturer's recommendations and literature.
- Application plan: subdermal/subcutaneous superficial plane, distributing biostimulator into lines and support points, with serialized injections for safety and gradual diffusion.
- Volume and number of sessions: per manufacturer's protocol and clinical response typically 1–3 sessions at 4-week intervals; total ampoules per individualized patient.
- Safety technique: always respect the superficial subcutaneous plane, avoid muscle penetration; Standardized post-application massage for distribution.

Phase 3 — Hyaluronic acid filling (beautification points):

- Objective: projection, lift and definition of contours at strategic points.
- Product: Average cross-linking HA concentration with 10–12%, usually 20 to 24 mg/mL high cohesive hyaluronic acid and suitable for body area; product selection according to the need for lifting vs tissue integration.
- Strategy: punctual application in "gluteal beautification points" (analogous to body mapping), with allocation of reduced volumes per point to maximize effect with less total quantity. Average indicative volume: 10–60 mL per hemigluteal in standard cases; adjustment according to patient expectations and product availability.
- Technique: medium-caliber cannula in the subcutaneous plane, always with prior aspiration and controlled movements to avoid vascular connections; slow injection and retraction.

Note: the volumes, number of sessions and products were individualized according to clinical evaluation, the patient's economic availability and degrees of imperfection/fibrosis. The protocol emphasizes the optimization of the result with a smaller amount of product through strategic points.

Marking and standardization (step by step)

Initial evaluation: biotype, BMI, fat distribution, presence of cellulitis, stretch marks, trochanteric depressions, asymmetries and reference photos.



Figure 2: Patient positioning: orthostasis and prone position for marking and photography.

Marking:

- Anatomical demarcation of bone references: iliac crest, ischial tuberosity, infragluteal sulcus, greater trochanter.
- Design of intervention zones: correction areas (depressions, fibrosis), PLLA injection regions (support lines) and beautification points for HA.
- Numbering of points for registration and reproducibility between sessions.

Pre-procedure photodocumentation (see section below for photographic protocol).

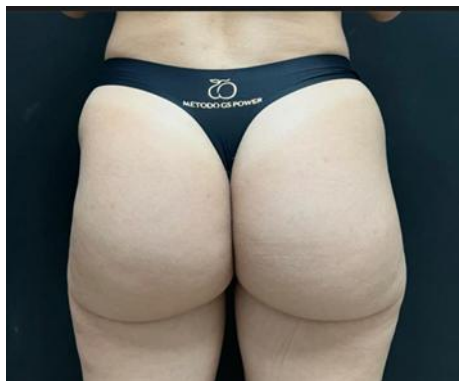


Figure 3: Pre-procedure

Execution of applications according to the phases described, always by a trained professional and with a safety checklist.

Detailed record in the file: products, lots, volumes per point, technique (needle/cannula), number of insertions, clinical observations (pain, bleeding), intraoperative conducts.

Post-procedure care: standardized hygiene guidelines, use of compression garments (when indicated), avoidance of vigorous activity for 48–72h, and instruction on alarm signals.

V. Photodocumentation (Standardized)

- **Equipment:** DSLR camera or smartphone with minimum standardized resolution; neutral background, constant lighting (softbox or controlled natural light) and same focal length.
- **Positions and views:** anteroposterior, right oblique, left oblique, right profile, left profile and detail of specific areas (trochanter, infragluteal groove).
- **Parameters:** fixed distance (e.g., 2.5 m), floor marking for foot position, same distance and lens for all follow-up images.
- **Photographic moments:** T0 (pre-treatment), T1 (after optional phase 1), T2 (after phase 2), T3 (after final phase 3), and follow-ups at 1, 3, and 6 months; additional images at 12 months when available.
- **Scale standardization:** inclusion of a millimeter ruler or standardized marker for calibration of measurements when necessary.

VI. Safety And Adverse Event Monitoring

- Active system of immediate notification per patient (phone/WhatsApp) and face-to-face consultation for any suspicious signs (severe pain, progressive unilateral edema, systemic changes).
- Recording, classification (mild/moderate/severe) and standardized management for each adverse event; All serious events followed up with documentation and reports.

VII. Discussion

The advancement of gluteal remodeling techniques reflects a new era in body aesthetics, in which the concept of beauty is intrinsically associated with anatomical safety and respect for body individuality. In this context, the **GS Power Protocol**, developed by Professor Dr. Gleide Sá, is consolidated as a clinical proposal of high scientific and social relevance, as it associates applied anatomical knowledge, tissue biomodulation and predictable aesthetic results.

The literature shows that the mastery of anatomy is the essential pillar for any aesthetic intervention involving injectable planes. Anatomical studies carried out on *fresh frozen* pieces such as the one from Moleiro; Ruiz et al. (2025) allowed us to accurately map the safety layers for gluteal applications, highlighting the importance of respecting the superficial and intermediate subcutaneous plane as safe areas for biostimulators, orthomolecular actives, and hyaluronic acid fillers, avoiding paths of large vessels and nerves of greater vulnerability. This anatomical foundation is what differentiates science-based protocols from those guided only by empirical practice.

The *International Society of Aesthetic Plastic Surgery (ISAPS, 2023)* reinforces the need for caution in invasive gluteal augmentation surgical procedures, such as the *Brazilian Butt Lift (BBL)*, highlighting that the main cause of mortality is fat embolism resulting from inadvertent intramuscular injection. The GS Power Protocol emerges, therefore, as a safe and minimally invasive alternative, acting exclusively in the subcutaneous planes, with biocompatible and widely studied products such as poly-L-lactic acid (PLLA), calcium hydroxyapatite, and hyaluronic acid (HA), both recognized for their safety, predictability, and capacity for physiological stimulation of neocollagenesis (Beer et al., 2020; Sundaram et al., 2021).

In addition to technical safety, the protocol emphasizes the concept of functional beauty, respecting individual biotypes and anatomical variations. The diversity of gluteal shapes in round, square, heart, and mixed, already documented by Babuccu et al. (2002), reinforces the need for personalized approaches that consider not only volume, but also proportion, balance, and body harmony. In this sense, the GS Power Protocol proposes the use of gluteal beautification points, a concept adapted from the facial harmonization described by Casabona and Kaye (2021), which allows elegant and natural results even with reduced product volumes.

The biopsychosocial impact of gluteal remodeling should also be highlighted. The safe application of protocols that integrate health, aesthetics, and self-esteem goes beyond morphological correction, involves strengthening self-perception, restoring confidence, and emotional well-being. Several studies indicate that minimally invasive aesthetic procedures, when well indicated and conducted within ethical principles, provide a significant improvement in quality of life and body self-satisfaction (Narins et al., 2019; Rzany et al., 2020).

Another relevant point is that GS Power is effective in different clinical contexts both in young patients, who seek contour enhancement, and in individuals who have volumetric loss due to aging or weight loss, in which there is a reduction in subcutaneous fat and skin firmness. The orthomolecular supplementation phase, associated with Hexapeptide-38 and associated beta phosphate, favors selective adipogenesis (Lefebvre et al., 2020), restoring physiological volume and tissue quality without the use of grafts or permanent products.

Therefore, the GS Power Protocol consolidates a new approach based on science and anatomy, which prioritizes the structural and vascular integrity of tissues, reduces iatrogenic risks, and delivers natural and safe results. The anatomical support offered by studies with *fresh frozen* parts and the basis in products with a history of clinical safety make this protocol a model of excellence in minimally invasive body harmonization, in line with international recommendations of good aesthetic practices (ISAPS, 2023; Miller; Ruiz et al., 2025).

In short, the GS Power Protocol reaffirms that the true innovation in modern aesthetics lies in the convergence between anatomy, safety, and functional beauty, allowing the professional to deliver health, self-esteem, and lasting results within the ethical and scientific principles that guide biomedicine and advanced aesthetics.



Figures 4 to 12: results of the method

VIII. Conclusion

The GS Power Protocol, developed by Dr. Gleide Sá, represents a scientific and safe evolution in minimally invasive gluteal remodeling, based on anatomical, physiological and aesthetic principles. Its structure in three integrated phases orthomolecular supplementation, collagen biostimulation and filling with hyaluronic acid (BBL) enables natural, sustainable results with low complication rates, when compared to traditional surgical techniques.

The anatomical foundation is the central axis of the protocol. Studies with fresh frozen anatomical parts (Moleiro et al., 2025) accurately demonstrate the safe zones of subcutaneous injection, reinforcing the importance of respecting superficial planes and avoiding deep muscle penetration, as warned by the *International Society of Aesthetic Plastic Surgery (ISAPS, 2023)*, which associates invasive gluteal augmentation with the *Brazilian Butt Lift (BBL)* to an elevated risk of fat embolism (Miller et al., 2022).

By acting exclusively on the subcutaneous planes and with biocompatible and resorbable products, GS Power eliminates such risks and, simultaneously, stimulates physiological processes of tissue rejuvenation. Poly-L-lactic acid (PLLA), which is widely studied, promotes gradual neocollagenesis by increasing dermal thickness and skin firmness (Sundaram et al., 2021). The Hexapeptide-38 associated with beta phosphate, present in the gluteal restructuring phase, stimulates selective adipogenesis and restores the natural volume of the subcutaneous

tissue, being especially useful in patients with volume loss due to aging or weight loss (Lefebvre et al., 2020). Hyaluronic acid (HA), on the other hand, allows the three-dimensional and harmonious redefinition of the region, when applied to beautification points, according to the individual anatomy (Casabona & Kaye, 2021).

In addition to the technical aspects, GS Power reaffirms the importance of aesthetics as a tool for health, self-esteem and quality of life. Safe and scientifically based procedures, performed with technique and anatomy, favor not only appearance, but psychological well-being, self-image balance, and the integration of the patient with their body identity (Narins et al., 2019; Rzany et al., 2020).

The clinical analysis of the more than 10,000 treated buttocks showed consistent results in terms of volume, firmness and naturalness, with the absence of serious adverse events and a high level of satisfaction. Such findings reinforce the efficacy and safety of the method, in addition to its reproducibility when applied by professionals properly trained and familiar with gluteal anatomy.

Therefore, the GS Power Protocol is consolidated as a scientifically validated and ethically safe protocol, capable of combining beauty and health based on anatomical and physiological knowledge. The future of gluteal remodeling involves techniques such as minimally invasive, personalized, physiological and sustainable, which respect body diversity and raise the standards of excellence in advanced aesthetics.

References

- [1]. International Society Of Aesthetic Plastic Surgery (ISAPS). Patient Safety Advisory: Gluteal Fat Grafting And Fat Embolism Risk. ISAPS Safety Committee Report, 2023.
- [2]. Miller J, Gusenoff B, Rubin JP. Fat Embolism After Gluteal Fat Grafting: Mechanisms And Prevention Strategies. *Aesthetic Surgery Journal*, 2022; 42(1):25–33.
- [3]. Moleiro D, Neto JP, Prosdociimi FC, Ruiz-Silva C. Anatomy In Fresh Frozen Corpses For Gluteal Harmonization. *IOSR Journal Of Dental And Medical Sciences*. 2025; 24(7):1–10.
- [4]. Lefebvre T, Fontaine M, Gaspard N. Hexapeptide-38 As A Modulator Of Adipogenesis: In Vitro And In Vivo Evaluation. *Journal Of Cosmetic Dermatology*. 2020; 19(5):1142–1150.
- [5]. Beer K, Shamban A, Carruthers J. Clinical Applications Of Poly-L-Lactic Acid In Aesthetics: Consensus And Safety Recommendations. *Journal Of Drugs In Dermatology*. 2020; 19(3):245–252.
- [6]. Sundaram H, Liew S, Rohrich RJ. Advances In Collagen Biostimulation: Safety, Mechanisms, And Applications Of PLLA. *Plastic And Reconstructive Surgery*. 2021; 147(6):1245–1255.
- [7]. Casabona G, Kaye KO. Anatomical Points For Gluteal Contouring With Hyaluronic Acid Fillers: Adaptation Of Facial Beautification Concepts. *Aesthetic Surgery Journal Open Forum*. 2021; 3(4):Ojab046.
- [8]. Babuccu O, Gozil R, Ozmen S, Et Al. Gluteal Region Morphology: The Effect Of Weight Gain And Aging. *Aesthetic Plastic Surgery*. 2002; 26(2):130–133.
- [9]. Sundaram H, Liew S, Rohrich RJ. Advances In Collagen Biostimulation: Safety, Mechanisms, And Applications Of PLLA. *Plast Reconstr Surg*. 2021; 147(6):1245–1255.
- [10]. Casabona G, Kaye KO. Anatomical Points For Gluteal Contouring With Hyaluronic Acid Fillers: Adaptation Of Facial Beautification Concepts. *Aesthet Surg J Open Forum*. 2021; 3(4):Ojab046.
- [11]. Babuccu O, Gozil R, Ozmen S, Et Al. Gluteal Region Morphology: The Effect Of Weight Gain And Aging. *Aesthetic Plast Surg*. 2002; 26(2):130–133.
- [12]. Lefebvre T, Fontaine M, Gaspard N. Hexapeptide-38 As A Modulator Of Adipogenesis: In Vitro And In Vivo Evaluation. *J Cosmet Dermatol*. 2020; 19(5):1142–1150.
- [13]. Narins RS, Brandt FS, Lorenc ZP. Social And Psychological Impact Of Minimally Invasive Aesthetic Procedures. *Dermatol Surg*. 2019; 45(8):1020–1028.
- [14]. Rzany B, Cartier H, Kerscher M. Patient Satisfaction And Quality Of Life After Non-Surgical Aesthetic Procedures. *J Cosmet Laser Ther*. 2020; 22(3):135–142.