THE VOLUMISER
DESIGNED TO STIMULATE COLLAGEN
WITH RESULTS THAT LAST OVER 2 YEARS*

*Clinical trial ended at 25 months

NATURAL & GRADUAL DEEP TISSUE REGENERATION
FACIAL AGEING PROCESS
Ageing provokes structural changes in multiple tissue layers

- Facial ageing process begins with surface and subsurface structural changes in multiple facial tissue layers, including skin, fat, muscle and bone.\(^1\)\(^-\)\(^5\)
- Facial tissue layers age independently, contributing to the overall facial appearance.\(^2\)\(^-\)\(^4\)

**Expert Recommendation**\(^6\)

It is useful to first evaluate the face in terms of the integrity of each structural tissue — skin, fat, muscle, bone. Then, look at what those changes are doing to the face in terms of morphologic changes — the shape, proportions, and topography of the face. Do not focus on just “lines and folds,” but consider all the structural changes in the face and the interdependency between them. Look at the whole face as a 3D interlocking puzzle where losing or correcting one thing may have a negative or positive impact on another.
Bone resorption

There is a significant loss of facial bone with age. Ageing of the craniofacial skeleton may be due to changes in the relative dynamics of bone expansion and bone resorption. Bone resorption leads to biometric volume loss.

Without the structural support of bone, there are noticeable changes in the other layers of overlying soft tissue and skin.

Fat loss & redistribution

A youthful look depends on having the right amount of facial fat in the right places. Redistribution, accumulation, and atrophy of fat lead to facial volume loss.

The subcutaneous and deep adipose tissues do not constitute a uniform and unique structure, but they are separated in different anatomical compartments. These compartments do not behave in the same way during ageing process. Their evolution leads to volumetric changes. Volume loss in this deep compartment, similar to what may occur in the temporal fat, may lead to the cascade effect observed and described in the ageing face. Loss of superficial fat may further accentuate a contour deformity (e.g. fold, prominence, concavity).

- Some areas lose fat (forehead, cheeks)
- Other areas gain fat (mouth, jaw)
- Modification of the fat pads leads to contour deficiencies

In addition, the areas of fat tend to become farther apart. Instead of a smooth, almost continuous layer, the fat pads appear as separate structures.
Skin changes

Facial ageing is due to changes in several types of tissue, including skin, fat, muscle and bone. Changes in one tissue layer have an effect on the other layers.

With age, skin undergoes several changes that include:

- Thinner skin
- Drier skin
- Less elastic skin
- Skin more likely to wrinkle or sag
- Reduction in collagen

Collagen loss is a key factor in the ageing process

As skin ages, the middle layer of skin (dermis) thins due to collagen loss. This reduces the skin's ability to retain elasticity (from elastin) and moisture (from hyaluronic acid).
SCULPTRA® Composition

Sculptra® is composed of poly-L-lactic acid, a component that has been used for more than 30 years in the medical field (sutures, orthopaedic surgery, crano-facial surgery) and whose safety has been established.

PLLA is biodegradable.

The only biodegradable collagen stimulator that undergoes a well understood non-enzymatic degradation that induces only weak tissue reaction.

PLLA is fragmented into lactic acid naturally present in the body and follows a natural elimination cycle. Lactic acid is metabolised by the lung under the form of CO$_2$.

PLLA is completely resorbable.

Histologic examination (original magnification x400) exhibiting microparticles of PLLA at 12 months after last treatment, with adjacent aggregation of giant cells, histiocytes and collagen fibers.

Histologic examination (original magnification x400) of the injected PLLA at 30 months after last treatment, showing the absence of PLLA microparticles.

A = COLLAGEN TYPE 1   B = SCULPTRA®
SCULPTRA® indication for use in aesthetics

A long clinical experience

<table>
<thead>
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<th>1999</th>
<th>2004</th>
<th>2009</th>
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<tr>
<td>CE Mark obtained in aesthetics</td>
<td>CE Mark and FDA approval obtained in HIV lipoatrophy</td>
<td>FDA approval obtained in aesthetics</td>
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SCULPTRA® is suitable for increasing the volume of depressed areas, particularly to correct skin depressions, such as in skin creases, wrinkles, folds, scars, and for skin ageing.

SCULPTRA® is also suitable for large volume corrections of the signs of facial fat loss (lipoatrophy).
SCULPTRA® mechanism of action

Dual mechanism of action

• Immediate volumisation due to fluid injection
• Re-absorption of fluid within 2-3 days resulting in pretreatment appearance
• Delayed action by fibroblastic stimulation and neo-collagenesis

A wrinkle before treatment

When SCULPTRA® is injected, the injected volume immediately fills out the wrinkles and volume defects

Within a few days, the water in SCULPTRA® is absorbed by the body with a slight increase in wrinkle depth

SCULPTRA® stimulates patients own facial collagen production resulting in a natural, soft build-up of the connective tissue, smoothing out wrinkles and contour defects

After approximately 6 weeks clear improvement can be seen. Larger volume defects may involve further treatment
EFFECTIVE COLLAGEN STIMULATOR
Sculptra® stimulates collagen gradually and naturally \textsuperscript{9,10}

Histologic examination (original magnification x400) exhibiting microparticles of PLLA at 12 months after last treatment, with adjacent aggregation of giant cells, histiocytes and collagen fibers.

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Collagen is the most important component of the extracellular matrix, that forms a super-family of many members which are divided into different subgroups. The type I and type III collagens belong to the fibrillar proteins and confer tensile strength, type I accounting for 80% and type III for approximately 10% of the total collagen in human adult skin.

PLLA was shown to induce at 3 and 6 months and a significant increase in collagen I and a non-significant increase in collagen III.
**Study design**: exploratory, phase 2, single-arm, open-label study in 14 healthy subjects

**Treatment**: administration of PLLA in the postauricular area with 3 treatment sessions spaced 4 weeks apart. Biopsies taken at baseline, 3, 6 and 12 months after the first injection session. Biopsies microscopically evaluated for collagen and inflammation using hematoxylin and eosin-stained sections. Collagen evaluated histochemically by Picro Sirius red stain

**Results**: quantitatively, the mean level of type I collagen intensity increased significantly the mean levels of type III intensity increased but significance was not reached

(Figure showing collagen levels)
SCULPTRA® STIMULATES
NATURAL COLLAGEN
TO PROVIDE FACIAL VOLUME
EFFICACY AND SAFETY
In the aesthetic field, more than 20 studies including 4000 patients demonstrated a good safety and efficacy profile for Sculptra®

- Sculptra® allows a visible volumising effect lasting for up to 2 years
- The level of patient satisfaction is 80% at 2 years
- The patient overall improvement is noted in 81% of the patients at 2 years (investigator 86%)
- Good tolerance until 25 months

An effective collagen stimulator that provides natural results that last more than 2 years

A good Safety profile

At 25 months:
- Frequency of papules (<5mm) and of nodules (>5mm) occurrence related to the product is 1.9% and 0.9% respectively for Poly-L-lactic acid; pain at the injection site is reported in 0.9% of patients
- No case of granuloma was reported during the 25 months of follow-up

Study design: Randomised, evaluator-blinded, parallel-group, multicenter study of 233 patients. The treatment phase consisted of 1 to 4 visits at 3-week intervals during which patients received bilateral injections (average of all injections was 2.3 vials) of Sculptra® (n=116) or collagen (n=117) into the left and right nasolabial fold wrinkles. The follow-up phase consisted of visits at week 3 and months 3, 6, 9, and 13 after the last treatment. Of the 116 patients treated with Sculptra®, 106 patients completed the study and continued into the long-term surveillance phase, which extended to 25 months

Objective: to evaluate efficacy and safety in the treatment of nasolabial wrinkles in healthy immunocompetent subjects

Primary efficacy endpoint: change in WAS (Wrinkle Assessment Scale) scores from baseline to 13 months and baseline to 19 and 25 months. Secondary endpoints: WAS at all times, Treatment Success Rate, Investigator/Subject Global Assessment, Subject Satisfaction Scores. Each Wrinkle Assessment Score, or WAS, at the time points shown represent the median of 3 investigators’ scores, and each of the investigator’s evaluations represent an average of scores for the left and right nasolabial folds. In the WAS coding system, 0 equals no wrinkles; 1 refers to a just-perceptible wrinkle; 2 indicates a shallow wrinkle; 3 a moderately deep wrinkle; 4 a deep wrinkle with well-defined edges; and 5 a very deep wrinkle or redundant fold.
Rating post-treatment results: Patients are highly satisfied by Sculptra® ¹²

*Randomised, evaluator-blinded, parallel-group, multicenter study of 233 patients.⁷
†Based upon good, very good, and excellent scores.

80% of patients still rated their results as “good to excellent” at 25 months after first injection¹²

Investigator Global Efficacy Evaluation¹³

*Investigators used a 5-point scale (4=excellent improvement, 3=much improved, 2=improved, 1=no change, 0=worse) for global evaluations.
†Randomised, evaluator-blinded, parallel-group, multicenter study of 233 patients.

86.3% of patients still showed overall improvement at 25 months after treatment, as rated by investigators¹³
D E E P  T I S S U E  R E G E N E R A T I O N
Sculptra® provides a Deep Tissue Regeneration

Sculptra® allows you to gradually create a natural look that lasts up to 2 years.

Total vials and sessions: 5 vials over 3 sessions
Individual results may vary.

Total vials and sessions: 5 vials over 4 sessions
Individual results may vary.
Individual results may vary (all photos unretouched).

**Before**

**After**

**JB: 40 Years Old (4 vials). 5 months**

**Before**

**After**

**Terry: 57 Years Old (7 vials). 9 months**
Individual results may vary (all photos unretouched).

Before

Pam: 63 Years Old (6 vials). 9 months

After
GUIDELINES
Correct Reconstitution ¹⁴, ¹⁵
Correct reconstitution and product handling/storage are essential steps for effective Sculptra® injections, which may help to minimise device-related adverse events such as the formation of nodules and papules.

1. **Remove cap and clean**
   - Remove the flip-off cap and clean the penetrable vial stopper with antiseptic.

2. **Attach 18 G needle to slowly inject Water for Injection (WFI) into vial**
   - Attach 18 G needle to sterile single-use 5 mL syringe, draw 5 mL WFI into syringe. Introduce needle into stopper and slowly add all of the WFI into the vial.

3. **Do not shake. Wait for at least two hours**
   - Do not shake. Leave undisturbed for at least 2 hours (or preferably overnight) up to 72 hours at room temperature to ensure complete hydration.

4. **Prior to injection, agitate upright vial**
   - Just prior to injection, gently agitate upright vial until suspension becomes uniform and translucent.

5. **Use 18 G needle to withdraw suspension**
   - Clean stopper of vial and withdraw suspension using 18 G single-use, 1 or 3 mL sterile syringe.

6. **Do not use needles with internal diameter smaller than 26 G for injection**
   - Switch to 26 G sterile needle before injecting. Do not use needles with internal diameter smaller than 26 G for injection.
Product placement precautions

- Avoid product placement in hyperdynamic muscles, such as present in the peri orbital and perioral region
- Never inject in or through the orbicularis oculi, the modiolus, or depressor angul oris (DAO)

Intra Muscular placement in these areas may clump the product

Localised overcorrection

- For Volumising the perioral or periorbital region the product should be placed submuscular or supraperiostal
Treatment Plan with Sculptra®

At least 4 weeks between treatments.
Treat, Wait, Assess. Do not overcorrect.

Basic standardised injection techniques
- Depot Injection Technique for Sculptra® Only\textsuperscript{15,17}
  • Use for correction in the temples.
  • Volume of Sculptra® is approximately 0.05 mL per injection.
  • Always perform reflux maneuver to avoid intravascular injection.
  • Avoid overcorrection.

Illustrations of Depot Injection Technique for Sculptra® Only\textsuperscript{15,17}
1. Inject at level of temporal fascia
2. Inject as small bolus
3. Remove needle and massage the area to evenly distribute the product
- **Tunneling Cross-Hatch Injection Technique**¹⁴,¹⁵
  - Use for correction of the nasolabial folds and other facial wrinkles where the tunneling crosshatch technique is appropriate.
  - Use 26 G needle attached to sterile single use 1 or 3 mL syringe.
  - Volume is 0.1 to 0.2 per individual injection, and should be spaced at a distance of 0.50 cm.
  - If clogging occurs, remove the needle, expel a small amount of product, attach a new sterile 26 G needle, then expel a few drops of product to eliminate the air.
  - Always perform reflux manoeuvr to avoid intravascular injection.
  - Avoid overcorrection.

- **Illustrations of Tunneling Cross-Hatch Injection Technique**¹⁴,¹⁵
  1. Stretch the skin to create a firm surface and lower the needle at a 30° to 40° angle.
  2. Insert needle, bevel up, at 30° to 40° angle, subcutaneously.
  3. When proper depth is reached, lower needle angle and advance needle along same plane.
  4. Achieve crosshatch pattern by injecting with retrograde injection at right angle to first injection, resulting in crosshatch of 2 tunnels of product.
  5. Remove needle and massage area to evenly distribute the product.
Massage and aftercare

**Massage**\(^{14,15}\)

**During the treatment session**
- It is important to massage the treatment area in a circular fashion after every 3 to 4 injections to evenly distribute the product
- Massage may help minimise the risk of papule formation at the injection site

**Immediately following the treatment session**
- Perform deep massage in a circular fashion for at least 2 minutes to fully distribute the product
- Apply an ice pack to treated areas to decrease edema; avoid direct contact of ice with the skin
- Instruct patients about important aftercare procedures

**Aftercare**\(^{14,15}\)

**Provide patients with the following instructions**
- Apply an ice pack to treated areas for at least 24 hours post-treatment, several times per day, to reduce swelling; avoid direct contact of ice with the skin
- Self-massage treated areas in a circular fashion for 5 minutes, 5 times per day, for 5 days
- Avoid sun and/or UV lamp exposure until swelling and redness have resolved
- Make up may be applied several hours post-treatment if no complications are present
REFERENCES


15. Sculptra® [package insert].

