

RADIESSE[®]

INJECTABLE IMPLANT

INSTRUCTIONS FOR USE

DESCRIPTION

RADIESSE injectable implant is a steam sterilized, latex-free, non-pyrogenic, semi-solid, cohesive, completely bio-degradable deep and sub-dermal implant. The principle component is synthetic calcium hydroxylapatite, a biomaterial with over twenty years of use in orthopedics, neurosurgery, dentistry, otolaryngology and ophthalmology. Calcium hydroxylapatite is the primary mineral constituent of bone and teeth. The semi-solid nature of the implant is created by suspending calcium hydroxylapatite in a gel carrier that consists primarily of water (sterile water for injection USP) and glycerin (USP). The gel structure is formed by the addition of a small amount of sodium carboxymethylcellulose (USP). The gel is dissipated *in vivo* and replaced with soft tissue growth, while the calcium hydroxylapatite remains at the site of injection. The result is long-term yet non-permanent restoration and augmentation.

RADIESSE injectable implant 1.5cc and 0.8cc have a particle size range of 25-45 microns and can be injected with a 27 gauge inner diameter (ID) or larger diameter needle with a standard Luer fitting. **Use of needles with inner diameters smaller than 27 gauge may increase the incidence of needle occlusion.**

INTENDED USE/INDICATIONS

RADIESSE injectable implant is indicated for subdermal implantation for the correction of moderate to severe facial wrinkles and folds, such as nasolabial folds, for restoration and/or correction of the signs of facial fat loss (lipoatrophy) in people with human immunodeficiency virus, and for the rejuvenation of the hand.

CONTRAINDICATIONS

- Contraindicated in the presence of acute and/or chronic inflammation or infection when these involve the area to be treated.
- Contraindicated in patients with known hypersensitivity to any of the components.
- Contraindicated in patients prone to developing inflammatory skin conditions or those patients with a tendency for developing hypertrophic scars.
- Do not implant in the epidermis or use as a skin replacement. Implantation into the epidermis or superficial dermis could lead to complications such as fistula formation, infections, extrusions, nodule formation and induration.
- Not intended to be used for the correction of glabellar folds. A higher incidence of localized necrosis has been associated with glabellar injection. Complications associated with other injectables indicate that forceful injection into superficial dermal vessels of the glabellar area could cause retrograde movement into the retinal arteries resulting in vascular occlusion.
- Contraindicated in the presence of foreign bodies such as liquid silicone or other particulate materials.
- Should not be used in areas where there is inadequate coverage of healthy, well vascularized tissue.
- Should not be used in patients with systemic disorders which cause poor wound healing or will lead to tissue deterioration over the implant.
- Not intended for use in the breasts.
- Not intended for use in the lips.

WARNINGS

- Implant should not be injected into blood vessels. Injection into blood vessels may cause platelet aggregation, vascular occlusion, infarction, embolic phenomena or hemolysis.
- Should not be injected into organs or other structures that could be damaged by a space occupying implant.

- Should not be implanted in patients while the patient is on an aspirin regimen or while taking other medications that could inhibit the healing process.
- Should not be implanted in infected or potentially infected tissue or in open cavities because infection or extrusion may occur. A significant infection may result in damage or loss to the skin overlying the implant. Hematomas or seromas may require surgical drainage.
- In the event of a hypersensitivity or allergic reaction, a significant inflammation or infection may occur requiring the removal of the implant.
- Some injectable implants have been associated with hardening of the tissues at an injection site, migration of particles from an injection site to other parts of the body and/or allergic or autoimmune reactions. Based on clinical usage, animal studies and supporting literature, this has not been observed nor is it expected with RADIESSE injectable implant.
- As with any implant material, possible adverse reactions that may occur include, but are not limited to, the following: inflammation, infection, fistula formation, extrusion, hematoma, seroma, induration formation, inadequate healing, skin discoloration and inadequate or excessive augmentation.
- Safety and effectiveness during pregnancy or in lactating females has not been established.

PRECAUTIONS

- RADIESSE injectable implant requires soft tissue for easy percutaneous injection. Scar tissue and significantly compromised tissue may not accept the implant appropriately.
- Infection requiring treatment may occur at the injection site. If such infection cannot be corrected, it may become necessary to remove the implant.
- Injection related reactions, including erythema, swelling, lumpiness, pain, itching, discoloration or tenderness, may occur at the site of the injection. These usually resolve spontaneously within days to one week after the injection.
- Nodule(s) may form requiring treatment or removal.
- Irregularity of the implant may occur which may require a surgical procedure to correct.
- Do not over-inject the area to be treated. In extreme cases site rupture could occur. RADIESSE injectable implant can be easily added in subsequent injection, but cannot be easily removed.
- The RADIESSE injectable implant injection procedure, like similar injection procedures, has small but inherent risks of infection and/or bleeding. The patient may experience slight discomfort during and following the procedure. Therefore, anesthetic techniques common with this treatment should be considered. The usual precautions associated with percutaneous injection procedures should be followed to prevent infection.
- **Do not re-sterilize.** RADIESSE injectable implant is supplied sterile and non-pyrogenic in a sealed foil pouch and is intended for single patient, single treatment use only.

The foil pouch should be carefully examined to verify that neither the pouch nor the syringe has been damaged during shipment. Do not use if the foil pouch is compromised or the syringe has been damaged. Do not use if the syringe end cap or syringe plunger is not in place. *There is a small amount of moisture normally present inside the foil pouch for sterilization purposes; this is not an indication of a defective product.*

INDIVIDUALIZATION OF TREATMENT

Before treatment, the patient's suitability for the treatment and the patient's need for pain relief should be assessed. The outcome of treatment will vary between patients. In some instances additional treatments may be necessary depending on the size of the defect and the needs of the patient. Additional injections may be performed, but only after sufficient time has passed to evaluate the patient. The patient should not be re-injected sooner than seven days after the previous treatment.

DIRECTIONS FOR USE

GENERAL

The following is required for the percutaneous injection procedure:

- RADIESSE injectable implant syringe(s) {Provided Separately}
 - Appropriate size needle(s) with Luer lock fittings. [The preferred size is a 25ga to 27ga ID by ½ to 1½ inch needle. Use of needles smaller in diameter than 27 gauge ID may increase the incidence of needle occlusion.]
1. Prepare patient for percutaneous injection using standard methods. The treatment injection site should be marked by a surgical marker and prepared with a suitable antiseptic. Local or topical anesthesia at the injection site or sedation should be used at the discretion of the physician. After anesthetizing the site, apply ice to the area to decrease local swelling/distention.
 2. Prepare the syringes and the injection needle(s) before the percutaneous injection. A new injection needle may be used for each syringe, or the same injection needle may be connected to each new syringe for same patient treatment.

Remove foil pouch from the carton. The pouch can be opened and the syringe dropped onto the sterile field when required. *There is a small amount of moisture normally present inside the foil pouch for sterilization purposes; this is not an indication of a defective product.*

Separate the needle packaging at the upper edge and peel apart to a point below hub. For use of needles other than the needle(s) provided with this package, follow the directions provided with the needle(s).

Remove the Luer syringe cap from the distal end of the syringe prior to attaching the needle. The syringe can then be twisted onto the Luer lock fitting of the needle. **The needle must be tightened securely to the syringe and primed with RADIESSE injectable implant.** If excess RADIESSE injectable implant is on the surface of the Luer lock fittings, it will need to be wiped clean with sterile gauze. Slowly push the syringe plunger until the implant material extrudes from the end of the needle. If leakage is noted at the Luer fitting, it may be necessary to remove the needle and clean the surfaces of the Luer fitting or, in extreme cases, replace both the syringe and the needle.

3. Locate the initial site for the implant. Scar tissue and cartilage may be difficult or impossible to inject. Avoid, if at all possible, passing through these tissue types when advancing the injection needle.

NOTE: Do not inject into a blood vessel.

4. The depth of the injection and the amount injected will vary depending on the site and extent of the restoration or augmentation. RADIESSE injectable implant should be injected sufficiently deep so as to prevent nodular formation at the surface of the skin or ischemia of the overlying tissue. For hand rejuvenation, RADIESSE injectable implant should be injected in the areolar plane between the subcutaneous layer and superficial fascia.
5. **DO NOT OVERCORRECT THE INJECTION SITE.** Use a 1:1 correction factor. Mold or massage the injected implant periodically during the injection process to maintain a smooth contour of the implant.
6. If significant resistance is encountered when pushing the plunger, the injection needle may be moved slightly to allow easier placement of the material. If significant resistance is still encountered, it may be necessary to pull the needle entirely out of the injection site and try again in a new position. If significant resistance continues to persist, it may be necessary to try a different injection needle. If this is not successful, replace the syringe and injection needle.
7. Advance the needle into the deep dermis to the starting location. [Refer to additional instructions, below, for augmentation of specific facial areas.] Carefully push the plunger of the syringe to start the injection and slowly inject the implant material while withdrawing the needle, placing a line of material in the desired location. Continue placing additional lines of material until the desired level of augmentation is achieved.

For hand rejuvenation, DO NOT inject RADIESSE injectable implant in linear threads. Inject in a bolus form between the central tendons in the dorsum of the hand and distribute the material through massage.

AUGMENTATION OF CHEEKS, FACE OR CORNER OF THE MOUTH

1. Insert needle with bevel down at approximately a 30° angle to the skin. The needle should slide into the deep dermis to the point you wish to begin the injection. This should be easily palpable with the non-dominant hand.
2. Apply slow continuous even pressure to the syringe plunger to inject the implant as you withdraw the needle, leaving behind a single thin thread or strand of implant material. The thread of implant material should be completely surrounded by soft tissue without leaving globular deposits.
3. Individual threads of implant material should be placed parallel and adjacent to each other, and layered when deeper folds are corrected. As an option, the threads can be cross layered in a deeper plane for structural support.
4. After injection, use the index finger and thumb to smooth the areas and better distribute the implant in case of any slight nodular deposition of material.
5. Injection can be made in the subcutaneous tissue or muscle, but not adjacent to bone or in the epidermis.

Technique for Mixing RADIESSE injectable implant and 2% Lidocaine HCl

CAUTION: Do not use the RADIESSE injectable implant and 2% lidocaine mixture later than 2 hours after mixing.

CAUTION: The assembled components are intended for one-time use only.

1. Assemble the components and perform the mixing using sterile technique (see Figure 1).



Figure 1 :Left to right: Female-to-female luer lock connector, RADIESSE syringe, 3.0cc mixing syringe, sterile 27 gauge, 0.5" needle

2. Draw the lidocaine into a 3.0 cc sterile polypropylene mixing syringe fitted with a sterile 27 gauge, 0.5" needle.
3. Tap the mixing syringe, containing lidocaine and depress its push rod to remove all excess air.
4. Remove the sterile 27gauge, 0.5" needle.
5. Firmly connect the mixing syringe to the RADIESSE syringe using the female-to-female luer lock connector (see Figures 2 and 3).

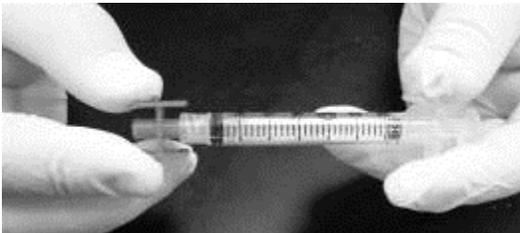


Figure 2

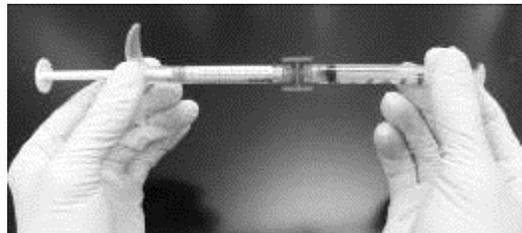


Figure 3

6. Mix the lidocaine and Radiesse injectable implant by alternately depressing the plungers, first on the mixing syringe and then on the Radiesse syringe for ten mixing strokes (each mixing stroke is one complete compression of the mixing syringe plunger followed by one complete compression of the Radiesse syringe plunger). Plungers are compressed firmly and quickly, at about two compressions per second.

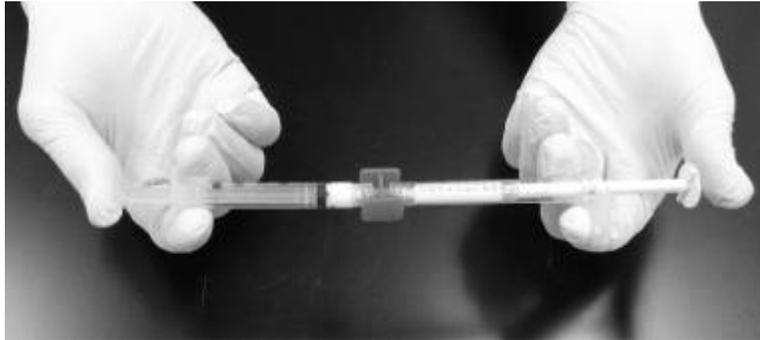


Figure 4

7. After mixing, remove the mixing syringe and the female-to-female luer lock connector and discard.
8. Fit the syringe containing the lidocaine and Radiesse mixture with an injection needle.
9. Proceed with the injection of the Radiesse injectable implant.

The table below provides the ratio of 2% lidocaine to be mixed with the various syringe volumes of Radiesse injectable implant. These ratios result in A 0.3% concentration of 2% lidocaine (w/v%).

LIDOCAINE CONCENTRATION

Radiesse (cc)	2% Lidocaine (cc)	Resulting Lidocaine Concentration (w/v%)
0.8	0.11	0.31% - 0.32%
1.5	0.26	0.31% - 0.32%

PATIENT COUNSELING INFORMATION

The patient should be instructed in appropriate post-procedural care, which may include the following, to promote normal healing and avoid complications.

- Apply ice or cool compresses to areas of injection for approximately 24 hours.
- Avoid the sun, tanning (ultraviolet) lights, sauna and intense facial treatments postoperatively.
- Massage area if palpable nodules become present.
- Promote facial rest for one week by encouraging patients to limit talking, smiling and laughing.
- Inform patient that postoperative swelling and numbness is common. Swelling will usually resolve within 7 to 10 days, but may persist for several weeks. Numbness should resolve within 4 to 6 weeks.
- Provide oral analgesics and instruct patients to rinse the mouth with saline solution 4 to 6 times per day for 1 week postoperatively.

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HOW SUPPLIED

RADIESSE injectable implant is provided sterile (via steam) and non-pyrogenic in a syringe packaged in a foil pouch and boxed for convenient storage. Each unit consists of one pre-filled syringe containing either 1.5cc or 0.8cc of RADIESSE injectable implant (degree of accuracy of syringe graduations is ± 0.025 cc). Do not use if packaging and/or syringe are damaged or if the syringe end cap or syringe plunger is not intact.

The contents of the syringe are intended for single patient, single treatment use only and cannot be re-sterilized.

STORAGE

Packaged RADIESSE injectable implant should be stored at a controlled room temperature between 15° C and 32° C (59° F and 90° F). Do not use if the expiration date has been exceeded. The expiration date is printed on the product labels.

DISPOSAL

Used and partially used syringes and injection needles could be biohazardous and should be handled and disposed of in accordance with facility medical practices and local, state or federal regulations.

WARRANTY

Merz North America, Inc. warrants that reasonable care has been exercised in the design and manufacture of this product.

THIS WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES NOT EXPRESSLY SET FORTH HEREIN, WHETHER EXPRESSED OR IMPLIED BY OPERATION OF LAW OR OTHERWISE, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ITS PARTICULAR PURPOSE.

Handling and storage of this product, as well as factors relating to the patient, diagnosis, treatment, surgical procedures and other matters beyond Merz North America, Inc.'s control directly affect the product and the results obtained from its use. Merz North America, Inc.'s obligation under this warranty is limited to the replacement of this product and Merz North America, Inc. shall not be liable for any incidental or consequential loss, damage, or expense, directly or indirectly, arising from the use of this product. Merz North America, Inc. neither assumes, nor authorizes any person to assume for Merz North America, Inc., any other or additional liability or responsibility in connection with this product.

SYMBOLS



LATEX FREE



DO NOT USE IF PACKAGE IS DAMAGED

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Merz North America, Inc.
4133 Courtney Road, Suite #10
Franksville, WI 53126 U.S.A.
Fax: 262-835-3330
Telephone: 262-835-3300
E-Mail: info@merz.com

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