

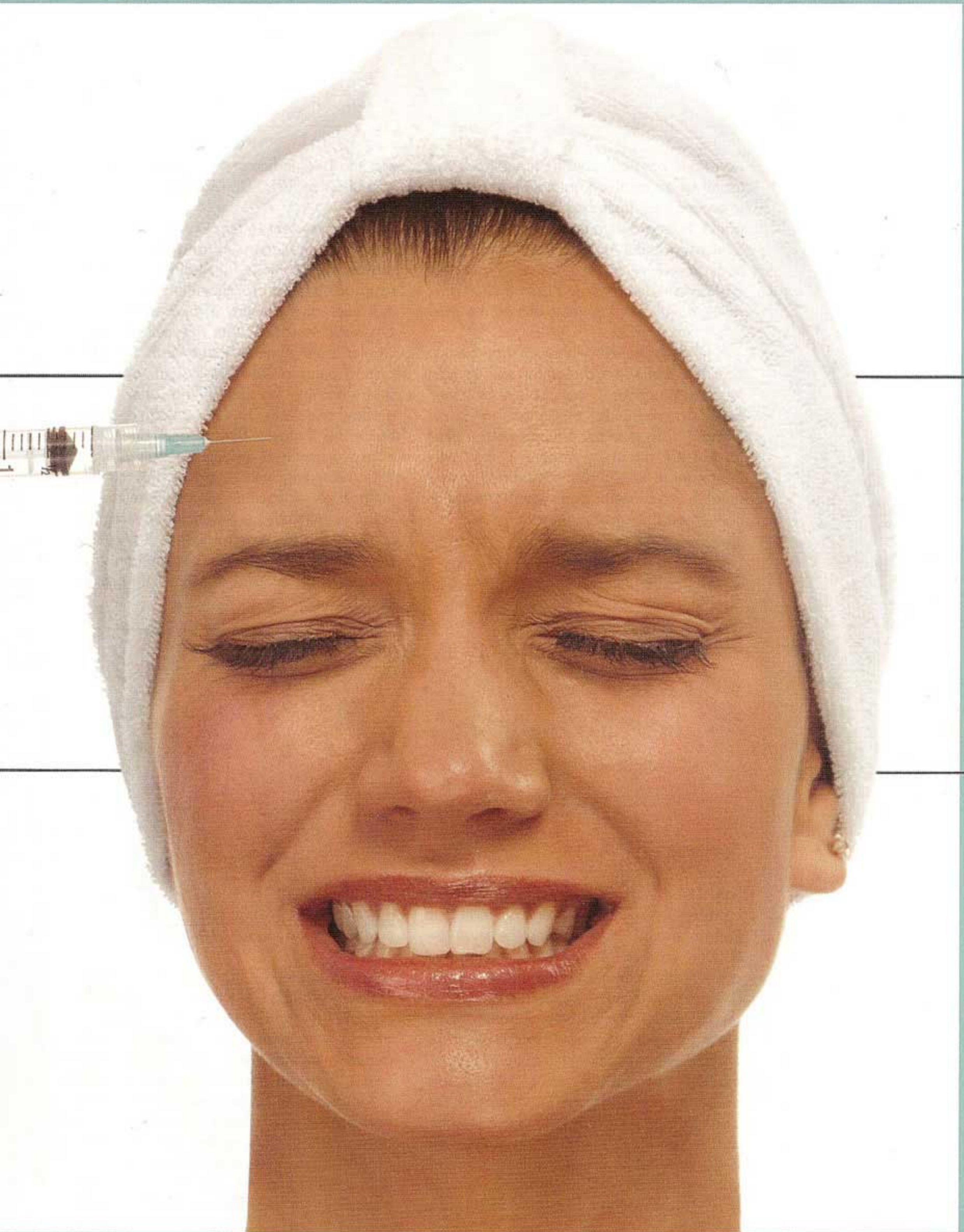
Innovative Pain Relief Developments Boost Aesthetic Procedure Volume



PAIN MANAGEMENT

By Wendy Lewis, Contributing Editor

Undoubtedly one of the leading barriers keeping new consumers from entering the aesthetic market is the pain factor. Fear of discomfort both during and after treatment has been cited as a major reason why consumers remain on the fence about undergoing any cosmetic procedure, from lasers to injectables to surgery. This substantially contributes to the generally low worldwide penetration of consumers who are receiving these treatments. Providing adequate anesthesia will appeal to potential patients while improving existing patient satisfaction and retention.



PAIN MANAGEMENT

Various physical anesthetic methods are useful as adjunctive treatment with aesthetic procedures, including cold therapy – ice packs before and after treatment, cooling devices, topical agents, and local injections. However, in response to practitioner and patient demand for more efficient pain relief, novel developments are on the rise.

"I try to make everything as pain free as possible, but some discomfort will remain for each procedure," noted Nelly Gauthier, M.D., a cosmetic physician in Paris, France. "I do give my patients an anesthetic, but not for every treatment. It is very important to note that motivation is a very reliable anesthesia and when beauty is concerned it is always present."



Nelly Gauthier, M.D.
Paris, France

"Motivation is a very reliable anesthesia and when beauty is concerned it is always present."

COMFORT DEVICES

One challenge with aesthetic laser and light-based therapies is finding the balance between a high enough energy setting to deliver results, while keeping the level low enough so that the patient can tolerate it comfortably. Using too low of an energy level may prevent achievement of desired results, or call for additional treatments in order to reach an optimal outcome. If the energy level is too high, the patient may find the first treatment extremely painful and probably will not return for a second session. "We have discovered that it is better and more efficient to do many passes at a lower level. Done this way it is a more positive experience and the physician can safely rely on the patient feedback, which is in

fact the best indicator for a safe and successful procedure," Dr. Gauthier reported.

Cooling systems offer optimal comfort for many aesthetic laser and light-based device applications, including fractional resurfacing, and are also effective for dermal filler and botulinum toxin treatments. One such system, the Cryo-6 Zimmer Cooler from Zimmer (LaserMed, Shelton, Conn.) emits a cold blast of air onto the skin with nine fan speeds that offer many air flow selections. This device can cool the epidermis before, during and after any non-invasive laser or intense pulsed light (IPL) treatment, which makes this simple method of targeted topical anesthesia uniquely versatile. A practitioner can also increase patient comfort when using the Cryo-6 Zimmer Cooler in conjunction with devices that already possess integrated cooling functions.



Cryo-6 Zimmer Cooler from Zimmer-LaserMed, Shelton, CT

According to Eric Bernstein, M.D., a dermatologist at the Center for Cosmetic Laser Surgery in Bryn Mawr, Pa., "Pain is always a problem in every patient – it just depends on how well each patient tolerates it. Pain is a part of laser hair removal. There are some patients where pain slows the practitioner down tremendously – about 20% to 30% of the time. For men, it's 50% of the time. Men have an extremely low pain tolerance. The most uncomfortable areas for laser hair removal in women

PAIN MANAGEMENT

are the bikini and axillary region and anywhere for men, especially the back."

To address the issue of pain management for aesthetic laser procedures, Candela (Wayland, Mass.) has introduced their Serenity™ Pro system with an improved single touch laser activation which enhances speed and efficiency for practitioners. Serenity utilizes Candela's patented Pneumatic Skin Flattening (PSF) to inhibit pain during laser or light-based aesthetic treatments. In addition, an integrated handpiece has been designed to work exclusively with the Candela GentleLASE® and GentleYAG® systems allowing for even greater ease of use for the practitioner.



Serenity Pro from Candela, Wayland, MA

"Serenity is a great device. We build it into the treatment and market it to our patients on our website and it makes a big difference. We saw a 50% pain reduction in 95% of subjects that were treated. Basically it takes a procedure that is intolerable for many patients, and makes it tolerable," explained Dr. Bernstein.



Eric Bernstein, M.D.
Clinical Associate Professor
Department of Dermatology
University of Pennsylvania
Bryn Mawr, PA

With this addition of Serenity, Dr. Bernstein has observed many patients who have had one area done and since they tolerated it so well, they came back to do the legs, which tends to be a more uncomfortable area. "If someone is having pain, Serenity definitely speeds up the treatment. We have integrated it into the

handpiece so it doesn't slow the user down at all. It is currently being studied for vein treatments, tattoo removal and other laser applications. Laser hair removal is the most prevalent laser procedure performed, but tattoo removal is the most uncomfortable, therefore, we use a local injection," Dr. Bernstein added.

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NOVEL TOPICAL ANESTHETIC METHODS

For small areas, a range of topical anesthetic agents are used to numb the skin and relieve pain and burning during botulinum toxin injections, dermal fillers, laser resurfacing, hair removal and medium depth chemical peels. The Food and Drug Administration (FDA) has approved many products for these uses, some of which require a prescription and others that are available over-the-counter and on the Internet. For larger areas like the back and legs, topical therapies are often considered riskier due to concern about systemic reactions.

An advisory has been issued by the FDA to alert consumers to the potential hazards of using topical anesthetics containing lidocaine, tetracaine, benzocaine and prilocaine in a cream, ointment or gel. Many times applying topical anesthetics prior to a cosmetic procedure is not medically supervised and therefore, over application is possible which may pose serious health risks if too much is absorbed into the bloodstream. Physician instructions should be given to patients to demonstrate safe application, appropriate quantities and the designated period. Occlusion can also

PAIN MANAGEMENT



L.M.X.4 from Ferndale Labs, Ferndale, MI

increase the chance of side effects. A list of FDA approved medications is available on their website.

Of the topical anesthetics most commonly used, L.M.X.4 (Ferndale Labs, Ferndale, Mich.) is available over-the-counter to numb the skin quickly and sufficiently for many aesthetic procedures. L.M.X.4's active ingredient, lidocaine 4%, is considered a safe and effective way to reduce patient discomfort. Available in two strengths, both 4% and 5%, this emollient cream formula hydrates the skin and reduces the potential for irritation.



EMLA from Astra Zeneca, London, U.K.

Launched in 1984, EMLA (Astra Zeneca, London, U.K.), a eutectic mixture of lidocaine and prilocaine is a local anesthetic for topical application, available as a cream or patch delivery system. In some countries it is sold as an over-the-counter product. Another commonly used product, Topicaine® 4 (Esba Labs, Jupiter, Fla.) topical anesthetic gel, demonstrated rapid onset with a long duration of anesthetic effect in a double-blind, placebo controlled study using a 30 minute application time under occlusion.¹

"Patient comfort is extremely important to ensure repeat business, so I always use anesthesia, and never charge for it. I use it for all injectables and laser treatments. I use vibration (gate theory of pain), chilling and Pliaglis™ (Galderma, Forth Worth, Texas), as it is the only FDA approved 7% tetracaine/7% lidocaine combination product

¹Newer Anesthetics Block Nd:YAG Pain, *Cosmetic Surgery Times*, April 2001.

on the market," explained Mary P. Lupo, M.D., of the Lupo Center for Aesthetic and General Dermatology in New Orleans, La.



Mary Lupo, M.D.
Lupo Center for Aesthetic and General Dermatology
New Orleans, LA

"Pliaglis topical anesthetic cream numbs the face in less than 30 minutes and the anesthetic action lasts several hours in my patients. The reduction in post-procedure discomfort is significant."



Pliaglis from Galderma, Fort Worth, TX

Pliaglis is a new topical anesthetic delivery system that is applied as a cream and dries to a pliable, easily removable peel. "Pliaglis topical anesthetic cream numbs the face in less than 30 minutes and the anesthetic action lasts several hours in my patients. The reduction in post-procedure discomfort is significant," reported Steven Mandy, M.D., a dermasurgeon in Miami Beach, Fla.

Previously used for venipuncture and intravenous applications in hospital settings, LidoSite® Lidocaine HCl/Epinephrine Topical Iontophoretic Patch 10%/0.1% (Vyteris, Fair Lawn, N.J.) became available for the management of pain associated with aesthetic procedures in 2007. LidoSite, an

PAIN MANAGEMENT

FDA approved active patch marketed to physicians, is comprised of a heart shaped controller holding a microprocessor which regulates the dosage of medication, intervals and duration of dosing. It enables a ten minute application to deliver lidocaine to sufficiently numb the area for improved patient comfort.



LidoSite Patch from Vyteris, Fair Lawn, NJ

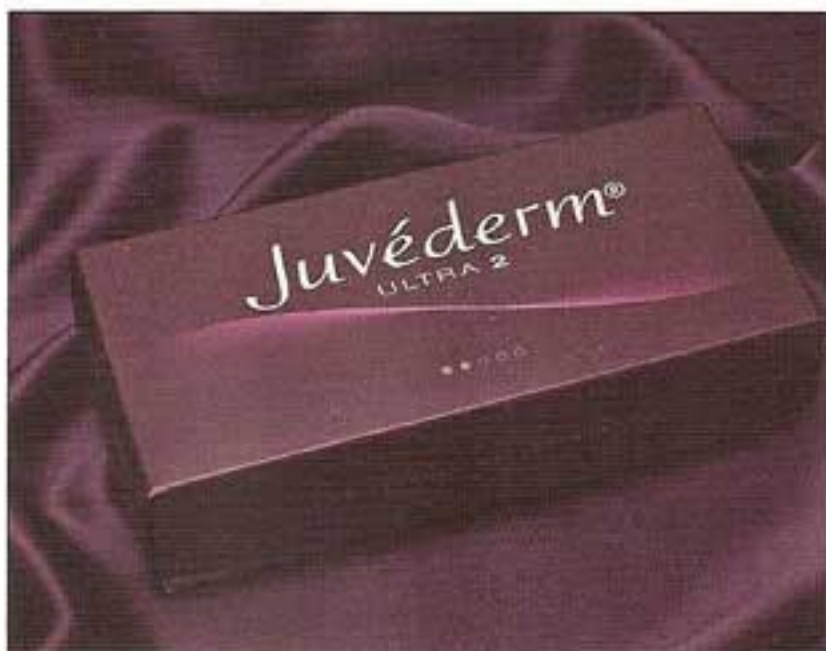


Steven Mandy, M.D.
Dermatologist
Miami Beach, FL

"Taking the extra time and effort to improve the patient's experience with dermal fillers and light-based technologies goes a long way towards patient satisfaction. If there is a way that we as clinicians can make the patient more comfortable during these procedures, they are more likely to continue returning for treatment," Dr. Mandy noted.

FILLERS WITH LIDOCAINE – THE NEXT LEVEL

Juvéderm® ULTRA, the latest offering from the makers of BOTOX®/VISTABEL®, is part of Allergan's (Irvine, Calif.) total facial offering of medical aesthetic treatments. Uniquely, Juvéderm ULTRA contains anesthetic, enabling a gentler injection for the patient. There are three different formulations



Juvéderm ULTRA from Allergan, Irvine, CA

of Juvéderm ULTRA available including; Juvéderm ULTRA 2, a highly cross-linked formulation for the subtle correction of facial lines; Juvéderm ULTRA 3, a highly cross-linked formulation for more versatility in contouring and volumizing facial lines and folds; and Juvéderm ULTRA 4, a more highly cross-linked formulation for volumization and correction of deeper folds and wrinkles, including the cheeks and chin.

"Taking the extra time and effort to improve the patient's experience with dermal fillers and light-based technologies goes a long way towards patient satisfaction."

According to preliminary results from a study of 60 women released at the *International Master Course on Aging Skin (IMCAS)*, 81% of people who received Juvéderm ULTRA felt only slight, or no discomfort at all.² "For the majority of people seeking treatments, it's about looking the best they possibly can. The main feedback that I hear from patients who have tried Juvéderm ULTRA is that the results are natural, instant and without the discomfort often associated with other dermal filler products. The whole injection experience is a lot more comfortable and they are delighted with the results," reported Phillip Levy, M.D., a dermatologist in Geneva, Switzerland. "Your patients will definitely feel the difference."

BREAKTHROUGH AESTHETIC TECHNIQUES

With dermal fillers, not only does pain tolerance vary tremendously in individual patients, but the level of discomfort will also vary by product and by region. Generally, the larger the needle and higher viscosity

²Comparison of Injection Comfort and Ease with Juvéderm ULTRA 3 and Surgiderm 30 XP. Phillip Levy, M.D., Hervé Raspaldo, M.D., Koenraad De Boule, M.D. Accepted as a poster for IMCAS Jan 9-12, 2008, Paris France

PAIN MANAGEMENT

or stiffness of the substance being injected, the more uncomfortable the injections may be for the patient. Most practitioners agree that the lips are one of the most sensitive areas to treat and require more attention.

"I systematically numb the lip area. It can be too painful otherwise and risky if the patient moves while I am injecting, as precision needs to be extreme in the lips. I use a nerve block, which is very efficient and painless if one knows how to utilize it," Dr. Gauthier explained. "Besides this area, injections in the rest of the face are not too painful, providing you select the right needle (very fine) and/or you take your time during the treatment. Juvéderm ULTRA is amazingly pain free and all my patients agree on this point."

In most cases, the lower eye and upper cheek area tend to be less uncomfortable. According to Marianno Busso, M.D., a dermatologist in Miami, Fla., "I use Restylane® (Medicis, Scottsdale, Ariz.) to treat the tear trough area in my practice. This area is not very painful because the skin is very thin and there are not many nerves. I use one or two entry points to do the whole area. I sometimes use a topical cream, but not customarily. The only thing the patient will feel is the piercing of the skin."



Marianno Busso, M.D.
Dermatologist
Miami, FL

Dr. Busso developed an infusion technique to mix an anesthetic with Radiesse® (BioForm, San Mateo, Calif.), using a female-to-female adapter to connect the two syringes, thus rendering it almost painless. "My original work published in the *Journal of Dermatologic Therapy*, December 2007 was intended to adjust the filler for the patient. I am putting in about 10% of the volume of the filler with lidocaine, which is enough to impact its spreadability. The pain management is just an added benefit.

Using only 0.15 cc of 2.0% lidocaine will change the rheology of the product. Radiesse specifically does not flow as well as some other products due to its cohesiveness, so this way we can tailor the product for an area, for example in the hands and temples. The basic concept is to change the product as minimally as possible to avoid altering its duration."

"In the end you want the whole experience to be positive. The more comfortable your patients are, the more they will come back and refer other patients."

On areas such as nasolabial folds, the infusion method may reduce product longevity slightly, but Dr. Busso has found it to be more useful in treating areas he was not able to treat successfully before. "This method has eliminated my use of nerve blocks for Radiesse, although in some cases we use ice or numbing cream for patients who are particularly sensitive. It allows me to really recontour these areas," he said. Even with a good nerve block, there may be some areas that are missed so that the total treatment area is not adequately numbed and the patient will feel some sensation. This infusion technique, which has been adopted by many practitioners for use with Radiesse, Restylane, Perlane® (Medicis) and other facial fillers, has increased the probability of return visits for touch-ups and treatment of additional facial areas.

"In the end you want the whole experience to be positive. The more comfortable your patients are, the more they will come back and refer other patients," Dr. Busso added. ■