Facial Shaping: Cheeks are the New Lips

A proceeding based on a satellite symposium during the 2008 ASCDAS 7th Annual Meeting & Exhibition

Jointly sponsored by Postgraduate Institute for Medicine and EHC Communications, Inc.

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Release date: March 16, 2009
Expiration date: March 31, 2010
Estimated time to complete activity: 1.25 hours

Target Audience. This activity has been designed to meet the educational needs of cosmetic dermatologists and aesthetic surgeons involved in the management of patients with facial aging.

Statement of Need. Today, nonsurgical techniques play a primary role in reversing age-related changes. However, the optimal selection of nonsurgical options and the application of injection techniques to ensure the best results for patients are a major issue of debate. From the perspective of plastic surgeons and cosmetic dermatologists, should fillers or sculptors be used, is there an advantage of combining and layering one product over another, and what is the preferred injection technique?

This symposium proceeding highlights injection techniques and recommendations for optimal use of fillers, with insights on the use of these agents in patients of varied ethnic backgrounds.

Educational Objectives. After completing this activity, the participant should be better able to:

1. Specify nonsurgical treatment options that enhance the mid-face and lower face in order to lift, redefine, rebalance, and re-proportion the whole face.

2. List the indications for the use of dermal fillers for nonsurgical treatment of facial biometric volume loss and alteration.

3. Describe proper injection techniques for facial shaping agents, including both replacement and stimulatory fillers.

4. Explain ethnic considerations to optimize outcomes with the use of facial shaping agents.

Accreditation Statement. This activity has been planned and implemented in accordance with the Essential Areas and policies of the Accreditation Council for Continuing Medical Education (ACCME), through the joint sponsorship of Postgraduate Institute for Medicine and EHC Communications, Inc. Postgraduate Institute for Medicine (PIM) is accredited by the ACCME to provide continuing medical education for physicians.

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Pearl Grimes, MD, FAAD
Consulting Fees: Combe
Contracted Research: Allergan, Altana, Inc., Astellas (Formerly Fujisawa), Galderma, Inamed, SkinMedica, Stiefel Laboratories, Young Pharmaceuticals

Gary D. Monheit, MD, FAAD, FAACS
Consulting Fees: Allergan, Electro-Optical Sciences, Inc., Medicis, Genzyme, Revance, Stiefel
Contracted Research: Allergan, Colbar, Contura, Dermik Aesthetics, Kythera, Ipsen/Medics, Medicis

Wm. Philip Werschler, MD, FAAD, FAACS
Consulting Fees: Allergan, Bioform, Dermik, Medicis
Contracted Research: Allergan, Bioform, Dermik, Medicis

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The following planners and managers, Phyllis Enfanto, RN, Liza Risoli, and John Russo Jr, PharmD, have no real or apparent conflicts of interest to report.

The following PIM clinical content reviewers, Trace Hutchison, PharmD, Jan Hixon, RN, BSN, MA, and Linda Graham, RN, BSN, RA have no real or apparent conflicts of interest to report.

Method of Participation. There are no fees for participating in and receiving CME credit for this activity. During the period March 16, 2009 through March 15, 2010, participants must 1) read the learning objectives and faculty disclosures; 2) study the educational activity; 3) complete the posttest by recording the best answer to each question in the answer key on the evaluation form; 4) complete the evaluation form; and 5) mail or fax the evaluation form with answer key to PIM.

A statement of credit will be issued only upon receipt of a completed activity evaluation form and a completed posttest with a score of 70% or better. Your statement of credit will be mailed to you within 3 weeks.

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“Mirror, Mirror on the wall…” Everyone over the age of 40 has looked in the mirror and noticed changes in their reflection develop over time. Several major events such as drooping of the brows, deepening nasolabial folds and marionette lines, and loss of youthful cheek volume occur. The definition of the mandibular sweep, thinning of the lips, and atrophy of the entire perioral region combine to create an aged facial appearance. In addition, the malar fat pad begins its descent down the cheek. The result is a drawn, tired look with a vertical lengthening of the lower eyelids and a flattened midface on profile.

Today, nonsurgical techniques, primarily facial shaping agents, play both a primary and a complementary role in reversing, disguising, and moderating age-related changes. The optimal selection and application of these treatment options to achieve the best results for our patients are major issues of debate among leading dermatologists and plastic surgeons.

During this symposium held at the 2008 ASCDAS 7th Annual Meeting & Exhibition in Las Vegas, Dr. Gary Monheit and I shared our views on enhancing the midface and lower face in order to lift and redefine, rebalance, and reposition the whole face. Emphasis was placed on proper product selection and injection techniques for soft tissue augmentation, and using facial shaping agents in the various facial treatment zones to regionally augment and enhance the aesthetic appearance of the aging face. Dr. Pearl Grimes complemented these technique-based presentations with a discussion of ethnic considerations in skin of color to optimize outcomes and minimize complications with the use of facial shaping agents.

We hope these pages provide guidance and help create a framework that you, the core specialists in dermatology and plastic surgery, can use to achieve a greater sophistication in using nonsurgical techniques to address age-related changes and the concerns of your patients for mid and lower face rejuvenation.

Sincerely,

Wm. Philip Werschler, MD, FAAD, FAACS
Assistant Professor, Medicine and Dermatology
University of Washington
Seattle, Washington
Glance at someone, and in that briefest instant you are aware of their relative age: child, youth, adult, or senior. Regardless of gender or ethnicity, we are all capable of recognizing the youthful face, because certain characteristics are universally present (or absent).

Many authors and researchers have published anatomical descriptions and ratios meant to guide surgeons in planning cosmetic or reconstructive surgery. Much of this information is readily available to patients. As an alternative, Figure 1 illustrates the characteristics of a youthful, attractive female face from a clinical perspective. While the details vary with ethnicity, beginning with the forehead and eyebrow, there is a pronounced elevation of the brow above the orbital rim, especially laterally. This results in an opening of the aperture of the globe, by supporting the upper eyelid, giving a “wide-eyed” alert appearance. The forehead overlying the frontalis is smooth with a sharply demarcated hairline. The glabellar complex is smooth in repose and the medial brow is similarly supported above the bony rim.

Continuing with the nose, the bridge tends to be straight; the tip or lobule of the nose is heart shaped; the columella, which typically hangs inferiorly is well defined, and opens up the nasolabial angle. The nasal sidewall to the medial cheek junction — the nasofacial angle — is smooth and rounded, with a roll of soft tissue extending up onto the nasal sidewall. A pronounced malar fat pad provides lift and supports the upper lip, commissure, and to some extent the prejowl area. It also tends to push up the lower eyelid, and blends seamlessly laterally with the zygoma, forming the structure of a youthful widened midface. The lips are full and well defined with a distinct border separating the mucosal and keratinized components. Typically the lower lip has a more pronounced protrusion volume than the upper lip. However, ethnic variability in the shape, size, and proportion of lips may be significant.

The mandibular sweep is curvilinear and smooth. It extends from the chin, across the angle of the jaw and up to the ear.
where the earlobes are smooth, full, and rounded with variable attachment geometry. The zygomatics (cheekbones) are well defined and support the lateral face, providing structural definition. This is important for maintaining balance and symmetry, especially as the boundary between the face and neck are concerned. The bony midface structure helps define the transition from face to neck, developing the lateral jawline and medial transition from chin to horizontal submental neck.

**Facial Aging and Volume Loss**

As the face ages, the characteristic taut inverted triangular shape of youth that extends laterally from the top of the zygomatic down to the muscularis mentalis point of the chin becomes inverted. Jowls form, bones and muscles atrophy, the dermis sags, and the face takes on an upright triangular shape. The base is the broadened chin and prejowl area, with the sides framed by the nasolabial folds and marionette lines, culminating with the apex at the nasal radix (Figure 2).

The changes that underlie these observations are more complex than once thought. As the face ages, both hard (bone, cartilage) and soft (muscle, fat, dermis) tissues undergo transformation. In addition to actual volume loss (atrophy, osteopenia) there is a progressive alteration of the relative size, distribution, and proportion of tissue. Combined, these effects of biologic tissue atrophy and remodeling may be termed “biometric volume loss and alteration” (BVL/A). As an example of the evolving nature of the understanding of BVL/A, recent dissection studies of facial fat have been published.

We now understand that malar fat is actually comprised of three separate compartments: medial, middle, and lateral temporal-cheek fat, while the nasolabial fold is a discrete unit with distinct anatomical boundaries. The forehead is similarly comprised of three anatomical units including central, middle, and lateral temporal-cheek fat. Orbital fat is noted in three compartments determined by septal borders. Jowl fat is the most inferior of the subcutaneous fat compartments. Structures previously referred to as “retaining ligaments” are actually formed by fusion points of adjacent septae. Drs. Rod Rohrich and Joel Pessa from the University of Texas Southwestern Medical Center propose that facial aging is not a uniform and contiguous process. Rather, it is a combination of volume loss and repositioning between different compartments occurring in a dynamic process.

**Comprehensive Facial Rejuvenation**

Nonsurgical total facial rejuvenation (NSTFR) — a nonsurgical approach to facial restoration, rejuvenation, and enhance-
The goal of NSTFR is to create balance and symmetry among three facial treatment zones. These include the upper facial treatment zone, which overlaps with the middle facial treatment zone, which in turn overlaps with the lower facial treatment zone and includes the submental and anterior cervical portions of the neck (Figure 3).

From this perspective, patients can be taught to approach facial rejuvenation as a series of treatments that improve each zonal area of the face, rather than individual lines and wrinkles. This systematic approach offers patients the option of addressing their needs and desires in a prioritized fashion resulting in an overall more satisfying, aesthetically pleasing, naturally balanced visage. By including the patient in the decision-making process, this approach may lead to greater patient satisfaction as well.

Conclusion
Today, cosmetic treatment of the aging face extends beyond simply using fillers for lines and wrinkles. Rather, the goal is to restore lost volume in the mid-to-lower face. Indeed, we are moving from removing lines and filling wrinkles to true facial shaping as an art form.

Facial shaping agents — especially injectable fillers — make it possible to add volume and more closely offset the muscle, fat and dermal atrophy, and redistribution (BVL/A) that contribute to biometric volume loss of the face. The succeeding articles in this series focus on application of fillers to achieve NSTFR.

References


Several structural fillers are available to achieve dermal structural support and volume replacement. However, calcium hydroxylapatite (Radiesse®) and poly-L-lactic acid (Sculptra®) are most commonly used. General guidelines for the use of these products are presented in Table 1. Technique subtleties include the angle at which the needle should penetrate the skin, the discrete depth at which the material should be inserted, the volume deposited per needle pass, and the technique of needle tracking (thread, fan, depot, serial puncture, etc.). For the vast majority of these devices, the actual volume deposited during each injection is minimal.

### Case History

This 70-year-old Caucasian woman is retired and lives an active life in a resort community. She has marked changes in the upper, middle, and lower face, characteristic of the aging process. The original triangular facial shape has morphed to a trapezoidal contour. As a first step in her treatment, correction of the descent of the facial soft tissues will help return this patient to a more aesthetically appealing, age-appropriate appearance.

Following application of a lidocaine and tetracaine topical anesthetic (Pliaglis® Cream), treatment begins by adding poly-L-lactic acid (reconstituted with 5mL sterile water for injection + 3mL 1% lidocaine with epinephrine) to create volume to the midface over the maxilla, the nasolabial fold, the modiolus and labial mental sulcus, and finally the lateral canthal region.

### Midface

The skin is pinched and the 25-gauge x 1½-inch needle inserted through the dermis perpendicular to the skin surface (Figure 1). The needle is then advanced horizontally (parallel to skin surface) along the subdermal plane. As the needle is withdrawn, poly-L-lactic acid is injected with a 27-gauge (5/8”, 3/4”, 1”, 1½”) needle angled at 45°, moving steadily through the dermis to the juncture of the subcutaneous space. Needle angle is adjusted until parallel to the skin surface, then advanced to the distal portion of the target area. Product is implanted at a constant rate of needle withdrawal for smooth, even delivery.

<table>
<thead>
<tr>
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<td>Poly-L-lactic acid (Sculptra®)</td>
<td>Tunneling (threading) and depot-type injections are used. 25 gauge (3½”, 4½”, 5½”) or 26 gauge by ½” Needle angle is lowered and then advanced at this level. Ensure that a blood vessel has not been entered by using a reflux maneuver before injection. Deposit 0.1 to 0.2mL as needle is withdrawn, leaving a visible and palpable elevation of the skin. Avoid deposition into the superficial dermis. Massage after each injection.</td>
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Table 1. Comparative injection technique guidelines for two commonly used structural fillers: calcium hydroxylapatite and poly-L-lactic acid

The patient is a 70-year-old woman with marked changes in the upper, middle, and lower face. The original triangular facial shape has become trapezoidal. Her goal is to “look good for her age,” especially when compared to her peers. The objective in this article is to illustrate the appropriate use of a structural, collagen-stimulating filler to achieve dermal structural support and volume replacement, as the first procedure in a series of nonsurgical total facial rejuvenation treatments.

### Abstract

The patient is a 70-year-old woman with marked changes in the upper, middle, and lower face. The original triangular facial shape has become trapezoidal. Her goal is to “look good for her age,” especially when compared to her peers. The objective in this article is to illustrate the appropriate use of a structural, collagen-stimulating filler to achieve dermal structural support and volume replacement, as the first procedure in a series of nonsurgical total facial rejuvenation treatments.

Customizing Treatment to Enhance the Zygoma and Maxillary Regions: Case Presentation

Wm. Philip Werschler, MD, FAAD, FAACS

### Case Presentation

Wm. Philip Werschler, MD, FAAD, FAACS

### Table 1. Comparative injection technique guidelines for two commonly used structural fillers: calcium hydroxylapatite and poly-L-lactic acid

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Figure 1. The photo shows linear threading and fanning injections in the midface (A, B, and C) and into the lateral canthal area (D). After inserting the needle through the dermis perpendicular to the skin surface and advancing it horizontally along the subdermal plane, poly-L-lactic acid is injected as the needle is withdrawn.

Figure 3. Injecting poly-L-lactic acid along the nasolabial fold using a fanning technique toward the nasal columella and just superior to the vermilion space (A). A single injection is also made at the level of the modiolus (B), and a fanning injection at the labial mental sulcus (C).

Figure 3. Two injections of poly-L-lactic acid are placed in the mid-dermis, lifting the alar groove and canine fossa in order to lift and define the smooth contour of the area.

Canine Fossa and Alar (Nasofacial) Groove
Restoring volume to the alar groove and canine fossa to compensate for bone loss is critical in order to define the smooth contour of the area and help restore the supporting nature for the upper lip (Figure 3).

Conclusion
As the resources, capabilities, and skill sets of cosmetic surgeons and aesthetic dermatologists continue to develop and improve, it is time to move on from simply correcting superficial facial lines and wrinkles toward a more global understanding and approach of the dynamics of facial aging. To this end, application of a collagen stimulator structural filler to initiate the treatment regimen provides the foundation for succeeding treatments with volume replacement fillers, toxins, lasers, skin care, and other procedures.1,4

References
Facial aging is the cumulative response to complex ongoing changes in bone, muscle, fat, and skin. Accordingly, it is not surprising that familiarity with the use of only one or two fillers is unlikely to achieve optimal facial rejuvenation. To assist cosmetic surgeons and aesthetic dermatologists in becoming more expert in the use of a range of facial fillers, this article compares the commonly used products in aesthetic practice today, with emphasis on important differences that affect treatment outcomes.

**Adipose Tissue and Skeletal Changes Over Time**

Recent study results provide insight into the underlying changes in fat and muscle tissue that contribute to facial aging. It is now understood that subcutaneous facial fat is partitioned into multiple, independent anatomical compartments. For example, malar fat is composed of three separate compartments (ie, medial, middle, and lateral temporal cheek fat), while the nasolabial fold is a discrete unit with distinct anatomical boundaries. Orbital fat is partitioned in three compartments determined by septal borders. Some of the structures referred to as “retaining ligaments” are formed simply by fusion points of abutting septal barriers of these compartments. Researchers concluded that facial aging is, in part, characterized by how these compartments change with age. The concept of separate compartments of fat suggests that the face does not age as a confluent or composite mass, and shearing between adjacent compartments may contribute to soft-tissue malposition. For example, the depth of the nasolabial fold is a result of the descent of the malar fat pad pushing on an atrophic perioral border. A natural correction of the phenomenon thus requires more than filling the wrinkle, but rather blending the units requiring volume.

With regard to specific bony aspects of the face, researchers at Stanford University Medical Center report that the glabellar and maxillary angle in males and females decrease with increasing age. There is also a significant increase in pyriform aperture area from the young to the middle aged. These findings suggest that the appearance of the aged face is influenced by dramatic changes in bony elements of the midface, coupled with soft tissue changes.

**Categorizing Facial Fillers**

Facial wrinkles are cumulative with aging, and successful treatment requires appropriate selection and application of a range of injectable devices to successfully address these changes. This article compares the commonly used fillers in aesthetic practice today, with emphasis on selected product characteristics that may affect treatment outcomes.
Fat Autograft Muscle Injection

Fat augmentation has been a popular structural filler, despite the fact that longevity and symmetry of the procedure can be unpredictable. In addition, when large volumes are injected for panfacial correction, prolonged edema may result for months. To address these deficiencies, a relatively new technique known as fat autograft muscle injection (FAMI) for fat augmentation was developed. When using FAMI, fat is harvested in an atraumatic and sterile manner, centrifuged, and injected with specific blunt-tipped cannulae for different muscle groups. In one report, 100 patients were injected with volumes ranging from 3 to 63mL of centrifuged fat in a single session. There were no complications, and downtime was 5 to 7 days. Patient satisfaction was reportedly high during the subsequent 3 to 6 months. The authors concluded that FAMI offers the potential for symmetric, long-term results.

The key to long-lasting fat filling is:
- Atraumatic harvesting
- Microdoplet delivery
- Deep injection with adequate blood supply to support the fat graft

Poly-L-Lactic Acid

Volume restoration following injections of poly-L-lactic acid occurs gradually, and is incremental over the course of 3 to 6 sessions. The results last up to 2 years with repeated treatment.

The official product information instructs reconstituting the lyophilized powder using 3 to 5mL of sterile water for injection. The author prefers to reconstitute the product in 9mL of sterile water, adding an additional 1mL lidocaine prior to injection. After waiting for at least two hours but up to 72 hours, the reconstituted product is agitated prior to withdrawing the contents and repeatedly during treatment. Correct injection technique and massage of the treated area may reduce or eliminate the occurrence of device-related adverse events such as subcutaneous papules and nodules. In one study where massage significantly decreased the incidence of subcutaneous papules, the treated area was massaged by the physician for five minutes following treatment and twice daily by the patient for the next month. In the author's experience, using 10mL to reconstitute the product results in a dilution that works well during injections and reduces the risk of developing nodules and papules.

Calcium Hydroxylapatite

Compared with poly-L-lactic acid, where the response to treatment is delayed due to increased collagen deposition, the clinical response to calcium hydroxylapatite is related to injection volume. In addition, the microspheres act as a “scaffold” to promote collagen in-growth.

Five minutes following an injection, the correction appears to expand. Massage following injection corrects inconsistencies. As treatment-related swelling can mask the degree of actual correction, additional treatment may have to be delayed until swelling subsides. Clinical results last up to 18 months.

Collagen and Hyaluronic Acid

Among the local volume fillers, many of the collagen-based products have flow characteristics that facilitate injection and are forgiving if mistakes are made. However, the less viscous products tend to be more technique sensitive. A gradual thickening of the skin does not occur following injection of collagen.

Hyaluronic acids are similar to collagens in their longevity and injection technique. They give correction through pure volume augmentation and immediate effect.

Hyaluronic acid is particularly useful for patients who may react to collagen fillers or desire immediate and predictable clin-
ical improvement, without the need to wait several weeks for the results of skin tests. A range of hyaluronic acid-containing products is available. Because each differs in rate of cross-linking, size, formation of hyaluronic strands or particles, and concentration, they should be injected into different dermal levels. For example, Perlane® should be injected deeply into the dermis. Restylane® is injected into a slightly higher dermal plane, as is Juvederm® , which delivers a soft, natural result because of its flow characteristics.

Conclusion
A variety of injectable fillers have become available over more than three decades. These products are not identical. Each requires an appreciation of its characteristics and a skilled injection technique, as subtle variations directly influence the cosmetic result.

References


Table 2: Use of fillers based on the author’s experience

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<thead>
<tr>
<th>Primary Indication</th>
<th>Occasional</th>
<th>Never</th>
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<tbody>
<tr>
<td>Superficial fine lines</td>
<td>Zyderm®</td>
<td>Juvederm® Ultra</td>
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<td></td>
<td>Cosmoderm®</td>
<td>Captique®</td>
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<td>Evolence Breeze®</td>
<td>Restylane®</td>
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<td>Medium depth grooves</td>
<td>Zyplast®</td>
<td>Juvederm® Plus</td>
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<td>Cosmoplast®</td>
<td>Radiesse®</td>
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<td>Deeper folds</td>
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<td>Juvederm® Ultra Plus</td>
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Ethnic Considerations in the Use of Fillers

Pearl Grimes, MD, FAAD

Abstract

There is no question that injectable fillers are becoming substantially more popular among individuals with darker skin. In this article, cultural considerations, injection techniques, and safety and tolerability issues during nonsurgical total facial rejuvenation of people of color are reviewed.

All racial ethnic groups have a keen interest in procedures to enhance aesthetic appeal. For many minorities, cosmetic surgery is no longer viewed as a sign of self-hatred or a rejection of racial identity. It is about enhancing natural beauty.1

Growth in Aesthetic Procedures

The overall frequency of cosmetic procedures among patients of color has increased to about 20 percent and is climbing.2 Data from the 2007 American Society for Facial Plastic and Reconstructive Surgery survey of members support this view. Over the past eight years, the numbers of cosmetic surgical patients have increased among African Americans (40%), Hispanics (19%), and Caucasians (7%). Only among Asian Americans was there a reduction in cosmetic surgical patients (-8%).3

Injectable fillers and botulinum toxin injections are among the cosmetic procedures most commonly performed in darker racial ethnic groups. Other procedures reflect a broad range of needs and aesthetic expectations. They include chemical peels, microdermabrasion, laser hair removal, liposuction, and breast implants. Nonablative resurfacing procedures, including intense pulsed light and radio-frequency procedures are also increasing in popularity.1

With respect to surgical procedures, African Americans are most likely to undergo rhinoplasty (63%), as are Hispanics (45%). Asian Americans are most likely receiving blepharoplasty or eyelid surgery (39%), while Caucasians are evenly split among rhinoplasty (27%), blepharoplasty, (24%) and face lifts (26%).3

Cultural Considerations

It is important to understand what is culturally acceptable to patients of color and what is desired. Individualization is key, as there is natural variation that can affect treatment decisions. For example, patients may want to maintain the features they view as part of their ethnicity. Also, some races are more likely to opt for certain cosmetic procedures than others. Lip augmentation is common among Caucasians. Yet, few African American women request this procedure. Once these factors are considered, clinicians must select the appropriate treatment(s), and adjust their application to achieve an aesthetically pleasing yet culturally acceptable outcome.

Considerations in Injection Technique

It is important to optimize correction techniques. To do otherwise is a disservice to the patient. Techniques such as cross-hatching and fanning are used for optimal correction of moderate-to-severe nasolabial folds. Considering the propensity for darker skin to develop post-inflammatory hyperpigmentation, linear threading is preferred to serial puncture. However, there are some areas of the face (eg, marionette lines) where serial puncture is performed, without increasing the likelihood of causing post-inflammatory hyperpigmentation.
When using cross-hatching and fanning for optimal correction of moderate-to-severe nasolabial folds, it is important to optimize the correction. To do otherwise is a disservice to the patient. Prior to injecting, the patient should be advised that a full correction with a little bruising is desired versus using insufficient filler to minimize bruising. Bruising can be treated later, if necessary.2

**Safety and Tolerability**

Prescribing information for fillers carries a safety warning regarding the susceptibility to keloid formation and hypertrophic scarring. Yet despite this statement, the safety profile in every study has been outstanding for skin of color. Except for a slightly higher incidence of post-inflammatory hyperpigmentation, no data suggest that patients of color are at an increased risk of developing keloids or hypertrophic scars. In addition, the incidence of post-inflammatory hyperpigmentation and hypopigmentation is minimal.1,4 In the author's experience, dermal fillers tend to have increased longevity in skin of color.2

**Conclusions**

The key to successful facial aesthetic procedures is the same for all patients. It begins with knowledge of patients' cultural expectations as well as their treatment objectives and concerns. The clinician must analyze each face and be skillful in the selection and application of products that will best achieve the desired outcome. Although more data are needed, people of color do not appear to be at increased risk of hypersensitivity reactions, bruising, keloids, or hypertrophic scars. As with Caucasians, the goal of treatment in people of color is to counter the effects of aging and achieve a natural youthful appearance.

**References**


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Evaluation Form
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To assist us in evaluating the effectiveness of this activity and to make recommendations for future educational offerings, please take a few minutes to complete this evaluation form. **You must complete this evaluation form to receive acknowledgment for completing this activity.**

Please answer the following questions by circling the appropriate rating:
1 = Strongly Disagree  2 = Disagree  3 = Neutral  4 = Agree  5 = Strongly Agree

**Extent to Which Program Activities Met the Identified Objectives**

**After completing this activity, I am now better able to:**
Specify nonsurgical treatment options that enhance the mid-face and lower face in order to lift and redefine, rebalance, and re-proportion the whole face. 1 2 3 4 5
List the indications for the use of dermal fillers for nonsurgical treatment of facial biometric volume loss and alteration. 1 2 3 4 5
Describe proper injection techniques for facial shaping agents including both replacement and stimulatory fillers. 1 2 3 4 5
Explain ethnic considerations to optimize outcomes with the use of facial shaping agents. 1 2 3 4 5

**Overall Effectiveness of the Activity**
The content presented:
Was timely and will influence how I practice 1 2 3 4 5
Enhanced my current knowledge base 1 2 3 4 5
Addressed my most pressing questions 1 2 3 4 5
Provided new ideas or information I expect to use 1 2 3 4 5
Addressed competencies identified by my specialty 1 2 3 4 5
Avoided commercial bias or influence 1 2 3 4 5

**Impact of the Activity**
Name one thing you intend to change in your practice as a result of completing this activity:

Please list any topics you would like to see addressed in future educational activities:

Additional comments about this activity:

**Follow-up**
As part of our continuous quality improvement effort, we conduct postactivity follow-up surveys to assess the impact of our educational interventions on professional practice. Please indicate if you would be willing to participate in such a survey:

☐ Yes, I would be interested in participating in a follow-up survey.
☐ No, I’m not interested in participating in a follow-up survey.
Facial Shaping: Cheeks are the New Lips
A proceeding based on a satellite symposium during the 2008 ASCDAS 7th Annual Meeting & Exhibition

If you wish to receive acknowledgment for completing this activity, please complete the post test by selecting the best answer to each question, complete this evaluation verification of participation, and fax to: (303) 790-4876.

**Post Test Answer Key**

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**Request for Credit**

Name ____________________________________________________________
Degree ___________________________________________________________
Organization _______________________________________________________ 
Specialty __________________________________________________________
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Signature ___________________________________________ Date ____________

**For Physicians Only**

I certify my actual time spent to complete this educational activity to be:
☐ I participated in the entire activity and claim 1.0 credits.
☐ I participated in only part of the activity and claim ___ credits.

**Quiz**

1. Select the changes that are characteristic of the aging face.
   a) Transformation of bone and cartilage
   b) Transformation of muscle, fat, and dermal tissues
   c) Volume loss (atrophy, osteopenia)
   d) All of the above are correct

2. Select the correct statement describing nonsurgical total facial rejuvenation (NSTFR).
   a) A nonsurgical approach to facial restoration, rejuvenation, and enhancement
   b) Combines fillers with toxins, lasers and light sources, peels and resurfacing, and skin care
   c) Answers a and b are correct
   d) Focuses on the correct use of volumizing (not structural) fillers

3. Three facial treatment zones do not include the submental and anterior cervical portions of the neck.
   a) True
   b) False

4. Select the false statement for injecting calcium hydroxylapatite.
   a) 0.1 to 0.3mL implanted per injection
   b) Multiple injections can be made in an area in order to overcorrect
   c) Do not inject intradermally
   d) Answers a and c are incorrect

5. Select the false statement for injecting poly-L-lactic acid.
   a) Deposit 0.1 to 0.2mL as needle is withdrawn, leaving a visible and palpable elevation of the skin
   b) Massage after each injection
   c) Aim for deposition of product into the superficial dermis
   d) Answers a and c are incorrect

6. Identify the filler that is not considered “structural.”
   a) Collagen
   b) Fat
   c) Poly-L-lactic acid
   d) Calcium hydroxylapatite

7. Hyaluronic acids are similar to collagens in longevity, injection technique, and achieving correction through volume augmentation and immediate effect.
   a) True
   b) False

8. Select the cosmetic procedures most commonly performed in darker racial ethnic groups.
   a) Chemical peels, microdermabrasion
   b) Liposuction and breast implants
   c) Injectable fillers and botulinium toxin injections
   d) Laser hair removal

9. Considering the propensity for darker skin to develop post-inflammatory hyperpigmentation, linear threading is preferred to serial puncture.
   a) True
   b) False

10. Select the accurate statement for using fillers in people of color.
    a) Slightly higher incidence of post-inflammatory hyperpigmentation
    b) Increased risk for keloids or hypertrophic scars
    c) Post-inflammatory hyperpigmentation and hypopigmentation is minimal
    d) Answers a and c are correct