Rejuvenation of the African American Periorbital Area: Dynamic Considerations

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ABSTRACT

The rejuvenation of the African American periorbit is rooted in select modifications of traditional techniques. The African American patient presents with dynamic considerations and needs. Whereas this subset is at risk for pigmentation and scar concerns, the natural resistance to actinic damage makes rejuvenation efforts rewarding. We will review the composite that makes up the periorbit, the brow, upper eyelid, lower eyelid/lateral canthus, and the midface unique. Specific indications and presurgical and post-surgical considerations will be presented in addition to technical considerations to manage periorbital aging that spares the skin. Common pitfalls and succinct ways to avoid them without compromising on the ultimate end result will be presented. Ultimately, periorbital rejuvenation can be done completely without jeopardizing one's ethnic identity.

KEYWORDS: African American, periorbital, blepharoplasty, midface lift, brow lift, canthoplasty

Over the past decade, we have seen unprecedented growth in the popularity of elective cosmetic surgery. According to the American Society for Aesthetic Plastic Surgery (www.surgery.org), there has been a nearly 8% increase in cosmetic surgery between 2006 and 2007.¹ In 2007, blepharoplasty represented the third most common procedure for women and the second for men, making eyelid rejuvenation a significant priority in modern plastic surgery. The growth has been even more dramatic in people of color, with African Americans seeing a 293% increase between 1997 and 2004.² African American skin is classically described as Fitzpatrick type IV, V, and VI, resistant to UV damage or change due to sun exposure.³ In fact, persons of color make up the fastest growing demographic in the United States, primarily due to poor acceptance in previous generations. As *aesthetic* is derived from *aisthetikos* for "of sense of perception" to that which is beautiful or pleasurable to

the senses,⁴ we know that beauty is in the eyes of the beholder and these perceptions may vary from one cultural group to the next. Most of the literature that deals with facial aesthetics is centered in Caucasian ideals, running the risk of conflicting with other cultural desires, if taken too literally. Because cultural perception is based on cultural norms and figures associated with beauty, the identification of ideals is vital to the success of aesthetic surgery. There are goals that remain consistent, regardless of the race, gender, or ethnicity. One strives for approaches that will restore and enhance in the most natural way possible, without distortion of function. Most elective patients are not trying to assume the appearance of another person but rather to look and feel that their appearance conveys a message that is consistent with their inner feeling. The most common descriptions used in modern consultation for eyelid rejuvenation, a desire to "not look tired," "not look

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Cosmetic Surgery in the Ethnic Population: Special Considerations

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sad," "I want to look refreshed," are the end points sought after by our patients.

Various ethnic and racial groups possess differing skin characteristics that affect its barrier function, sebum production, sun protection, chemical sensitivity, and affects of aging. A unique study of 3000 individuals of every ethnic and racial background and differing age has revealed age-dependent changes in the skin.⁵ The mean facial surface area covered with wrinkles is significantly less in African Americans compared with that in Caucasians. The authors suggest that racial differences in other genetic factors besides skin pigmentation, such as DNA repair, are important in determining the development of skin wrinkles.⁵⁻⁷ With the advent of the Internet and popular culture access to plastic surgery, the typical patient is more educated than ever, making the expectations for the surgeon significant. Patients expect the surgeon to anticipate what they need, even if the patient is not able to describe it in great detail. As with any procedure, diagnosing and development of a treatment strategy are paramount to a successful outcome. Whereas darker skin has the tendency to not show wrinkles over time, it is much more likely to show a scar after an incision. This review will present an approach to the African American in pursuit of periorbital rejuvenation, allowing for a custom approach. Some of the principles have been of use in persons of color, in general, and focus on an effort to minimize visible scar burden. In addition, a review of nonsurgical options will be listed, as adjuncts to enhancement and/or salvage considerations. Ultimately, function will trump form regardless of the color of one's skin, and an emphasis on safety will also be shared.

ANALYSIS AND SURGICAL PLANNING

A successful outcome is rooted in a successful surgical plan. Approximately 40% of African American women fear losing their ethnic identity with blepharoplasty surgery, according to our study published in 2006, emphasizing the importance of sensitivity.⁸ The split face image, in Fig. 1A, demonstrates the composite nature of facial aging in an African American woman. As Flowers and others^{9,10} have taught us, the periorbital aging process begins at the forehead/brow region. The process begins with forehead redundancy and flattening of the brow apex. We then see crowding of the lateral and central upper eyelid, as the brow migrates inferiorly. The upper eyelid often loses its septal support, leading to brow prolapse and an exacerbation of upper eyelid fullness and congestion. The lateral canthal complex then migrates inferiorly, loosening the lower eyelid sling. The lower eyelid then takes on an elongated appearance with the development of a tear trough and nasojugal sulcus. This is followed by ptosis of the midface and deepening of the nasolabial sulcus. Finally, we see jowl formation. The use of previous, more youthful photos are vital in the planning of periorbital surgery. In addition, an extensive ophthalmic history is needed. The patient should be assessed for ophthalmic conditions such as dry eye, glaucoma, use of ophthalmic medications, prior surgery or trauma, corrective lens use, and an ophthalmic risk factor analysis.

The ophthalmic risk factor analysis begins with findings of postsurgical change, such as lower lid retraction. A history of blepharoptosis complicates the treatment plan, as one must reposition the supratarsal crease while avoiding a visible scar. As described by Jelks, the vector of the eye affects the complication risk for lower

Figure 1 (A) A 57-year-old woman with periorbital age-related changes. Morphed digital photography (split left half = current photograph; split right half = photograph of same patient ~20 years ago) demonstrating descent of lateral canthus as important feature in the aging process. Note the increased preseptal and preorbital fullness of her youth, with a narrow pretarsal show. (Reprinted from Odunze, MO. Periorbital rejuvenation and the African American patient: a survey approach. *Plast Reconstr Surg* 2006;118:1011.) (B) The medial commissure serves as the vertex, the initial ray extends from the vertex at an angle of 0 degrees along the x-axis, and the terminal ray extends from the vertex through the lateral canthal complex. The difference between the initial and terminal rays constituted the lateral canthal angle (θ).

eyelid surgery.¹¹ The vector negative, defined as the globe anterior to the anterior-most part of the maxilla, makes lower lid malposition much more likely after cosmetic surgery. The floppy lower eyelid, defined as a distraction of more than 6 mm, is more prone to post-operative lower lid malposition, necessitating canthal tightening procedures.¹¹⁻¹³

When planning the overall approach, it is important to realize African American patients are looking for significant improvement, but they fear overcorrection more than do their Caucasian counterparts, according to our research.⁸ In addition, we found a strong association with Asian features when comparing African American eyes, especially with regard to the lateral cant of the eye. When questioned, patient's believed their eyes shared canthal and upper eyelid findings with their Asian counterparts, despite not wanting to change their ethnic character. In general, when questioned, this group is not pursuing a "younger

look" but rather a "less tired" look (Tables 1 and 2). Reviewing past photos is used primarily to assess normal canthal and periorbital landmarks for surgical planning. This distinction is particularly important in the African American patient. In general, we prefer to use canthopexy liberally to restore canthal tilt, preservation of the majority of the upper eyelid orbicularis as an autologous graft, and placing the upper blepharoplasty closer to the ciliary margin than in the typical Caucasian eyelid (taking care to measure the exact height of the tarsal cartilage).^{12,13} If supratarsal malposition is found in the upper eyelid, ptosis correction versus three-point fixation of the supratarsal crease is discussed. Ptosis surgery is recommended in those patients adversely affected by the condition and/or desiring restoration to a more youthful finding. Regardless of ethnicity or race, it is vital to be aware of patients with dry eye syndrome, as ptosis correction will exacerbate these symptoms.

Table 1 Responses to Questionnaire of 41 Patients Who Had at Least One Cosmetic Plastic Surgery Procedure—African American Respondents

		Percentage Yes, %	Percentage No, %
1	Do/Did your parents approve of plastic surgery, in general?	75.6	24.4
2	Did you ever feel plastic surgery was just for Caucasians?	26.8	73.2
3	Have you had or considered having eyelid plastic surgery?	22.0	78.0
4	Do/Did you have a favorable or neutral opinion of plastic surgery before your procedure?	95.1	4.9
5	Do/Did you think your peers would approve of your decision to have eyelid plastic surgery?	73.2	26.8
6	Are/Were you concerned that eyelid plastic surgery would change your appearance too much?	31.7	68.3
7	Are/Were you trying to look younger?	48.8	51.2
8	Are/Were you interested in having features besides African American?	17.1	82.9
9	Are/Were you afraid of losing your ethnic identity?	12.2	87.8
10	Do/Did you want to look more Asian?	7.3	92.7
11	Do/Did you think Asians and African Americans shared similar features of the eye?	41.5	58.5
12	Did you ever feel your eyes looked more Asian when you were younger?	24.4	75.6
13	Did the media influence your decision to consider plastic surgery?	24.4	75.6
14	Does/Did ethnicity matter in your decision to choose your plastic surgeon?	34.1	65.9
15	If you've had eyelid plastic surgery, are you satisfied with the results?	100.0	0.0
16	If so, would you consider undergoing another cosmetic procedure?	100.0	0.0
17	If another doctor were to perform eyelid plastic surgery on you, would you be concerned that your ethnic identity would be compromised or lost?	65.9	34.1
18	If another doctor were to perform eyelid plastic surgery on you, would you be concerned that your eyes would look too Caucasian?	48.8	51.2

Table 2 African American Questionnaire Results from Table 1

Question No.*	Age ≤45 Years	Age >45 Years	<i>p</i> [†]
	Percentage Yes, %	Percentage Yes, %	
1	72.9	77.8	0.94
2	30.4	22.2	0.84
3	4.3	44.4	0.12
4 [‡]	95.6	94.4	0.83
5	69.6	77.8	0.93
6	43.5	16.7	0.31
7	52.2	44.4	0.59
8	17.4	16.7	0.86
9	13.0	11.1	0.88
10	8.7	5.6	0.89
11	47.8	33.3	0.21
12	30.4	16.7	0.82
13	13.0	38.9	0.29
14	47.8	16.6	0.10
15	NA	100	—
16	NA	100	—
17	73.9	55.5	0.23
18	47.8	50.0	>0.99

*See Table 1 for question details.

[†]As determined by F-test.

[‡]% Yes = number of subjects who looked favorably or neutrally upon plastic surgery.

NA, not applicable.

For the African American patient, we found that canthal ptosis with aging occurs at a faster rate compared with that of Caucasian counterparts. This finding is based on controlled photo files analyzed with high-resolution photography and computer evaluation of the canthal angle in more than 500 subjects.¹³ Whereas the lateral canthus starts higher than the medial canthus in the youthful African American patient, the drop over time is relatively dramatic. The surgeon may be deceived to find the medial and lateral canthal points equal, a finding commonly found in the Caucasian population, and mistakenly leave this malposition untreated while other periorbital concerns are addressed. This omission leaves the patient with an incomplete correction and subjective dissatisfaction.

Brow ptosis in African Americans has been found to occur at a lesser extent and at a much later age compared with that in Caucasian patients.^{13–16} Despite great advances with light-based treatments, laser to the lower eyelid in skin of color remains a challenge. Given the rare finding of excessive lower eyelid skin after treatment of redundant deeper tissue, immediate sub-ciliary skin pinch excision is preferred. The removal of skin in this location is very effective and safe, typically leaving no signs of surgical intervention. We have found the use of 6-0 Prolene (Ethicon, Inc., Somerville, NJ) suture in skin of color leaves no identifiable marks. This approach has even been used in patients with a known

history of keloid formation in other parts of the body. In conclusion, analysis begins with a detailed review of a patient's history and previous photographic findings to map out the successful result.

TECHNICAL APPROACH

Once the surgical plan has been set, there are techniques that are common to patients of all backgrounds; in particular, supporting the brow/forehead aesthetic unit to provide the scaffold for successful periorbital rejuvenation, and in addition, making an assessment for risk factors in the rejuvenation plan. There are considerations that are unique and require a modified approach to achieve the desired outcome. We will focus on these variables. Given that most African American patients do not have significant signs of aging in the forehead region, until much later in life, the focus is typically set on balancing the brow position and providing support for the planned eyelid repositioning. We have found that internal browpey is ideal for this patient demographic, affording the limitation of scar to the supratarsal area. In addition, we have found that the upper eyelid becomes deflated over aging time, making preservation and restoration the most important variables. Fat excision is most often limited to the nasal upper eyelid fat compartment. Care is taken to be very conservative with fat excision in the more lateral compartments. The upper eyelid is an ideal access point for lateral reticular release and lateral canthopexy.¹¹

Given the unique challenges of pigmented skin and visible scar, we have found it ideal to attempt to keep visible scar within the confines of the lateral canthal point. Because of this desire, we developed the transconjunctival deep plane midface lift.^{14,15} This is a technique that provides primary access to the lower lid and midface through the transconjunctival approach. This eliminates the need for traditional skin muscle flap surgery and the required scar burden. In addition, the approach leaves the orbicularis undisturbed, minimizing the risk of eyelid malposition due to muscle contracture or paralysis. By dividing the orbitomalar ligament, the midface is readily available and amenable to suture fixation after elevation. This is an approach that can often replace or eliminate the need for more traditional face-lifting approaches. Because there are often limited rhytides visible on African American skin, deep autologous fat injection and/or grafting is ideal for malar restoration and tear trough augmentation. We prefer to use the lateral ala and oral commissure as access points for fat injection. The ideal fat graft for skin of color is the dermal fat graft or septal fat graft for tear trough and direct malar augmentation. The patients are advised that the implanted autologous tissue will initially feel hard to the touch and undergo maturation and softening over 6 to 12 weeks. Although the African American patient

wishes to preserve a natural appearance, it is important to slightly overcorrect to anticipate postoperative relapse and “settling” of the surgical manipulation. We always use nonabsorbable suture to limit the risk of hyperpigmentation and/or suture reaction seen with absorbable material. The sutures are removed at 4 to 7 days, thus limiting potential for suture reaction.

CASE STUDIES

Although it is not possible to provide every nuance of periorbital rejuvenation in the African American patient, it is possible to provide some illustrative examples of technical approaches to the area. We will describe the treatment approach and rationale in two African American women to demonstrate the algorithm for both primary and secondary rejuvenation.

The first patient, seen in Figs. 1 and 2, is a woman presenting in her late fifties desiring to look less “tired.” The split image shown earlier helps to outline the changes that have occurred and will be used to reference

the appropriate location for her lateral canthus relative to the medial canthus. In addition, it is important to visualize her asymmetry prior to the procedure. In particular, her right brow is lower and flatter than the contralateral side, creating a more hooded appearance to the right upper eyelid. She has forehead rhytides, but they are largely reactive, dynamic in nature to involuntarily address brow and eyelid ptosis. Upon simulated correction, the forehead assumes a more aesthetic position, making direct forehead rhytidectomy unnecessary. With these findings, we prefer to approach this indication using only periorbital access. In addition, we will address upper eyelid excess while preserving the underlying orbicularis and pursue conservative resection of the nasal fat pad. Given the lower lid distraction is less than 6 mm, a canthopexy is planned with a lateral reticular release. Because the patient has significant tear trough deformity, septal fat prolapse, and submalar depression exacerbating midface ptosis, a transconjunctival deep plane midface lift is planned. A tear trough fat graft is planned to soften the sulcus. The procedure can be done

Figure 2 Figure 2B shows the patient in Fig. 2A after bilateral internal browpexy, upper blepharoplasty, transconjunctival midface lift with lateral retinaculum release, and canthopexy. The lateral retinaculum release and canthopexy was performed by elevating the brow in a subperiosteal plane, keeping the suborbicularis fat pad attached to muscle and releasing the lateral brow retaining ligaments. Care was taken to identify and preserve the supraorbital neurovascular bundle while dissecting 2 cm above the supraorbital rim. Only the lateral one third and one half of the brow was dissected. The apex of the brow was then secured to the desired position, periosteum to muscle immediately under the inferior brow apex. An insulated needle tip cautery, on low power, was crucial for the preperiosteal dissection above and below the orbit. Note superior position of the lateral canthus when compared with the medial canthus, resulting in restoration of the patient's youthful appearance, as demonstrated in the right half of Fig. 1. (Adapted from Oduze, MO. Periorbital rejuvenation and the African American patient: a survey approach. *Plast Reconstr Surg* 2006;118:1011.)

under monitored anesthesia control or general anesthesia, depending on surgeon and patient preference.

The procedure begins with the patient in the supine position. The supratarsal crease is marked with the patient awake and in the upright position. The desired apex of the brow is marked at the level of the lateral limbus of the iris, marking preoperative asymmetry. The redundant skin of the upper eyelid is marked, with the brow in the desired corrected position. Care is taken to not take the cephalic limb of the upper lid excision beyond the midpoint of the area between the supratarsal crease and inferior edge of the natural brow. After the appropriate marks have been made, tetracaine ophthalmic drops are placed followed by lubrication and protective, evaginated corneal shields. One percent lidocaine with epinephrine diluted 1:100,000 is injected in the field, regardless of the level of anesthesia. The surgical incision begins with the removal of excess upper eyelid skin, preserving underlying muscle. The muscle is then divided at the level of the supratarsal crease, preserving the underlying septal extension.¹⁷ The muscle is then elevated cephalad, using an insulated needle tip cautery. Care is taken to identify the supraorbital neurovascular bundle and preserve it. The dissection on the supraorbital rim is done deep to the suborbicularis fat pad but superficial to the periosteum. The lateral brow retaining ligaments are separated allowing for release of the caudal 3 cm of the forehead from the brow. Attention is then turned to conservative resection of the nasal fat excess, using the needle tip cautery. The release of the lateral retinaculum, as described by Jelks et al,¹¹ is done through the upper lateral eyelid exposure. The lateral 1.5 to 2 cm of periorbital orbicularis is elevated off the periosteum, allowing for exposure to the lateral retinaculum and upper/lower lateral septal fat compartments. Selective release of the retinaculum without lysing the canthal tendon can be done through this approach under direct vision. We then turn our attention to the transconjunctival approach. A conjunctival traction suture is placed 8 to 10 mm from the inferior ciliary margin, using a 5-0 silk suture. The transconjunctival incision is then made above the traction suture, and a preseptal exposure is developed deep to the orbicularis muscle. The arcus marginalis and orbitomalar ligament are identified and preserved. The orbital malar ligament is divided with the needle tip cautery, preserving the arcus marginalis and periosteum. A preperiosteal dissection is carried down to the desired level of correction, keeping all fat and soft tissue off the periosteum. One can readily reach the level of the ala while taking care to identify and protect the infraorbital neurovascular bundle. Using the deep orbicularis to arcus marginalis, one- or two-point fixation can be performed through the transconjunctival exposure. We prefer to use a 4-0 Vicryl or PDS (Ethicon, Inc., Somerville, NJ) on a small tapered needle. Care must be taken to not incorporate capsulopalpebral or

conjunctiva in the closure, as this could lead to lid malposition. One- or two-point suture fixation, deep orbicularis to periosteum, is performed through the lateral aspect of the upper blepharoplasty exposure. After securing the lateral aspect of the midface, while taking care to preserve the zygomaticofacial nerve located at the malar eminence, the lateral canthopexy can be performed. We prefer to use a 4-0 Mersilene (Ethicon, Inc., Somerville, NJ) or braided ophthalmic nylon, double armed, to plicate the lateral canthal tendon to the interior aspect of the superolateral orbit periosteum. Care is taken to bury the knot. Attention is then turned to the browpexy. The apex is identified and the inferior-most aspect of the brow margin is transposed to the deep surface of the orbicularis. The deep orbicularis is then anchored to the periosteum of the frontal process, typically 1.5 to 2 cm above the supraorbital rim, using a 5-0 Vicryl suture. Care is taken to not overcorrect, as the brow tends to migrate superiorly over time with thorough brow release. Finally, the upper blepharoplasty incision is closed with a running 6-0 Prolene suture. Any redundant lower eyelid skin can be removed using a skin pinch excision, preserving the underlying orbicularis. A Steri-Strip (3M Healthcare, St. Paul, MN) bolster dressing is then used to help support and reinforce the superolateral lift of the midface/cheek unit. The conjunctival incision is not closed, and care is taken to not prescribe ophthalmic gel lubrication within the first 48 hours of surgery to avoid the potential risk of granulomatous reaction; only drops are used. The patient uses cool compresses for the first 36 to 48 hours, and liberal use of ophthalmic steroids are applied if significant chemosis appears, which is a rare finding.

The second patient, seen in Fig. 3, illustrates the importance of having a well-laid plan and understanding what the patient really desires. This is a woman who had a four-lid blepharoplasty at another clinic, more than a year prior, and was never happy with her end result. The patient believes the result makes her look "tired" and "unhappy." She has objective signs of uncorrected canthal ptosis and lower lateral eyelid retraction, creating a gapping at the lateral aspect of the eye and increased scleral show. Had the previous surgeon looked at her more youthful photos, he or she would have appreciated the significance of her canthal ptosis and subsequent loosening of the lower eyelid mechanism. The inferior lateral cant of the eye makes her look angry. Given these findings, we believed that revision upper and lower blepharoplasty would be appropriate with transconjunctival deep plane midface lift. The midface lift is intended to recruit skin and soft tissue to the correct lower lid retraction and preserve an appropriate correction to the lateral canthus. In addition, the patient will require lateral retinacular release with canthopexy, as previously described to achieve harmony in the periorbital region. As the 1- and 3-year follow-up images illustrate, the patient

Figure 3 (A) A 50 year-old woman 1 year after four-lid blepharoplasty performed at an outside center. The patient was unhappy with the initial result and desired a more vibrant appearance that matched her natural look. When questioned, the patient believed her eyes were “too round.” Upon dynamic examination, the patient desired sharper lateral definition and less rounding. (B) Patient in Fig. 3A subsequently underwent four-lid blepharoplasty, bilateral internal browpexy, transconjunctival midface lift with lateral retinaculum release, and canthopexy. The results are 1 year postoperatively. (C) Represents the patient in Fig. 3A, B 3 years after four-lid blepharoplasty, bilateral internal browpexy, transconjunctival midface lift with lateral retinaculum release, and canthopexy. (Adapted from Odunze MO, Rosenberg DS, Few JW. Periorbital aging and ethnic considerations: a focus on the lateral canthal complex. *Plast Reconstr Surg* 2008;3:121.)

was able to achieve significant correction and persistence over time. Note the paucity of visible scar formation despite the revisionary nature of her intervention.

This patient population is particularly suited for autologous fat injection to the midface and tear trough, primarily due to the rich nature of the overlying skin and soft tissue. There are a variety of techniques for preparing and injecting the fat, but we have found tumescent aspiration with concentrated injection to work well. We do not advocate centrifugation, simply the use of a sterile nonstick gauze pad or simple gravity filtration. The fat is then injected using concealed injection ports, such as the oral commissure or nasal ala. Slight overcorrection is used to make up for the average take of 75%. We do not place sutures at the injection sites for closure due to the increased risk of prolonged or chronic suture tract marks.

NONSURGICAL PERIORBITAL REJUVENATION

Darker or black skin has thicker and more compacted dermis compared with that of Caucasian skin. In general comparison with other racial and ethnic groups, the facial soft tissue is thicker in darker pigmented skin.^{7,18,19} Odunze et al have shown the safety and efficacy of using

hyaluronic acid filler in facial soft tissue and skin restoration.¹⁷ There was no reported difference in adverse events or complications with the use of such synthetic fillers.^{18–22} We found that it is better to inject the filler in the deeper dermis, with as few points of injection trauma as possible. This is thought to reduce the risk of post-inflammatory hyperpigmentation.²³ In addition, the use of neurotoxins enhance the benefit. With the use of neurotoxin initially, one can simulate a brow lift and correction of lateral brow hooding and crow's-feet. In patients with prolapse of the lower eyelid, septal fat, and prominent tear trough, medium particle size hyaluronic acid filler can be used to correct the defect and deemphasize the prominence of the fat prolapsed. In addition, the lid cheek junction achieves significant harmony. The overlying skin tends to be thicker and is more forgiving of contour irregularities. We prefer to inject the glabella and forehead with preservation of the caudal 1.5 cm of frontalis overlying the brow apex and inject the crow's-feet area 1 cm away from the orbit. The exact dose varies, but we will often supplement the above with 2 to 3 units injected directly into the superior border of the brow apex. In a secondary setting, the brow and tear trough can be injected with hyaluronic acid filler. This is an off-label injection application, and the author currently favors

Restylane for this application due to the extensive history with this product. There are a variety of hyaluronic products that can achieve similar results, and it is ultimately up to the user to find the most comfortable option. I recommend performing the injection by using serial injection, placing the product on the periosteum laterally. As one progresses medial on the tear trough, the injection becomes more superficial while remaining submuscular. The nasojugal fold is the most superficial and requires great caution to prevent hematoma and/or tyndall effect. It is important to not deposit the product in the septum or the malar fat pad, as this will cause potential prolonged edema and result in counterproductive results. A useful tool we employ is injecting 2 to 3 mm below the obvious tear trough and using massage to mold the end result, thus almost guaranteeing the product is not placed into or under the orbital septum. Linear threading is used more nasally, to avoid visible lumps and bumps. Care is taken to not overcorrect, and patients are made aware of the option to do a secondary injection at 2 weeks, if needed. This is a much better option than having to use hyaluronidase to break down too much product. Secondly, hyaluronic acid filler can be used to restore and lift the lateral brow and reinforce the brow apex. This injection technique requires deep injection and care to avoid the supraorbital neurovascular junction. Typically, I do not exceed 0.2 to 0.3 cc of product in each brow. We have found that product in this area will consistently last more than 18 months, having experience with patients seeing persistence beyond 24 months. This provides a great option for the uncertain patient or the patient wishing to avoid surgery at all cost. The use of nonsurgical options also allows for a trial run in the patient not sure what end result they desire. These options can also be used in the patient wishing to have only segmental correction, such as limiting the correction to just the brow and upper eyelids and using filler and botulinum toxin A for the lower eyelid and cheek. Fillers provide an amazing option for correction in the patient of color, providing a great deal of forgiveness and user-friendliness for the surgeon.

AVOIDANCE OF PITFALLS

There are several advantages in treating skin of color. The overlying skin is often more robust and shows fewer rhytides over time. These facts make the surgical intervention focus on deeper tissue changes, in particular restoration of ptotic tissue and lost soft tissue volume. A common and avoidable omission is failure to use past patient photos, allowing for a road map to success. In addition, this allows for appropriate planning for positioning of the lateral canthal mechanism. Failure to reposition the lateral canthus will not only result in a poor cosmetic outcome but also will place the patient at increased risk for lid malposition.^{24,25} It is important to

plan the use of soft tissue fillers in this patient population, either nonpermanent or autologous fat. The transconjunctival deep plane midface lift allows for preservation of the orbicularis function while providing direct access to the ptotic cheek tissue while providing a mechanism for restoration of a visible tear trough. With the use of the transconjunctival midface lift, there are several pearls to avoid difficulty. In particular, we recommend using an insulated surgical system, made up of insulated retractors and an insulated needle tip cautery. In addition, the use of a fine, double armed skin hook facilitates holding the deep midfacial tissue for suture placement. We recommend working from medial/nasal to lateral for suture fixation. The canthopexy should follow the midfacial suspension, but the canthopexy should not be expected to support the midface alone. Conservative skin removal is recommended to avoid widened scars or visible extensions.

Perception is reality. This is a fact that is extremely important in aesthetic surgery, but it is ever important in the African American patient, given the cultural preconceived notions. We prefer to meet with the patient on at least two separate occasions, focusing on desired outcome. Patients are made aware of the tendency to undercorrect instead of overcorrect, allowing for later modification as needed. This places the patient in the co-pilot seat and limits later perception of failure. When in doubt, use a temporary option such as fillers and neurotoxins.

CONCLUSION

The treatment of the African American patient for aesthetic indications remains in its infancy. When we consider the periorbital area, we need sophisticated laser technology to correct skin and deep dermal pathology. We are faced with significant scar burden the Caucasian ophthalmic patient need not worry about. However, for all of the disadvantages, this patient group is extremely rewarding to care for and can expect tremendous improvement and correction of aging phenomenon. As with any aesthetic or surgical patient, planning is the most important aspect of the process. By following some of these straightforward approaches, predictable, safe, and effective outcomes can be anticipated. This review should be used as an initial template for the treatment of patients of color and not as an absolute standard. There are many ways to achieve success in the care of the African American patient; this is simply the authors preferred approach.

REFERENCES

1. American Society for Aesthetic Plastic Surgery. Cosmetic Surgery National Data Bank. Garden Grove, CA: American Society for Aesthetic Plastic Surgery; 2007:1–20

2. American Society for Aesthetic Plastic Surgery. Cosmetic Surgery National Data Bank. Garden Grove, CA: American Society for Aesthetic Plastic Surgery; 2004:1–20
3. Fitzpatrick TB. The validity and practicality of sun-reactive skin types I through VI. *Arch Dermatol* 1988; 124:869–871
4. Volpe CR, Ramirez OM. The beautiful eye. In: Kellman RM, Strong EB, eds. *Facial Plastic Surgery Clinics of North America*, 13. Philadelphia, PA: Elsevier; 2005:493–504
5. Hillebrand GG, Levine MJ, Miyamoto K. The age-dependent changes in skin conditions in African Americans, Asian Indians, Caucasians, East Asians and Latinos. *IFSCC Magazine* 2001;4:259–266
6. Grimes P, Edison BL, Green BA, Wildnauer RH. Evaluation of inherent differences in ethnic skin types and response to topical polyhydroxy acid (PHA) use. American Academy of Dermatology Poster Exhibit, Washington DC; March 2001
7. Grimes PE, Hunt SG. Considerations for cosmetic surgery in the black population. *Clin Plast Surg* 1993;20:27–34
8. Odunze MO, Reid RR, Yu M, Few JW. Periorbital rejuvenation and the African American patient: a survey approach. *Plast Reconstr Surg* 2006;118:1011–1018
9. Flowers RS, Nassif JM, Rubin PA, Hayakawa T, Lehr SK. A key to canthopexy: the tarsal strap. A fresh cadaveric study. *Plast Reconstr Surg* 2005;116:1752–1758; discussion 1759–1760
10. Mathes S, Hertz V. *Plastic Surgery, Vol. II, The Head and Neck, Part 1*. Flowers RS, Nassif JM. *Aesthetic Periorbital Surgery*. New York: Elsevier; pp.77–126
11. Jelks GW, Glat PM, Jelks EB, Longaker MT, Longaker MT. The inferior retinacular lateral canthoplasty: a new technique. *Plast Reconstr Surg* 1997;100:1262–1270; discussion 1271–1275
12. Hester TR, Codner MA, McCord CD, et al. Transorbital lower lid and midface rejuvenation. *Oper The Plast Reconstr Surg* 1998;5:163
13. Odunze M, Rosenberg DS, Few JW. Periorbital aging and ethnic considerations: a focus on the lateral canthal complex. *Plast Reconstr Surg* 2008;121:1002–1008
14. Llorente O, McCallum JC, Few JW. The transconjunctival midface lift: a six-year experience working under the muscle. *Plast Reconstr Surg* 2008;122:3
15. Lorente O, Few JW. Transconjunctival deep plane midface rejuvenation. In: deCastro C, Boehm KA, eds. *Midface Surgery: Techniques in Aesthetic Plastic Surgery Series*. Philadelphia, PA: Saunders; 2009:161–172
16. Harris MO. The aging face in patients of color: minimally invasive surgical facial rejuvenation—a targeted approach. *Dermatol Ther* 2004;17:206–211
17. Reid RR, Said HK, Yu MB, Haines KG, Few JW. Revisiting upper eyelid anatomy: introduction of the septal extension. *Plast Reconstr Surg* 2006;117:65–66
18. Odunze MO, Alvin MC, Few JW. Restylane and people of color. *Plast Reconstr Surg* 2007;120:2011–2016
19. Grimes PE, Few JW. Injectable filler in skin of color. In: Carruthers J, Carruthers A, eds. *Soft Tissue Augmentation*. 2nd ed. Philadelphia, PA: Saunders Elsevier Publishers; 2008:143–150
20. Matarasso SL, Carruthers JD, Jewell M; LRestylane Consensus Group. Consensus recommendations for soft-tissue augmentation with nonanimal stabilized hyaluronic acid (Restylane). *Plast Reconstr Surg* 2006;117(3 Suppl): 3S–34S
21. Lowe NJ, Maxwell CA, Lowe P, Duick MG, Shah K. Hyaluronic acid skin fillers: adverse reactions and skin testing. *J Am Acad Dermatol* 2001;45:930–933
22. André P. Evaluation of the safety of a non-animal stabilized hyaluronic acid (NASHA—Q-Medical, Sweden) in European countries: a retrospective study from 1997 to 2001. *J Eur Acad Dermatol Venerol* 2004;18:422–425
23. Nordlund JJ, Abdel-Malek ZA. Mechanisms for post-inflammatory hyperpigmentation and hypopigmentation. *Prog Clin Biol Res* 1988;256:219–236
24. Neuhaus RW. Anatomical basis of “senile” ectropion. *Ophthal Plast Reconstr Surg* 1985;1:87–89
25. Yaremchuk MJ. Restoring palpebral fissure shape after previous lower blepharoplasty. *Plast Reconstr Surg* 2003; 111:441–450; discussion 451–452