Section III

The African Perspective

12 Aesthetic, Ethnic, and Cultural Considerations and Current Cosmetic Trends in the African Descent Population

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> *"To be sure of one's self, to be counted for one's self, is to experience aliveness in its most exciting dimension."* –Howard Thurman

12.1 Location is Everything

This is most likely the first book chapter on the topic of facial plastic surgery written from a location of African centeredness. In researching perspectives on cosmetic trends in the African descent population, I found very little in the surgery literature that truly originated from a place of African centrality. Even in the seminal textbook *Ethnic Considerations in Facial Aesthetic Surgery*, edited by W. Earle Matory, the premise of African beauty was largely determined through comparison to neoclassical aesthetic proportions based upon European standards.[1] For most physicians, African beauty has been beholden to an objective ability to see, to measure, and to compare with a presumed Eurocentric ideal.[2–5] African centrality, however, prioritizes a view that there is much more to beauty than meets the eye. Aesthetics, from a location of African centeredness, is established by a dynamic interwoven relationship between the physical and the metaphysical. Thus, African-centered beauty matters not only for what it looks like, but also for what it does spiritually and how it is expressed through the individual as a way of life.

For all that is lacking in the cosmetic surgery literature, a wealth of resources exists on the subject of African aesthetics in arts and culture. My evolving appreciation for the spirituality of African and African diaspora aesthetics has been nourished through my relationship with the renowned artist, educator, and curator, David C. Driskell. Within his extensive body of work, Driskell has expressed the cultural DNA of an authentic African diaspora aesthetic (**Fig. 12.1**). The radiant light of Driskell's life force and creative practice has illuminated my path for navigating the uncharted terrain of African centeredness in the context of facial plastic surgery. Ongoing conversations with Leslie King-Hammond, graduate dean emerita and founding director of the Center for Race and Culture at the Maryland Institute College of Art, have also helped to shape my understanding of the aesthetic and cultural connections between Africa and the African diaspora. In the groundbreaking exhibition "The Global Africa Project," co-curated by King-Hammond and Lowery Stokes Sims, the truly global—and extraordinarily variant—nature of being African, or African-descended, in the contemporary context is explored through the expression of individual creativity.[6]

While the field of aesthetics has largely been dominated by European canons, an expanding global awareness has emerged that allows space for new perceptions of beauty and being "African" in the world today.

For the purposes of this chapter, *African* refers to people of African descent whose lives have been by influenced by some or all of the following: the transatlantic slave trade, European colonialism, Western imperialism, racism, and global migration. The notion of African centeredness is rooted in Afrocentric philosophy, notably championed by African American studies scholar Molefi Kente Asante. Asante asserts, "Afrocentricity is about location precisely because African people living in Western society have largely been operating from the fringes of the Eurocentric experience. Whether it is a matter of economics, history,

Fig. 12.1 David C. Driskell, *Self Portrait as Beni* ("I Dream Again of Benin").1974; Egg tempera, gouache, and collage; © David C. Driskell, 2015; Photography by Greg Staley; From the David C. Driskell Center Collection; Purchase from David C. Driskell; 2012.12.002

politics, geographical concepts, or art, Africans have been seen as peripheral to the real activity."[7] Afrocentricity emerges as a process for cultivating consciousness—a contemporary mind-tool for crafting new ways of discovering one's true self. Contemporary beauty culture has largely catered to the desires of a Euro-American audience, relegating African aesthetic perspectives to a distant periphery. To begin a healing shift in location, we must ask the question: What impact does this longstanding off-centeredness have on the minds of African patients pursuing facial cosmetic enhancement? Equally as important, What impact has a Eurocentric mindset had on the clinical practitioners offering aesthetic care to African individuals?

Fig. 12.2 Michael Jackson childhood home in Gary, Indiana. Photograph by Monte O. Harris.

12.2 Michael Jackson and Well-Being Disfigurement

For many, off-centeredness has resulted in a dislocated aesthetic consciousness, resulting in misalignment between a sense of beauty, health, and identity. This multidimensional misalignment is a primary cause of a modern "well-being disfigurement" that desperately warrants the restorative talents of the aesthetic community, as a whole.

I was raised in Gary, Indiana, the birthplace of Michael Jackson. So Michael Jackson's life story has always played very close to my own sense of identity and purpose as a facial plastic surgeon. I've often said that my professional purpose was to ensure that there were "no more Michael Jacksons"—that is, African individuals who end up scarred or disfigured by elective facial cosmetic surgery. For the first decade of my professional career, I worked diligently and passionately toward that humanistic goal by cultivating my own technical expertise in rhinoplasty for African patients, sharing knowledge through presentations at national and international meetings, and writing articles on the subject of rhinoplasty for African patients.[8,9] In the midst of my growing a successful practice and becoming a well-respected rhinoplasty surgeon, Michael Jackson died on June 25, 2009, complicating my calling of "no more Michael Jacksons," since Michael, himself, was no more **(Fig. 12.2)**. His untimely death forced me to think even deeper about identity scars and the notion of "well-being disfigurement," meaning the invisible emotional scars that are often present in our patients but that ultimately compromise their sustainable health and happiness. It became evident that Michael's life had been a dangerous dance, which he ultimately failed to master, of misaligned beauty, health, and identity: when this misalignment takes center stage in the great life performance, it is a definite show stopper. So my aesthetic focus has broadened to explore more openly the visible and invisible manifestations of a scarred identity (with the intent of developing new approaches for holistic identity scar revision). I hope that this chapter heightens awareness for the inherent complexity in achieving optimal aesthetic outcomes in African patients. I encourage surgeons to explore the invisible motivators of their patients who seek visible change and, where indicated, to be a conscious participant in the process of cultivating health and wholeness.

Michael Jackson personified the hidden, misaligned aesthetic desires of many individuals of African descent, albeit in the most extreme manifestation. Jackson's assault on his African presence (performed by himself and cosmetic ground troops) offers lessons on many levels. The universal take-home message for my African patients who present for rhinoplasty has been, "I don't want to look like Michael Jackson." I have often wondered why patients thought it was necessary to voice what in my mind was an obvious conclusion—as if anyone in their "right mind" wanted to look like Michael. I don't think that Michael actually wanted to look like Michael as the severity of his cosmetic narrative unfolded. My question now is: How can we shift patients from a focus on what they don't want to look like, or whose nose they desire (e.g., Beyoncé's), to looking at themselves and considering how they can beautifully express their best vision of self? Without a conscious African centeredness, this question is difficult to answer for both the African patient and the aesthetic practitioner who is called upon to deliver care.

12.3 Plastic and Psychic Unity

Much of what has been written on the subject of African aesthetics, particularly in the facial plastic surgery literature, has been crafted in service of Eurocentric technique. In other words, the focus has been on the technical "how" and not the existential "why." I hope to provide cultural enlightenment by prompting the reader to visualize the cosmetic landscape from a fresh position—that is, with African aesthetic traditions in a position of centrality. This

chapter cultivates aesthetic consciousness by highlighting Afrocentric concepts to re-align the relationship between how one looks (physical beauty), how one feels (mental and physical health), and how one lives a good life, which ultimately determines identity.

I must be honest. It has been difficult to strike the right balance of tone and message in this chapter. How do you craft a chapter for a textbook on facial plastic surgery and place the foundational emphasis not on physical change but on the nonphysical determinants of a successful aesthetic outcome without sounding too much like a mystic? (While recognizing that may not be such a bad thing?) In many ways, facial plastic surgery relies on an undercurrent of psychic fragmentation to exist and thrive. We, as surgeons, along with our patients, are often misled into thinking that focusing on "the physical" in relative isolation can create sustainable well-being, without integrating therapy to enhance the mind or spirit. We all too readily accept the incomplete notion of physical change over metaphysical transformation. We can realize the strength of an African-centered approach to facial plastic surgery by actively embracing what is not seen (the invisible) and acknowledging the spiritual aesthetics of humanistic well-being.

Our highest aspiration as facial aesthetic practitioners should be stewardship of wholeness—body, mind, and spirit. The American artist Robert Motherwell once commented that the purpose of his art was to "unify the plastic and psychic" **(Fig. 12.3)**.[10] As aesthetic surgeons, we too easily accept the role of technician, utilizing our artistic talents to shape and mold only that which can be touched and visualized. The pioneering Sri Lankan art historian and collector Ananda Coomaraswamy's notion of "the way of life and the way of work being one and the same" should be a source of universal inspiration for the modern aesthetic practitioner.[11] We all have the capacity to undergo our own redemptive psychological process by opening our minds to a new aesthetic belief system—in this case, African-centered aesthetics. For Coomaraswamy, the true artist strives to "know and to live in the spirit."[11] Opening oneself to the power of the spirit is an essential principle of African-centered aesthetic thought. Africa provides an intersection that can give new form to an evolving quest for well-being through the integration of Eastern and Western healing philosophy. In particular, African-centered aesthetics offers an opportunity for physicians to assume an avant-garde role as Afrocentric metaphysicians, working artistically to create health and wholeness in their patients. In an essay on the African American aesthetic as optimal consciousness, Linda James Myers states, "From ancient times within African cultures the role of the artist has been one of elevating the consciousness of the people. Providing them signs and symbols of higher forms of life and human functioning, the aesthetician encouraged, educated, and reflected those aspects of being to which humanity must aspire to fulfill its purpose."[12] As facial plastic surgeons, we hold the esteemed title of being contemporary "artists of the head and neck." We have the ability to adopt an African-centered consciousness and to use our artistic talents in service of humanity.

Fig. 12.3 Robert Motherwell, Africa 5, 1970, Screenprint on paper. Art © Dedalus Foundation/Licensed by VAGA, New York, NY. Tate Images, London, UK.

Surgical textbooks are traditionally assembled to facilitate the acceleration of technical proficiency. I write, however, to enlighten, in the hope of accelerating self-actualization. Aesthetics, by definition, has both sensory and extrasensory triggers for the expression of beauty and goodness. The sensory component that most often takes precedence is sight—the focus on what can be seen (i.e., the visible). I argue that, when dealing with the African patient, true artistry and aesthetic acumen are often manifested through one's ability to enhance what is not seen, the emotions (i.e., the invisible). In light of this counterculture idea, I ask: Is there a place for African-centered aesthetics in a Euro-dominant elective cosmetic landscape? Without any doubt, I say Yes.

Cosmetic pursuits are largely undertaken from the location of a fragmented mindset and not with the intent of restoring wholeness. Our materialistic modern culture

has placed primary emphasis on the act of beauty acquisition, subordinating an African-centered spiritually elegant beauty expression. In a traditional African sense, the highest manifestation of beauty is living a good life. The facial aesthetic surgeon who explores the African aesthetic with an open mind may harness the power of beauty for the task of facilitating sustainable, positive, health-mindful transformation in patients' lives. Throughout history, the African aesthetic has been a catalyst to usher in revolutionary change. From the ancient architecture of the great pyramids to the modern art of Picasso, Africa is an eternal source of inspiration for a creative mankind. Just as the influence of Europe extends beyond geographical boundaries, Africa transcends physical location. It is not far-fetched to acknowledge that, by giving birth to modern civilization, Africa is everywhere.

This chapter arises from my African and American aesthetic consciousness born out of life experience as a facial plastic surgeon of sub-Saharan African and European descent. This ancestral hybridity has created my sensitivity to the space that exists between Afrocentric and Eurocentric aesthetics. My cultural identity as an African American facial plastic surgeon has afforded me the privileged opportunity to interact with a vast array of individuals of African descent seeking cosmetic enhancement to bolster self-esteem. Through this viewpoint, I have been able to recognize the subtleties of ethnic intersection and integration, as well as the differences in perspective between the center and periphery in the discourse around African and European aesthetics. The ability to harness the untapped beauty energy that exists between the center and periphery is a powerful resource that is accessible to all individuals, particularly those of African descent. Few recognize it, and even fewer have figured out how to access the restorative energy as fuel for personal growth. The simple colloquialism of being able to "put oneself in the shoes of another" has far-reaching implications in the facial plastic surgery community as we work to design inclusive aesthetic solutions aligned with health and well-being. As facial plastic surgeons, we must challenge ourselves not to accept limiting ethnocentric perspectives as a universal truth. It is not a healthy and nurturing location for all people.

12.4 The Need for Change

Individuals of African descent now actively and aggressively pursue elective facial cosmetic enhancement. Whether these cosmetic pursuits have a sustainable, positive effect on self-esteem and well-being over the long haul remains an open question. What we do know, however, is that the desire for physical change remains fueled by Eurocentric aesthetic prejudice and Western socioeconomic motivators. The undertaking and offering of elective facial cosmetic procedures is largely driven by a Euro-dominant beauty industry. Consider: If an African aesthetic was at center, how desirable would skin lightening, rhinoplasty, Botox, and injectable fillers be in the eyes of mainstream society? This question highlights the inherent contradiction we face when dealing with an African patient who presents for cosmetic treatment as a means to enhance self-awareness, self-confidence, and self-acceptance. Does it really make any sense?

To a large degree, the mind of the contemporary African cosmetic patient has been colonized by a Eurocentric consciousness that subjugates African-centered aesthetic thought. The contemporary African dance choreographer and scholar Kariamu Welsh insists that, "Africans modifying their physical features to appear more European suggest a distorted view of aesthetic function."[13] Difficulties arise in the cosmetic care of African patients on at least two significant levels: first, as a consequence of the presence of Eurocentric aesthetic mindset, and second from the reality that, more often than not, neither the patient nor the physician can relocate themselves to make aesthetic judgments from a place of African centrality. Steven Dayan offered a commentary on this in his bestselling book *Subliminally Exposed*.[14] I include the entire narrative here because it clearly encapsulates the metaphysical challenges that I have alluded to above.

Late last year I met a young man from Nigeria who came in for a consultation. He had moved to the United States and was making a life for himself in Chicago. Recently married and starting to plan a family, he wanted to undergo a nasal reshaping procedure to make his nose smaller. I was curious why he insisted on having it done so soon and prior to attempting to get his wife pregnant. Upon further discussion, I came to understand his motive for undergoing rhinoplasty. He was concerned that his children would have a wide nose like his, which he thought would make it difficult for them to blend in with friends and others in the community. To assure they didn't get his nose, he wanted to reduce its size before they were conceived. He had not been taught the concept of genetic inheritance, and I had to advise him that even if he did undergo a nasal surgery, his children would still inherit the genetic traits for the noses that have been in his family lineage for over hundreds of thousands of years. But the good news was that because he was marrying a Caucasian woman with a narrower nose, his children would likely have noses that were a blend of the two of them.

When I first read the story, I was deeply disturbed by the implied messages. The story is indeed shocking, but it also subliminally exposes the Eurocentric location of the surgeon's aesthetic consciousness and the dislocation of the Nigerian patient from a place of African centeredness. The irony of this particular case is that both the patient and surgeon are operating from a constraining ethnocentric perspective, despite both having ancestral and cultural ties to the diverse rich traditions of Africa. (Dayan is of North

African ancestry—Morocco—and the patient, as stated, is an immigrant from Nigeria.) The example perpetuates negative stereotypes associated with Africa—in this case, the idea that the African aesthetic is less desirable than a Caucasian or European alternative. This aesthetic dislocation nourishes the roots of self-hatred in individuals of African descent. Asante defines self-hatred as a particular orientation of African people, or any people, who have been so destabilized by being "off-center" and "out of location" within their own culture that they have lost all sense of direction.[7] Asante astutely recognizes that, "It is probably in the area of aesthetics where Europe has most undermined the self-confidence of Africa."[15] Dayan suggest that there is good news in this story because the Nigerian man was "marrying a Caucasian woman with a narrower nose" and consequently, his implied *bad* genes would likely be balanced by her *good* genes to create a socially acceptable blend in the offspring. From an African-centered viewpoint, there is no good in this story. The implied acceptance of the superiority of Caucasian features over those associated with African ancestry shines light on an aesthetic prejudice that lies at the heart of misaligned African diaspora identity. We have an opportunity to confront this dislocated consciousness "head on" and to redirect patients to a healing place of African centeredness, and thus provide a new framework for constructing healthy self-esteem. The mindset of African-centered aesthetics is dynamic, not constricted by one dogmatic vantage point or singular frame of reference. My delight with African-centered aesthetics rests in its physical and metaphysical fluidity to enlighten and to function as a cultural (re)locator. In the facial plastic surgery community, the notion of African beauty is often relegated to limiting physical features, such as a shape of nose, texture of hair, or shade of skin, but Afrocentric beauty exists more expansively as a spiritual unity connecting individuals of African descent through tradition and culture across the diaspora. For example, African centeredness acts as a unifying aesthetic link providing a common thread to weave together the Nigerian Afrobeat of Fela Kuti with the Brazilian Afro Samba of Bossa Nova, to the Caribbean rhythms of AfroCuban jazz to the American Cool of Hip Hop. By adopting a transnational, transcultural aesthetic consciousness, individuals of African descent can begin to view themselves in a central position within a global community.

12.5 Africa as Inspiration—A Humanistic Catalyst

The African is frequently called upon to place a humanizing element on the ills of modern society. Humanitarian efforts to eliminate world hunger and global poverty functionalize the aesthetics of men, women, and children of African descent to raise social consciousness and to stimulate a caring call to action. Global missions to restore facial deformities, such as Operation Smile in Kenya, harness the technical expertise of plastic surgeons to improve the quality of life for patients suffering from cleft lip and cleft palate. The basic techniques that repair a cleft palate physically and metaphysically .construct a path for a better life in the patients and families who benefit from the benevolent care. In this scenario, facial aesthetic work is directly linked to the beauty and goodness of improved health and well-being. This humanitarian consciousness does not have to be confined to "mission" work on the continent of Africa. We have the opportunity to be uplifted as humanitarians in our daily interactions with all patients by adopting traditional African-centered concepts into the practice of facial plastic surgery.

The fundamental premise of this chapter is to encourage the "artist of the head and neck" to open a mind's eye to the creative possibilities fueled by an expanded African-centered consciousness. This is not a totally new idea. As much as a century ago, avant-garde artists and photographers like Picasso, Matisse, Modigliani, Klee, Stieglitz, and Man Ray looked to Africa for new sources of creative inspiration.[16] In some ways, this inner eye's turning to Africa was a humanizing response to the transformation of daily life propelled by the rapid industrialization of Europe and America. The dehumanizing mechanization of modern living brought with it a spiritual longing for a life untainted by industry. Not everyone agreed with the idea that machines were a means to attaining a better world.

Picasso's *Les Demoiselles d'Avignon* is often heralded as the impetus for a major conceptual shift in the world of European art—and the subsequent development of modern art in the West (**Fig. 12.4**).[17] In her 2009 examination of Man Ray and African art, Wendy Grossman notes, "The assimilation of styles and motifs from African cultural artifacts into the work of avant-garde artists was a means of challenging conventional Western aesthetic values." Grossman further asserts that, "By looking to pre-industrial cultures to reinvigorate their own creative visions, these artists discovered new ways of seeing. At a time when traditional Western art was thought by some to have exhausted its potential, alternatives offered by novel forms of African and other indigenous cultures liberated European artists from the constraints of their own academic traditions and infused vitality into a radically new aesthetic vision."[17] Metaphorically, African plastic arts functioned as a regenerative "fountain of youth" for an aging Eurocentric aesthetic practice.[18]

The search for renewal through African aesthetics adopted by the European artistic avant-garde during the first half of the twentieth century has important implications for how we may consider the present moment and need for healing. The beginning of the twenty-first century brings with it a similar contextual array of challenges characterized by a struggle to find peace and balance in daily life. Instead of mechanical industrialization, we now face

Fig. 12.4 Pablo Picasso, *Les Demoiselles d'Avignon*. 1907, Oil on canvas. 8 ft x 7 ft 8 in. Acquired through the Lillie P. Bliss Bequest. © 2015 Estate of Pablo Picasso/Artists Rights Society (ARS), New York. DIGITAL IMAGE © (2015) The Museum of Modern Art/Scala, Florence.

a psychosocial imbalance boosted by the expansive influence of the Internet and mobile digital technology. As we search for happiness in a digital world, it is time again to deconstruct aesthetic values and to create something fresh and new. African-centered principles may offer balancing aesthetic insight for the design of holistic approaches to achieve individual health and well-being. I offer three examples of African-centered aesthetic thought to consider for inspiration—the Gabonese Reliquary Ensemble, the Mende concept of *nyande*, and the Yoruba idea of the head as center of life.

12.6 The Guardian Reliquary Figure: Muse of Modernity

It should inspire present-day "artists of the head and neck" that the artifact revered by the early twentieth century artistic avant-garde was the reliquary figure of West and Central Africa. Several traditional African societies, including the Punu and Kota peoples in Gabon and the Fang peoples of Gabon, Equatorial Guinea, and Cameroon, honored their ancestors by keeping physical remnants of them as relics **(Fig. 12.5)**.[19] Portions of the skull and other bones were preserved in a barkwood box or woven basket to which a carved guardian reliquary figure or head was affixed. At

Fig. 12.5 **(a)** Reliquary guardian figure (*ngulu*). Kota peoples; Gabon; Early 20th century; wood, brass, copper alloy, pigment, eggshell, encrustation; H x W x D: 41.9 X 11.7 × 5.1 cm (16 ½ x 4 ⅝ × 2 in); Gift of Mr. and Mrs. George Lois; 83–17–1; Photograph by Franko Khoury; National Museum of African Art, Smithsonian Institution. **(b)** Reliquary guardian figure (*bwiti*).Hongwe peoples; Gabon; 19th century; Wood, copper, brass; H x W x D: 60 × 21.9 × 12.1 cm (23 ⅝ × 8 ⅝ × 4 ¾ in); Acquisition grant from the James Smithson Society and museum purchase; 88–4-1; Photograph by Franko Khoury; National Museum of Africa Art, Smithsonian Institution.

the turn of the twentieth century, however, these African sculptural artifacts were progressively distanced from their traditional significance and were most often displayed as an ethnographic complement to abstract art **(Fig. 12.6)**.

The appropriation of the reliquary figure illustrates the conceptual differences between African-centered and Eurocentric aesthetic thought. The Reliquary Ensemble (guardian figure and ancestral basket) served as a familial altar tied inextricably to spiritual rituals and the well-being of the traditional African community. As noted by Alisa La Gamma, "Ancestral relics related to the most distinguished members of as many as nine generations of an extended lineage were contained within. The opening of the reliquary by elders was an opportunity to reflect on family history."[20] For the traditional African, the Reliquary Ensemble embodied the notion of balance in all things—the dynamic relationship between the living and the dead, the child and the elder, the individual and the community. The Eurocentric interest in the reliquary, however, was largely confined to its sculptural beauty or its role as a physical representation of imperial conquest.

The reliquary figure exhibited as a distinct entity separate from the ancestral container hints at the broader challenges that we face today in the context of visual objectification and functional misappropriation. In modern society, we often place emphasis on what is outwardly visible (the physical) without fully appreciating the unseen nature of wholeness—the invisible (metaphysical) things that make up our essential being. Our contemporary challenges with well-being are often directly related to an inability to appreciate "authentic life functionality," in other words, life purpose. Traditional African-centered aesthetics are by nature communal, functional, and holistic. From a location of African centeredness, we may interpret the reliquary guardian figure and ancestral container in its traditional context as a tool for the preservation of social order. There is an emphasis on the idea that physical beauty, such as in the case of the sculptural reliquary figure, has a spiritual role to keep people in harmony with nature and community. Through this (re)location of the reliquary back to traditional African-centered thought, we see how physical beauty and metaphysical goodness are inextricably interwoven in traditional African aesthetics.

12.7 Beauty and Goodness

For many African Americans who are descendants of the trans-Atlantic slave trade, there is a deep longing to reconstitute the broken genealogical link to an African ancestral heritage. Genetic ancestry testing has become an increasingly popular tool for facilitating this African-centered goal. Through DNA testing, I recently discovered that I shared maternal mitochondrial DNA with individuals living in present-day Sierra Leone and who self-identified as Mende **(Fig. 12.7)**.

The Mende are an ethnic group of about one million persons, mainly agriculturists, who live in southern and eastern Sierra Leone, on the West Atlantic coast of Africa. Sylvia Ardyn Boone contributed immensely to scholarly knowledge of traditional Mende aesthetics through her influential book, *Radiance from the Waters: Ideals of Feminine Beauty in Mende Art*.[21] She opens the book with the a Mende proverb: "Hani gb**e** lewe ma ngele ya nja gbili kaang**o** kpowa **ee** t**o"**

Fig.12.6 Alfred Stieglitz, Installation at 291. 1915, Platinum print-iconic positioning of a Kota reliquary figure as a visual focal point linking paintings by Pablo Picasso and Georges Braque at gallery 291, New York. 7 ⅝ x 9 ⅝ in. Alfred Stieglitz Collection, 1949. © 2015 Georgia O'Keeffe Museum/Artists Rights Society (ARS), New York. DIGITAL IMAGE © (2015) The Metropolitan Museum of Art/ Scala, Florence.

Fig. 12.7 African Ancestry Certificate. Courtesy of Monte Oyd Harris.

("There is a thing passing in the sky; some thick clouds surround it; the uninitiated sees nothing"). The proverb introduces the reader to Mende aesthetic thought through the idea of initiation as a determinant for seeing. Boone comments that the "eyes" of the initiated are "metaphysical: an informed intellect, a widened vision, and a deepened discernment." The ability to see what is "surrounded by clouds," or not obvious, can be likened to the act in facial plastic surgery of cultivating the subjective "inner eye" or insight. Boone's reference to the metaphysical is important because it speaks to a recurrent theme in African-centered aesthetics: the role of initiation as a rite of passage for the cultivation of insight. I ask: What are the modes of initiation for the contemporary "artist of the head and neck"? If they were left up to the capitalist forces of a consumptive world, I'm pretty sure that the aesthetic rites of passage would be connected to digitally answering self-objectified questions on Web-based information-sharing networks or lending professional credibility for product promotional purposes in service of cosmetic industry needs.

In many traditional African societies, beauty and goodness are often represented as a unified entity with a singular term, such as *nyande* in the Mende from Sierra Leone and *nefer* in ancient Egyptian language. Our contemporary idea of beauty as separate from goodness implies that beauty may exist without functionality, suggesting a location for *beauty for beauty's sake*. *Beauty for beauty's sake* can be likened to the European modernist idea of *art for art's sake*. *Art for art's sake* expresses a philosophy that the intrinsic value of art, and the only "true" art, is divorced from any didactic, moral, or utilitarian function. Afrocentric theorists have asserted that art for art's sake originates from a Eurocentric location and had no place in traditional African culture. Art or handicraft was purposeful, imbued with functionality for the well-being of the community. African sculptural arts, as in the case of the reliquary guardian figure, served the purpose of ritual connectors to the spirit world. To some degree, contemporary society has transferred the individualistic premise of *art for art's sake* to the concept of beauty. Beauty pursuits have taken on a presumed stand-alone value without any moral value—their purpose being only to pleasure the eye. If *art for art's sake* had no place in traditional African society, is there a place for *beauty for beauty's sake* in the aesthetic care of patients, particularly those of African descent, in today's world?

The physical aspects of beauty in a traditional African-centered aesthetic are intimately related to the metaphysical aspects of goodness. The metaphysical qualities are manifested through a concern for function, ethics, and morality. Beauty, for instance, in traditional Mende society is judged for its goodness. "Beauty is closely inspected all the time to make sure it is good."[21] Goodness in the traditional African sense relates to the artistic expression, functionality, and moral character. "Mende assume that a beautiful exterior enshrines the most useful something. It is a big disappointment for something to be physically beautiful to look at but not good, not useful."[21] Linking beauty to goodness within an aesthetic framework is aligned with African-centered thought. Carrying this African-centered aesthetic mindset into cosmetic practice forces clinicians to critically re-assess their relationship with patients by contemplating what goodness may come from the performance of any cosmetic procedure. In her description of Mende aesthetics, Boone succinctly states, "Beauty without a dimension of goodness is hollow, without substance, a deception."[21] By adopting an African-centered consciousness, we may (re)locate our perspectives around beauty to recognize cosmetic treatments as a humanistic means to adorn the physical and metaphysical qualities of goodness. At the highest level of conceptualization, the unity of beauty and goodness is represented by the human qualities of kind-heartedness and generosity, a sympathetic interest in the well-being of others, and a compassionate readiness to give.[21]

12.8 The Head as the Center of Life

Over the past 20 years, my professional life has been dedicated to understanding, exploring, preserving, and enhancing the essential organs that most directly determine our interactions with the outside world—the eyes, ears, nose, and mouth—which are, of course, all housed in the head. A focus on the head, and more recently on hair as an extension of the head, is aligned with my notion of African centeredness.

Like many traditional African societies, the Yoruba of western Nigeria regard the human head (*ori*) as the most vital part of a person.[22] The head is symbolically linked to notions about destiny, individuality, intellect, and personal power.[23] The head is of immense importance in Yoruba art and thought. In sculpture, its size is often enlarged in relation to the body to convey its position as the site of a person's essential nature. The prominence given to the head derives from both physical and metaphysical qualities. According to African scholar Babtunde Lawal: "While the Yoruba recognize the physiological importance of the head, they place a higher premium on its metaphysical significance as the source of life and the essence of human personality."[24] Inner qualities or metaphysical qualities should rule outer or physical ones, especially such qualities of the mind such as inner calm, self-control, and patience.[22]

The Western approach to life from ancient to modern times has placed overwhelming emphasis on the physical body. From the ancient Greeks and Romans to contemporary Euro-American beauty culture, the admiration and pleasure received from bodily pursuits is perceived as second to none. In search of new solutions to well-being, attention has gradually begun to shift from the Western body construct to an Eastern body, mind, and spirit con-

sciousness. Eastern notions have been mythologized in the ancient healing traditions of Ayurveda and Chinese medicine. The irony of it all lies in the fact that as the West adopts a more Eastern consciousness for daily life rituals, many Eastern individuals are attaching themselves to the destructive patterns of a materialistic, visually objectified, Western lifestyle.

12.9 Cosmetic Trend—Going Natural

African-centered aesthetic expression is inspired and driven by a deep connection to nature. The relationship to the Earth is an ever-present source of creative inspiration, health maintenance, and spiritual renewal. There is a growing demand in the cosmetic and beauty industry for natural-looking results and organic products infused with ingredients derived from the Earth. Organic awareness is part of a larger mindfulness movement comprised of individuals seeking a balanced, health-conscious, and purposeful life. Daily beauty rituals are becoming more respectful of nature and sensitive to the sustainability of the planet.

An exciting cosmetic trend for African women involves *going natural*, a term used by African women who decide to stop chemically straightening their hair, as part of reclamation of authentic beauty and goodness. Many African women have not seen their hair in its natural textured state since childhood. The act of chemically processing the hair to conform to Eurocentric beauty standards has been a method of acculturation for African women since the early twentieth century. Today, the modern African woman is uniquely situated to personify an organic avant-garde by celebrating a renewed relationship with the beauty of natural textured hair.

Excessive chemical hair straightening, coupled with other traumatic grooming practices, can be considered a form of cosmetic abuse that insidiously leads to beauty, health, and identity misalignment over time. Traumatic grooming practices are practiced by women of all ethnicities—whether it's coloring the hair to eliminate gray, bleaching to achieve the blond ideal, adding extensions for length, or straightening to relax tightly wound curls. Unfortunately, for African women, an alarming incidence of hair loss accompanies these beauty pursuits. Hair loss has become an epidemic, particularly for African women whose hair has been traumatized by chemicals and damaging hairstyles. For many women, hair loss is a serious, life-altering condition. A recent study undertaken by the Cleveland Clinic showed the prevalence of hair loss among African American women to be nearly 30%.[25] So, the notion of "going natural" is a contemporary cosmetic trend that has both physical and metaphysical implications for the woman of African descent. The natural-hair movement goes beyond a simple desire for a new style; it is often fueled by a desire to live a healthy, balanced life.

Cosmetic pursuits should strengthen mental and physical well-being by reaffirming the best in oneself and nature. I have found that the aesthetic journey that African women take to restore a relationship with their natural hair is a positive marker of a reaffirmation process (**Fig. 12.8, Fig. 12.9, Fig. 12.10**). The natural-hair trend is one that has far-reaching effects on well-being by establishing a healthy homeostasis between beauty and identity. By shunning the chemical demands of a Eurocentric hairstyle, African women are in many ways adopting an African-centered location and a stable foundation for building up healthy self-esteem.

12.10 Call to Action

So, where's the growing edge in our effort to preserve our health, happiness, and well-being? For all that we do know in the West and in the East, there is still much that we have not learned about the traditions of Africa, our most diverse and vast continent. The ancients knew that out of Africa, always comes something new. A recurrent theme in African-centered thought is a reverential acknowledgment of the power that resides in what is not seen. The visible largely functions as a tool to assess the inner spiritual realm. For aestheticians who can (re)locate to African centeredness, I would argue that health, happiness, and wholeness reside in a head, mind, and spirit approach to life.

We have the ability to adopt an African-centered consciousness and to use our artistic talents in service of beauty and goodness. An African-centered aesthetic consciousness places emphasis on both the physical and metaphysical aspects of beauty. With this mindset, we may creatively explore new ways of unifying beauty and goodness. Cosmetic pursuits should harness the power of beauty to functionalize the goodness of life performance. This is a point of view that places African aesthetic thought at the center. This elevated Afrocentric consciousness is multidimensional and not limited to individuals of African descent. Just as individuals outside of the Eurocentric mainstream in America have adopted a Euro-American consciousness, I challenge aesthetic practitioners of today—of all ethnicities and cultural backgrounds—to open their mind and spirit to the beauty of traditional African-centered thought.

Fig. 12.8 (a–d) Visual narrative of "going natural" as illustrated by an African American woman who has undergone a transition to naturally textured hair. The physical changes align with an enhancement of overall self-image and a healthy state of mental consciousness. In this example, the transition to naturally textured hair was achieved with the avoidance of chemical straightening and heat-free maintenance. The posterior scalp images illustrate increased hair density in the crown region following the natural hair transition.

Fig. 12.9 (a–d) Visual narrative of "going natural" as illustrated by an African American woman who has undergone a transition to naturally textured hair. The physical changes align with an enhancement of overall self-image and a healthy state of mental consciousness. In this example, the transition to naturally textured hair was achieved with the avoidance of chemical straightening and heat-free maintenance. The posterior scalp images illustrate increased hair density in the crown region following the natural hair transition.

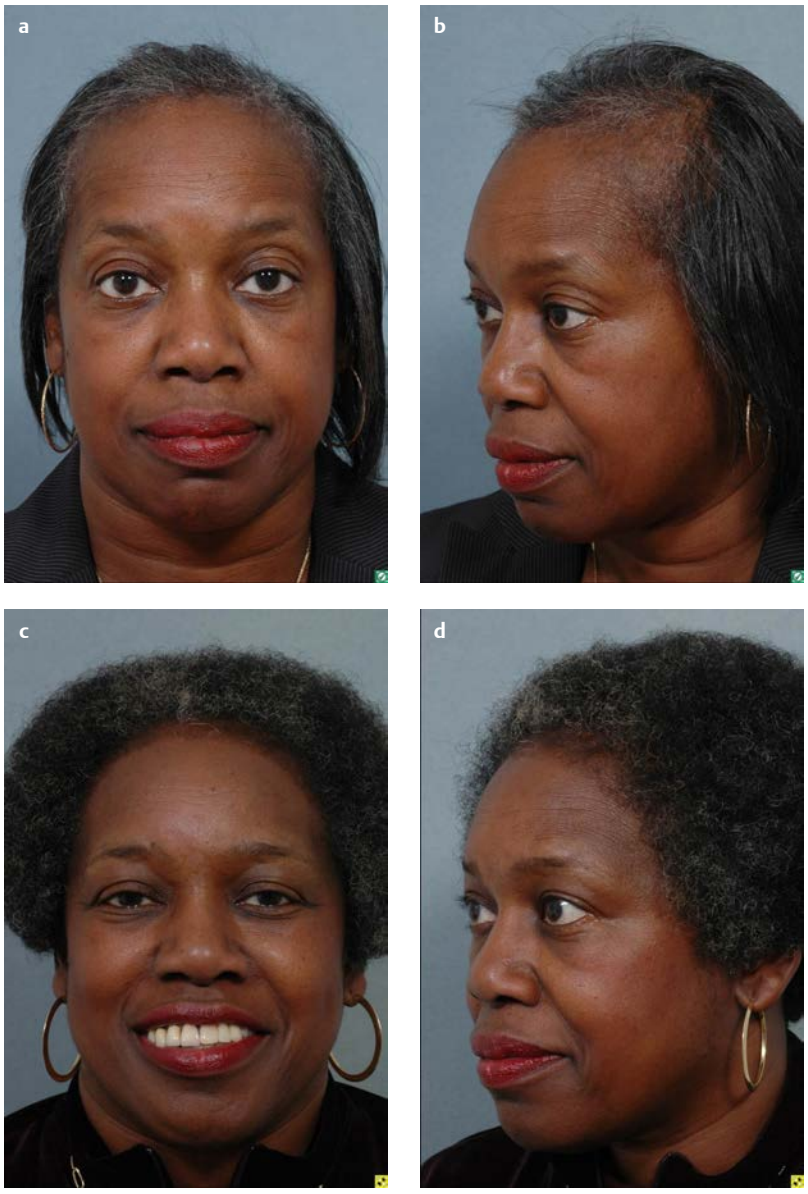

Fig. 12.10 (a–d) Visual narrative of "going natural" as illustrated by an African American woman who has undergone a transition to naturally textured hair. The physical changes align with an enhancement of overall self-image and a healthy state of mental consciousness. In this example, transition to naturally textured hair followed follicular unit hair transplantation. The patient underwent a single transplant procedure of ~ 1600 1–3-hair follicular unit grafts.

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13 Dorsal Augmentation Techniques in the African Platyrrhine Nose

Thomas Romo III, Tara E. Brennan, and Ignacio Viza-Puiggros

13.1 Introduction

The platyrrhine nose has certain ethnic characteristics that are distinct from the Caucasian nose and important to take into consideration when performing rhinoplasty. The platyrrhine nose is typically characterized by thicker skin and a larger subcutaneous tissue pad,[1] characteristics that tend to obscure definition of the nasal tip.[2] The African platyrrhine nose was described by Schultz in 1913 as more broad and flat, with diminished nasal bones and cartilages, and less dorsal projection than the Caucasian nose.[3] The nasal alae are wider, and the nostrils are more horizontally oriented. The typical nasal tip is also more flat and round, and the alae and nostrils are more flared. The bony and cartilaginous support of the septum is often relatively lacking. The premaxilla and nasal spine also tend to be more hypoplastic, creating a more acute nasolabial angle **(Fig. 13.1)**. Characteristics of African nasal valve physiology have also been documented by several authors. Canbay and Bathia measured nasal valve resistance following decongestion using rhinomanometry, and they demonstrated a statistically significantly higher decrease in the mean total airway resistance among African American patients compared with Caucasians.[4]

The ethnic differences in nasal anatomy are important to take into account when analyzing a nose and planning a rhinoplasty, because the rhinoplasty surgeon has to pay more attention to structural support to address the typical aesthetic concerns of the rhinoplasty patient. Importantly, one must keep in mind that the skin–soft tissue envelope (S-STE) cannot be reduced sizably, and to create further refinement and definition of the nasal tip, structural augmentation is typically required to stretch and thin out the S-STE. This often involves a combination of grafts to augment the dorsum and lower third of the nose. Significantly, using grafts for augmentation not only improves the appearance of the nose by providing more shape and definition, but it also often improves its function as well.

Numerous implants and grafts are available for use in platyrrhine rhinoplasty to accomplish the goals of structural augmentation and refinement, although no ideal grafting material exists. The ideal graft is:

- Readily available
- Inexpensive
- Inert
- Sterile
- Structurally similar to native tissue
- Sculptable
- Resistant to trauma, infection, and extrusion
- Integrated with surrounding tissue
- Easy to remove

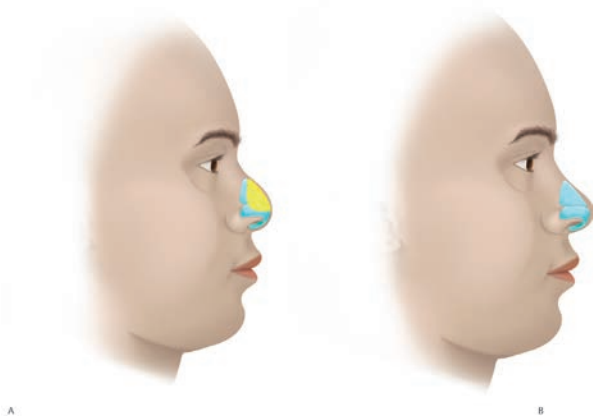


Fig. 13.1 Lateral view comparing the anatomic features of a generalized ethnic nose and a Caucasian nose. In this representation, the diminished nasal bones and cartilages are shown, as is the prominent subcutaneous fibrofatty pad of the typical platyrrhine nose. The premaxilla and nasal spine are notably hypoplastic. Overall, the nose is less projected and has a less defined nasal tip.

The surgeon must know the benefits and disadvantages of each grafting and implant material to obtain the best outcome.

13.2 Treatment Goals and Planned Outcomes

The most important goals in the typical platyrrhine rhinoplasty are structural augmentation and tip refinement.[5] Numerous autologous and alloplastic materials are available to facilitate structural grafting.

Autologous grafts include cartilage and bone. Cartilage is used more commonly, and it may be harvested from the patient's nose, ear, or rib. Cartilage is an ideal autologous grafting material for structural augmentation in the nose.

Septal cartilage is the most useful, as it matches the underlying framework one is attempting to augment, but it can be in short supply in the setting of prior surgery, trauma, or congenital deformity. Unfortunately, the platyrrhine nose often lacks enough native septal cartilage to

fashion the grafts required to achieve structural augmentation, which leaves the surgeon searching for alternate material. Auricular cartilage is curved and relatively weaker than septal cartilage. Costal cartilage is also available to be harvested and abundant but requires a separate donor/surgical site, which can be associated with donor-site morbidity, including pain, chest-wall deformity, scarring, and pneumothorax. Additionally, costal cartilage has a tendency to warp, and experience is necessary to learn to predict the warp and to use the warping to one's advantage in effecting structural change in the nose. Fixation techniques are also important to master to minimize the warping.[6]

Autologous cartilage may be carved into boat-shaped dorsal grafts; long, straight segments to be used as extended spreader grafts; shorter, straight segments for columellar strut grafts; or triangle-shaped tip or shield grafts. It may also be morcelized and placed into discrete pockets to augment the dorsum or premaxilla.[7,8]

Autologous bone grafts harvested from the iliac crest or calvarium are options but less commonly used, as they have a tendency to fracture, can partially resorb, and tend to confer a more rigid feel to the nose.[9] In addition, associated potential complications of calvarial bone harvest include dural injury, intracerebral injury, subdural hematoma, cerebrospinal fluid leaks, and sagittal sinus lacerations.

Homografts like irradiated (cadaveric) rib cartilage may also be used, and good results have been obtained in rhinoplasty using this material.[10] Homograft rib cartilage has the advantages of not being limited in supply and not incurring additional donor-site morbidity. Its disadvantages include potential for disease transmission, although no such cases have been reported. Resorption, warping, and mobility within the nose if not stabilized are other disadvantages that irradiated rib cartilage grafts share in common with autologous rib cartilage grafts.[11]

Definitively, autologous cartilage has an advantage over synthetic materials in that it is associated with less chance of infection or extrusion, particularly when dealing with revision operations.[12,13] As septal cartilage is often in short supply in the platyrrhine nose, an additional cartilage donor site is often required if autologous cartilage is desired **(Table 13.1)**. Synthetic materials for augmentation rhinoplasty are often discussed when the patient and/or surgeon would like to avoid the morbidity of an additional surgical site.

Alloplastic implants include preformed synthetic grafts made of silicone or porous polyethylene, and they have been used for more than 50 years in nasal surgery. They are attractive alternatives to autologous grafts because of their abundant supply, ease of use, predictable biologic response,

Table 13.1 Nonsynthetic grafts for nasal reconstruction

Type	Pros	Cons	Recommended uses
Autogenous grafts			
Cartilage			
Septum	Consistent results, low extrusion rates, low infection rates, may be used for structural support and soft tissue augmentation	Limited availability in revision cases	Dorsal onlay, tip grafts, columellar strut, alar batten
Auricular	Easily harvested, concavity similar to lower lateral cartilage	Limited supply, separate donor site, warping	Alar battens, dorsal onlay, tip grafts
Costal	Ample supply	Separate donor site, potential for warping	Dorsal onlay, tip grafts, columellar strut, alar batten
Bone			
Split calvarium	Ample supply, biocompatible	Potential for resorption, separate donor site, potential for fracture, palpability	Dorsal onlay, columellar strut, alar batten
Homologous graft			
Irradiated rib	Ample supply, biocompatible	Resorption, warping, patient stigma	Dorsal onlay, tip grafts, columellar strut, alar batten

and lack of need for an additional surgical donor site, with its inherent morbidity. Drawbacks include the additional cost of the implant, and an often-cited greater chance of infection than with autologous grafting materials. The senior author, however, has had negligible negative experiences with synthetic grafting materials in rhinoplasty, and porous high-density polyethylene (PHDPE), or Medpor, in particular, over the last 20 years of experience.

Synthetic materials are used as implants in other parts of the body without controversy. Calcium hydroxylapatite is used with titanium mesh to repair skull base and calvarial defects relatively commonly, for example. Silicone implants have been used for breast augmentation for many years. The nose, however, is mobile. It is used for breathing and is relatively animated, since the SMAS layer is intimately adherent to the overlying skin, as are the muscles of facial expression. Fixation of implants, therefore, is a relatively unique consideration when choosing a synthetic implant to use in the nose.

Synthetic implants have the advantage of being readily available and easy to use, and they effect predictable aesthetic results. Synthetic implants do not carry the risk of warping inherent to costal cartilage grafts; however, they can be expensive and they have a small but higher tendency for infection and extrusion when compared with their autologous graft counterparts. As with their autologous graft counterparts, special attention needs to be paid to stabilizing the synthetic implant in the nose to prevent asymmetry.

Silicone in its solid form (Silastic; Dow Corning Corporation) can provide a smooth and natural-feeling structural augmentation to the nasal dorsum. It is easily sculpted as well. However, it is smooth and not porous, and therefore does not lend itself to surrounding soft tissue ingrowth. This results in a graft that has a greater tendency to move within the nose. Characteristically, a fibrous capsule forms around silicone implants, which, if traumatized, can lead to infection or fluid accumulation. Removal of the implant is sometimes required in these cases. Another disadvantage of using silicone implants in the nose is their risk of extrusion, particularly when placed under tension and under a thin skin envelope. In general, rates of extrusion are higher when implants are placed in the columella (up to 50%) as opposed to the nasal dorsum.[14]

Expanded-porous polytetrafluorethylene (e-PTFE; Gore-Tex) is another synthetic polymer that has been widely used in general surgery (e.g., mesh for abdominal hernia repair) and has also been used in nasal dorsal augmentation. Macroscopically, it is soft and pliable, and it is useful when soft volume filling is necessary, but it is not recommended when structural grafting material is needed.[15] e-PTFE differs from silicone in that it is porous and therefore permits soft tissue ingrowth.[16] However, its pores are small, ranging from 10 to 30 µm, which leads to less soft tissue integration and fixation to the surrounding tissues. It has a significant risk of extrusion, and infection rates are relatively high, especially in thin or scarred skin.[17,18] It is also very costly compared with other synthetic materials and, more recently, not readily available from the manufacturer for use as a nasal implant.

Porous high-density polyethylene (PHDPE) implants are robust, synthetic, porous, inert carbon polymer grafts that can be used for dorsal augmentation in rhinoplasty. These implants have large pores (ranging from 100 to 250 µm), which allow for soft tissue ingrowth, affording stability to the implant and reducing the chances it will move once placed into the nose. PHDPE implants come in a variety of shapes that can be used to create a variety of grafts in the nose. They come in canoe-shaped implants that can be carved and placed on the dorsum for augmentation, and they are also available as straight sheets (1.1 mm) that can be used for fashioning a columellar strut or nasal tip grafts. Concave oval sheet (0.85 mm) PHDPE grafts are also available to be used as alar batten grafts. PHDPE implants have a firm but cancellous consistency, which affords easy sculpting but confers a significant rigidity to the nose on palpation.

The most frequent complication of PHDPE implants is infection, with rates between 2.6 and 7.4% and usually requiring implant removal,[12] although Scalfani and colleagues demonstrated that implant infection and partial exposure can often be treated conservatively, with antibiotics and conservative debridement.[19] Notably, removing an infected implant can prove extremely difficult to do without compromising the thickness, vascularity, and integrity of the overlying S-STE of the nose, and this task can be quite a challenge to the rhinoplasty surgeon confronted with a revision case requiring removal of a synthetic implant **(Table 13.2)**.

13.3 Preoperative Planning and Preparation

Complete presurgical evaluation is the first requirement in platyrrhine nose surgery. It is important to understand patients' concerns and expectations and to elicit their motivations for seeking a rhinoplasty. Their concerns may be cosmetic, functional, or a combination of the two. It is paramount to communicate that the goals of rhinoplasty are to effect the desired cosmetic changes without compromising nasal function. Often, structural augmentation rhinoplasty will result in not only an improved appearance of the nose but also improved function. Augmentation rhinoplasty (for example, dorsal augmentation with placement of a columella strut and a tip shield graft) may have a refining effect on the nose by stretching out the overlying S-STE, thereby providing more definition to the underlying structure of the nose. Usually, the platyrrhine patient has a thick S-STE, which lends itself well to structural augmentation rhino-

Table 13.2 Synthetic implants

Type	Pros	Cons	Recomended uses
Expanded-porous polytetrafluoroethylene (Gore-Tex)	Tissue ingrowth, soft/pliable, sculptable	Limited structural support, expensive	Dorsal onlay, tip grafts
Porous high-density polyethylene (Medpor)	Tissue ingrowth, sculptable	Difficult to remove, palpability	Dorsal onlay, tip grafts, columellar strut, alar batten
Silicone, solid form	Easy to insert, soft/pliable, sculptable	Extrusion potential (lifetime), capsule formation, no tissue ingrowth	Dorsal onlay

Data from Romo T III, Kwak E. Nasal grafts and implants in revision rhinoplasty. Facial Plast Surg Clin North Am 2006;373–387.

plasty.[2] The thicker skin, itself, also reduces the chance of implant extrusion or infection.

A focused history is important in preoperative planning. The surgeon should note if the patient has a history of nasal trauma, however remote, and any prior nasal surgeries. Prior operative reports are helpful but are not required. Current medications, particularly blood thinners, are important to note and to stop prior to surgery if medically cleared. History of cocaine use or rhinitis medicamentosa is also notable, because these conditions compromise healing and increase the patient's risk of infection, nasal septal perforation, and implant extrusion. One should approach revision surgery patients and those with a history of nasal cocaine use with extreme caution, especially if one is considering alloplastic implants, as these patients are at a heightened risk of complications. History of chronic rhinitis, particularly atrophic rhinitis, is also important to note, especially if septoplasty or turbinate surgery is part of the surgical plan.

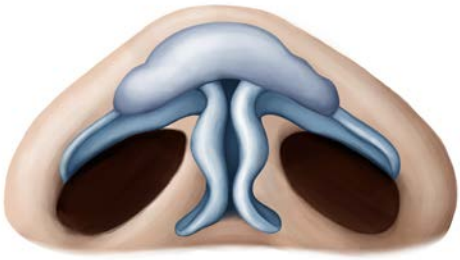
A focused exam is also important, and it should include analysis of the nose in several views, an intranasal exam with endoscopy, and palpation of the nose. The nose should be analyzed in several views, and professional-grade photographs should be taken in frontal, side, oblique, and base views. Views with and without smiling are helpful to assess for the presence of a premaxillary crease, which may be affected by rhinoplasty maneuvers that anchor grafts to the nasal spine. Views of the nasal base with and without inspiration are also helpful to assess for external nasal valve collapse. This may also be assessed using a Cottle maneuver. The internal nasal valve angle (formed by the nasal septum, caudal border of the upper lateral cartilage, and the head of the inferior turbinate) should also be assessed, as this may be affected by septoplasty, submucosal inferior turbinate reduction, spreader graft placement, and external nasal valve strengthening maneuvers like alar batten or lateral crural strut graft placement, if required. The nose should also be palpated so that the strength of the lower lateral cartilages may be assessed. Deficiency of the caudal nasal septum, not uncommon in the platyrrhine nose, should also be noted, as should any premaxillary deficiency. The body should be examined for keloids, as history of keloid formation definitely increases the patient's risk of having this complication in rhinoplasty.[5]

Once the surgeon understands the patient's goals and a complete examination has been performed, he or she must present the surgical plan. The surgeon should explain to the patient how the plan will achieve the patient's goals, the limitations of the proposed procedure, expected postoperative care and follow-up, and potential complications. The importance of managing patients' expectations cannot be overstated. Computerized three-dimensional imaging is often very helpful in demonstrating to patients the results they may expect with a given operation.

13.4 Procedural Approach

The rhinoplasty example shown here illustrates characteristics of the typical platyrrhine nose, including thick, sebaceous skin, deficient caudal septum, relatively deficient nasal dorsum (cartilage and bone), weak nasal tip (deficient caudal septum and thin lower lateral cartilages), and deficient premaxilla/nasal spine area. Overall, the nasal dorsum and tip are not well defined underneath a thickened overlying S-STE. Structural augmentation of the nasal dorsum and tip are key for this patient; furthermore, because the nasal septal cartilage is deficient for grafting and the patient prefers not to undergo autologous cartilage harvest from a separate surgical site, alloplastic augmentation is planned **(Fig. 13.2)**.

An open rhinoplasty technique is preferred in this example so that the grafts may be fixated under superior visualization. Preoperative marking is performed to



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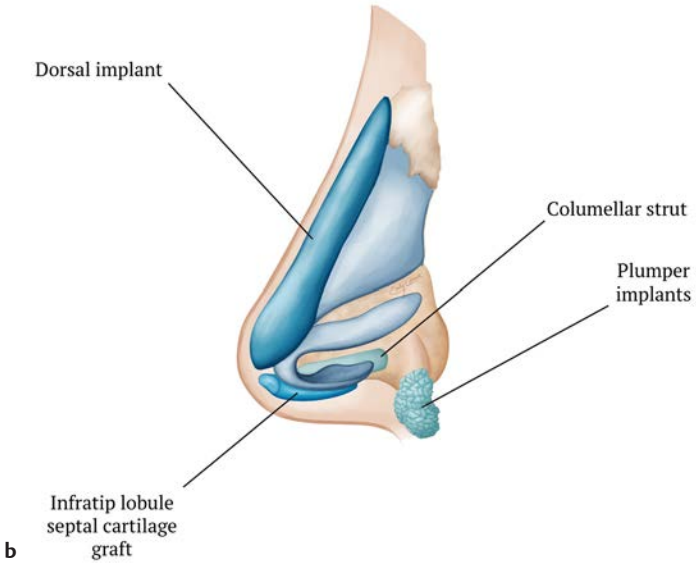

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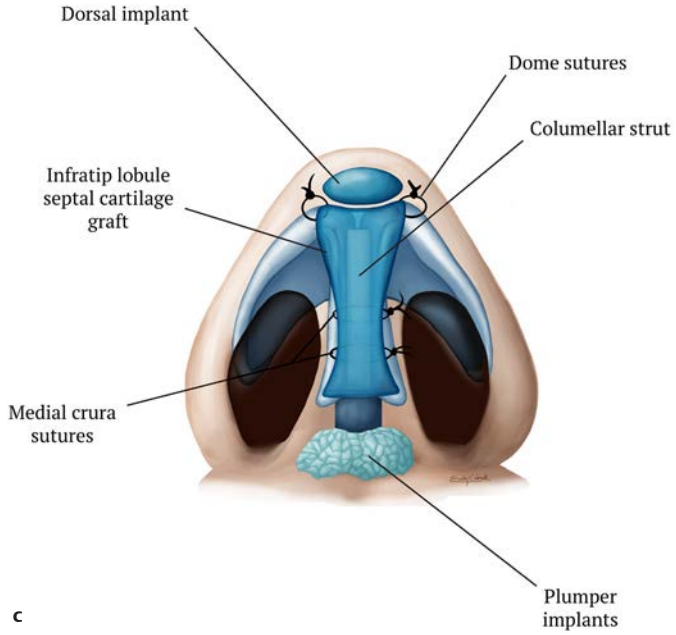

c

Fig. 13.2 **(a)** Three-quarter view and **(b,c)** base views of the reconstructed ethnic nose. A PHDPE dorsal tip, columellar strut, and premaxillary plumper implants are shown in position. Suture placement is illustrated in the base view.

serve as a guide for dorsal graft placement **(Fig. 13.3)**. Any other subtle nasal asymmetries to be addressed should be marked as well. The inverted V incision planned at the mid columella should also be marked at this time.

Once markings are complete, injection should be performed to assist with hemostasis and hydrodissection. Injection should be performed underneath the mucoperichondrial septal flaps, as well as beneath the S-STE of the nose and at the nasal base. The senior author prefers 0.5% lidocaine with 1:200,000 epinephrine for this injection. The nose is then prepped and draped in standard fashion for an open septorhinoplasty.

First, attention is turned to the septoplasty, which is performed in the usual fashion using either a hemitransfixion or transfixion incision. Attention is paid to preserving an adequate L strut while harvesting as large of a segment of cartilage

Fig. 13.3 Preoperative nasal markings.

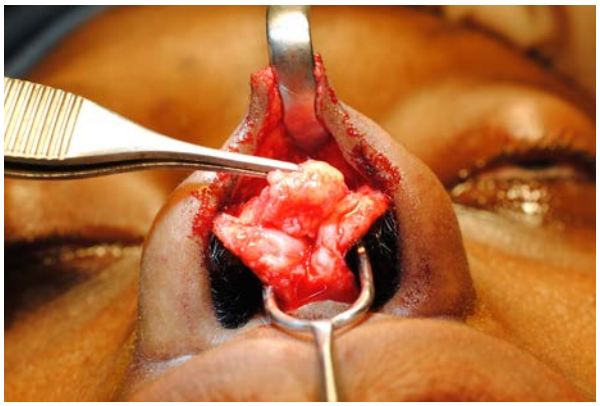

Fig. 13.4 Intraoperative view of subcutaneous fat pad.

as possible for later grafting. The incision is closed with interrupted 4–0 chromic sutures and the mucoperichondrial flaps are re-approximated using a 4–0 chromic mattress suture.

Next, the columellar incision is made and is connected on each side with the marginal incisions. Then, sharp scissors are used to elevate the S-STE off the underlying lower lateral cartilages, leaving the fat pad overlying the lower lateral cartilages for subsequent removal en bloc. In this way, the soft tissue envelope over the nasal tip is thinned substantially during flap elevation. The fat pad is often discarded, but it may be used for later camouflage grafting, if required **(Fig. 13.4)**.

Next, a pocket is dissected between the medial crura and extended down to the anterior nasal spine and premaxilla. As premaxillary augmentation is often desired, as in this case, multiple, small particle, plumper implants diced out from a 1.1 mm thick sheet of PHDPE are placed into this pocket **(Fig. 13.5)**. Each implant measures ~ 1 × 2 mm. More structure and firmness in the premaxilla may be felt immediately after this maneuver. At this point, a columellar strut can be fashioned from either the harvested nasal septal cartilage, if available, or from the 1.1 mm thick PHDPE sheet. The strut is placed between the medial crura and is stabilized using interrupted 5–0 Monocryl (Ethicon Inc.,) sutures, taking care to trim the tip so it does not project further than the tip of the medial crura **(Fig. 13.6)**. Modest lateral crural steal is also exercised during this maneuver, with placement of 4–0 Prolene (Ethicon Inc.,) dome-binding stitches as needed to stabilize the tip. Modest cephalic trim of the lower lateral cartilages may also be performed at this time, with care taken not to narrow the lower lateral cartilages beyond a width of 6 mm.

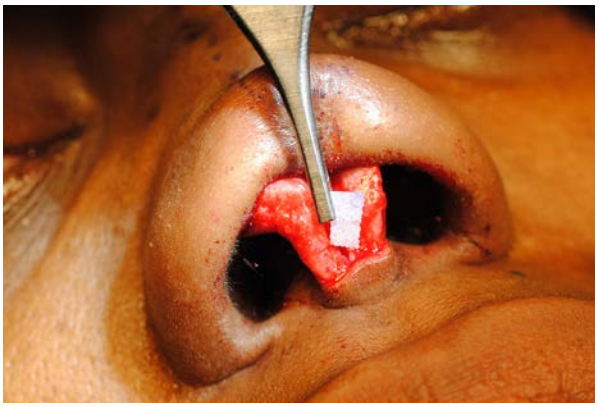

Fig. 13.5 Intraoperative placement of premaxillary plumper grafts.

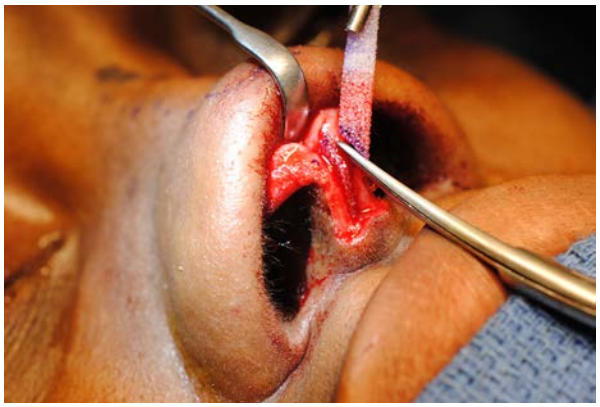

Fig. 13.6 Intraoperative placement of columellar strut graft.

At this point, the dorsum is addressed, with or without osteotomies. Typically, a large dorsal PHDPE implant is chosen and is carved to the desired size and contour using a No.10 blade. A sheet of AlloDerm may be used to camouflage any subtle irregularities or to soften the transition between the dorsum and nasal sidewalls of the implant. The implant is placed in a tight dorsal pocket. If it is not completely stabilized, temporary transcutaneous 4–0 Prolene stitches may be used to anchor the implant in place **(Fig. 13.7)**.

Finally, a tip shield graft may be placed. It is typically fashioned from septal cartilage, and smooths the transition between the tip and the columella. It is secured in place using a 6–0 Prolene suture.

Closure begins with the columellar incision. One interrupted 5–0 Vicryl (Ethicon Inc.,) stitch is placed in the deep tissue, followed by interrupted 6–0 nylon sutures for the skin closure. Marginal incisions are closed with interrupted 5–0 chromic sutures. After closure, alar base reduction may be performed, if desired, and the incisions are closed with 5–0 Vicryl deep sutures and 6–0 nylon sutures through the skin. It is important to avoid placement of these incisions in the nasal/alar crease itself, as those incisions heal less favorably than ones placed more medially **(Fig. 13.8)**.

At the conclusion of the operation, Steri-Strips are placed over the nasal bridge, and an Aquaplast splint (Patterson Medical Products Inc.) is placed over them, stabilizing the nasal dorsum. Intranasally, Silastic sheet splints may be used to promote healing, especially if the mucoperichondrial flaps were traumatized substantially during elevation. Telfa-wrapped Merocels coated with bacitracin are then positioned anteriorly in bilateral nares; they are removed 1 to 2 days postoperatively **(Fig. 13.9)**.

13.5 Potential Complications and Treatment

The vast majority of ethnic patients undergoing dorsal augmentation using this technique are satisfied and enjoy a complication-free recovery. However, complications are possible and need to be discussed with patients beforehand.

As mentioned above, infection is more common among patients undergoing revision operations or those with a history of intranasal cocaine abuse. Thinner-skinned patients are more susceptible to implant infection and extrusion, and infection rates of up to 50% have been cited among alloplastic implants used in the columella.[20] However, Romo and Shapiro[5] reviewed 187 patients (35.4% nonCaucasian) who underwent rhinoplasty with PHDPE implants and found only one patient who required revision (the case involved revision of a dorsal implant). It is possible that their practice of soaking the implant in gentamycin solution prior to its implantation may have played a role in the low infection rate.

Scarring is always a possibility with any surgery, and nonCaucasian patients are more prone to this complication, including keloid formation. Prolonged nasal tip edema is also possible, especially in the setting of thickened skin. Nasal asymmetry or implant migration is also a possibility, which is why special attention should be paid to implant fixation during the procedure.

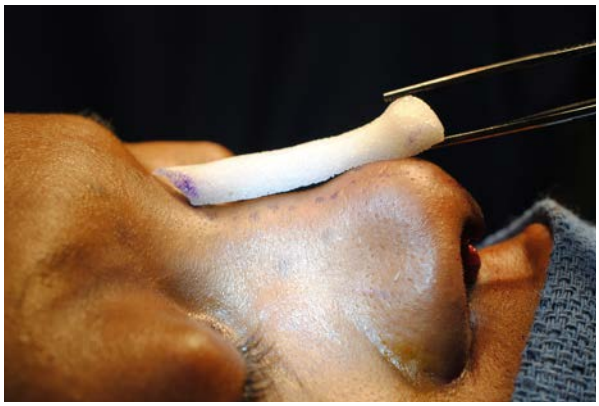

Fig. 13.7 Intraoperative placement of dorsal graft.

Fig. 13.8 Intraoperative three-quarter view after placement of grafts.

Fig. 13.9 **(a)** Preoperative frontal view. **(b)** One year postoperative, frontal view. **(c)** Preoperative lateral view. **(d)** One year postoperative, lateral view. **(e)** Preoperative base view. **(f)** One year postoperative, base view.

13.6 Postprocedural Care

Antibiotic-coated Telfa-wrapped Merocel packs should be removed 1 to 2 days postoperatively. Patients are sent home with oral antibiotics for one week. Patients should begin nasal saline sprays and irrigations 2 days after surgery and perform them conservatively. The Aquaplast dorsal splint, internal Silastic splints, and nonabsorbable stitches are removed 5 to 7 days after surgery. It is important that the patient avoid any heavy lifting or intense exercise in the week following surgery. Care should be taken to avoid nasal trauma as well.[21]

13.7 Recovery and Follow-Up

Recovery is swift among the majority of patients. A small amount of oozing from the nares is expected, but brisk bleeding is uncommon and should warrant prompt attention from a physician. Periorbital swelling and bruising is possible, especially if osteotomies were performed. Pain medication is prescribed and should be used as needed.

Patients will note that their nose feels firmer than it did prior to surgery due to the firm consistency of the grafts. Patients should be advised that postoperative swelling is normal and can be prolonged, lasting for a few months after a rhinoplasty, particularly among thick-skinned patients. Steroid injections are sometimes utilized to reduce swelling and scar formation in the nasal tip and to effect increased nasal contouring.

13.8 Outcomes

The senior author has enjoyed excellent cosmetic results and satisfaction among his ethnic rhinoplasty patients undergoing structural augmentation using alloplastic, and specifically PHDPE, implants. Alloplastic implants in rhinoplasty have been a subject of controversy, with some surgeons preferring to use autologous cartilage exclusively when augmentation is required; however, this option requires a second surgical site, with its inherent morbidities, and a certain comfort level on the surgeon's part. Warping of autologous rib cartilage is also an often-cited concern, and experience is necessary to learn to use the rib's inherent tendency to warp to one's advantage in effecting change to the nose during rhinoplasty. Irradiated cadaveric rib cartilage is also relatively popular, but it carries a risk of warping akin to autologous rib cartilage. Moreover, alloplastic implants have achieved good results with relatively little morbidity when used in the correct patient and site.

It should be noted that thin-skinned patients and patients undergoing revision operations have higher risk of complications related to alloplastic implants. Alloplastic implants placed in the columella have a higher chance of infection and complication than those used for dorsal augmentation, likely secondary to the increased movement associated with this area of the nose.[20] Patients with a history of nasal cocaine use should also be treated very conservatively. For the vast majority, however, PHDPE is a readily available, reliable material for structural augmentation rhinoplasty with minimal complication. Further studies are warranted to investigate longer-term follow-up of PHDPE augmentation rhinoplasty to further validate its safety.

13.9 Conclusions

Dorsal augmentation in the platyrrhine nose may be reliably performed with PHDPE implants. This material is often desirable in the setting of deficient nasal septal cartilage, and it may serve as an alternative to harvesting autologous cartilage from additional surgical sites (i.e., ear or rib). It becomes stable in the nose due to soft tissue ingrowth into its porous substance, and it lacks the risk of warping inherent to rib cartilage. It is strong and abundant in supply, and it has not been shown to resorb. Candidates for this procedure should be carefully selected, with the risks and benefits of the operation fully disclosed and alternative options discussed. Caution should be used in formulating a surgical plan for patients presenting for a revision operation, patients with a history of severe trauma, or those with nasal cocaine use. Autologous grafts should be used for columellar augmentation, if available. Implants should be soaked in antibiotic solution prior to placement, and patients should keep their incisions coated in antibiotic ointment in the initial postoperative period. Close follow-up should be observed, with any complications noted.

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14 Approach to the Nasal Base in Patients of African Descent

Christian P. Conderman and Russell W. H. Kridel

14.1 Introduction

Patients of African descent pose a unique challenge in rhinoplasty. Significant differences in anatomical characteristics yield a nose that is distinctive from what has over the years been considered an attractive nose in people of Caucasian or European descent. Historically, African noses have been categorized into an "ethnic rhinoplasty" grouping with noses of Asian and Latin descent. This categorization has proven wholly inadequate to describe the unique morphologic features of each of these groups. Furthermore, characterizing a nose as ethnic is largely a question of perspective and can be relative. For instance, this description likely has a significantly different meaning to someone in Asia than it does to someone in Europe or Africa. Attempts to create a more Caucasian or Caucasoid nose without incorporating an individual's desires into the surgical plan have also largely resulted in undesirable outcomes. Sensitivity and awareness of the individual and ethnic differences are of paramount importance in achieving a desirable surgical outcome in alar base surgery in patients of African descent.

Individual and ethnic differences, as well as features unique to patients of African descent, have been described in several studies.[1–6] In general, the uniquely African features include a shorter nose with a wider dorsum, acute columellar and nasolabial angles, thicker skin, a bulbous nasal tip, weak lower lateral cartilages, and large nostrils in both the vertical and horizontal dimensions (with nostrils that in some cases have an inverted orientation). Additionally, the alar base tends to be wider in these patients and requires special attention.

These nasal features are the result of great heterogeneity within the population of African descent. The heterogeneity is attributable to the varied ethnic groups that contribute to nasal features in particular, and to the great variability in the population in general. African, Native American, and Northern European origins and influences contribute in varying degrees to the characteristic nasal morphology. In 1993, Ofodile studied 201 African-American noses and further classified the noses into three subgroups based on morphologic features.[1] He termed the groups the African, Afro-Caucasian, and Afro-Indian noses. Of the three groups, the African nose is the most common and has the features traditionally associated with a platyrrhine nose. Afro-Caucasian and Afro-Indian noses are less common but are marked by variations in the height of the nasal dorsum, as well as the shape and orientation of the nostrils. These structural differences are thought to be the result of climate-driven adaptations. In colder climates, a long and narrow nasal passageway provides more surface area for humidification of inhaled air. In contrast, in a warmer, more humid climate, a wider, narrower nose is more suitable because the requirements for humidification of inspired air are not as great.[2,7,8]

Ofodile's classification provides a framework for understanding anatomical variations in patients. Nonetheless, with interracial marriage becoming more common, the morphologic distinction between groups is becoming more arbitrary. As a result, individualized preoperative evaluation and analysis are critical in determining the appropriate approach to the alar base. Preoperative assessment includes an awareness of the aforementioned ethnic characteristics and how they may diverge from classical aesthetic ideals. As cosmetic facial surgery is becoming more desirable across all ethnic groupings, preservation of natural beauty within a cultural, ethnic, and societal framework should be considered a primary surgical goal. The surgical plan should be formulated to preserve facial harmony while also responding to the individual patient's desires. In patients of African descent, this can be accomplished with the use of a graduated and algorithmic approach to the alar base, with resultant aesthetic outcomes that comply with cultural standards of beauty in a consistent and reproducible manner.

14.2 Nature of the Problem

In patients of African descent, noses can show a great variety of anatomical features, as noted above. This variety has been the subject of detailed analysis and has been compared to normative values associated with neoclassical canons of beauty.[1,9–13] As discussed above, Ofodile was one of the first to describe these features in terms of the overall appearance of the nose, while also specifically characterizing the nostrils and alar base. In the African nose, found in darker pigmented individuals, the interalar width was wider, with more flaring of the alae. The nostrils were also described to have a more horizontally oriented axis. In the Afro-Caucasian nose, the nostrils were oriented more vertically, with a narrower base and less alar flare. The Afro-Indian nose, the third and the least common type of nose that Ofodile described, has an "aquiline" shape, with more projection, a high and wide dorsum, and alar flaring. Despite outlining the differences and describing three different types of nose, Ofodile advised a tailored rhinoplasty approach based on individualized preoperative assessment.

Approximately 10 years before Ofodile's description of noses in patients of African descent, Farkas described a classification system for nostril types based on morphometric analysis of 156 Caucasian, 55 Asian, and 32 African-American noses.[10] This classification was based on the inclination of the medial longitudinal axis of the nostrils and generally followed the Topinard system for facial analysis described in the late nineteenth century.[10,14] In Ofodile's African nose type, nostril types V and VI predominate (**Fig. 14.1**, nostril axis more horizontally oriented, with an angle of inclination of 25–39 degrees and 10–24 degrees for nostril types V and VI, respectively)[10] and alar base correction can require partial resection of the sill in addition to traditional alar wedge excision. This is the result of the orientation and inclination of nostril types V and VI. Afro-Caucasian noses, however, were noted to have narrower nostrils with a more vertically oriented axis, and alar base reduction was less reliant upon excision of the nasal sill. In Afro-Indian noses, where nostril shape falls somewhere between those of the African and Afro-Caucasian nose, a combination of the two methods is usually required. Despite the differences detailed above, the importance of preoperative evaluation and a surgical approach that addresses a patient's unique anatomical findings cannot be overemphasized. In a subsequent analysis of African-American facial proportions, Porter noted that nostril types III, IV, and V (as defined by Farkas et al)[10] were most common in the African-American population of the United States. Porter cited the prevalences of types III, IV, and V to be 28.7%, 25.0%, and 25.0%, respectively.[12]

Ofodile later described average anthropometric values in 69 of the original 201 patients whom he had used to classify the three subtypes outlined above.[11] His calculations showed mean values of 41.4 mm and 30.3 mm (1.36:1) for interalar and intercanthal widths, respectively. He was therefore able to show objectively that lateral alar attachments in patients of African descent are generally found lateral to the anatomical location of the medial canthus.[11] More recently, Porter has largely corroborated these findings and compared facial proportions of Americans of African descent with neoclassical guidelines and proportions found in American Caucasians.[9,12,13] She noted significant variations in her own results and stated there were some limitations in applying Ofodile's grouping to her results. She specifically noted that the differentiation between Afro-Caucasian and Afro-Indian noses could be arbitrary. She also lamented the broad age range in Ofodile's initial study (ages 18–87) and cited senescent changes as a confounding factor in the categorization of African noses.[12]

Additional morphometric analysis performed largely by Porter et al added to the existing literature characterizing the alar base and interalar width in African-American males and females.[9,12,13] The investigators compared African-American males and North American Caucasian males and found that, in African-American males, in contradistinction to the neoclassical canon that dictates a 1:1 ratio between the interalar width and intercanthal width, the ratio is closer to 1.3:1, with the interalar width being wider than the intercanthal width.[9] Porter et al noted a wider nasal base in 99% of African-American subjects. Nostril orientation was found to be vertical in most subjects, while a horizontal orientation was second most common.[9] Porter et al also found that, from the base view, the African-American nose had a more oval configuration, with a distinct

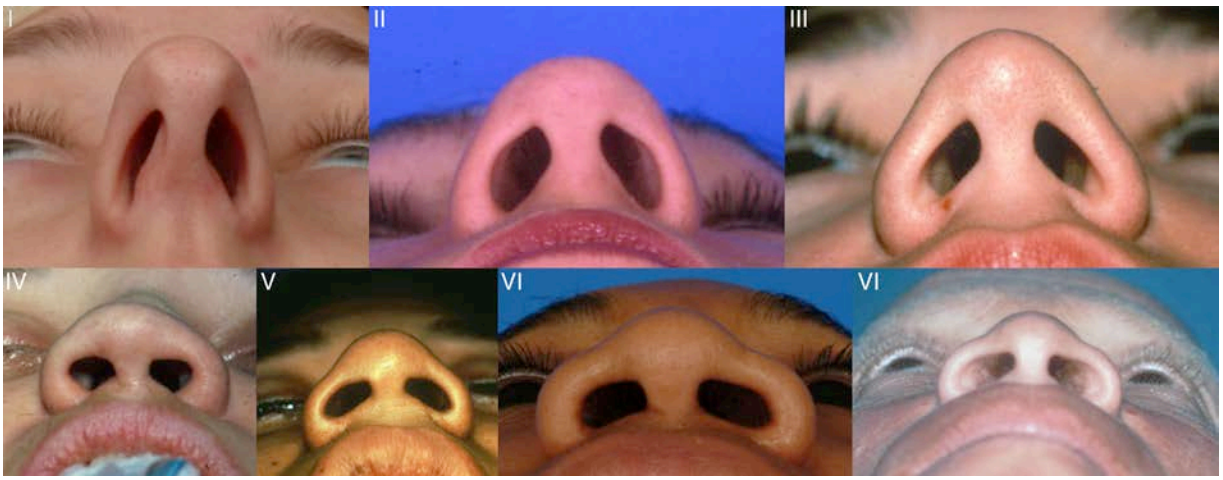

Fig. 14.1 Ethnic variations in the nostril axis. The Farkas classification of nostril types as adapted to our patients. Top row: types I, II, and III. Bottom row: types IV, V, and two examples of type VI nostril. (Nostril type VII, inverted nostril, not shown). As nostril axis becomes more horizontally oriented, consideration must be given to sill reduction in addition to standard alar wedge excision.

breakpoint between the nasal lobule and ala. In addition to this specific morphometric finding, the breakpoint can have surgical implications, as alterations in the alar base can produce or exacerbate notching at the alar-lobular junction. Anthropometric differences between the African-American and Caucasian females were also recorded and revealed differences in the nasal dorsum and in terms of overall nasal width. The African-American female's nose was wider, with less inclination of the dorsum. Again, it was noted that the interalar width was greater than the intercanthal width (5:4 or 1.25:1).[12] Both studies confirmed that African-American facial analysis and metrics do not fall neatly into the confines of the neoclassical canons. Porter concluded that, in general, horizontal measures of facial analysis had more interracial variation, particularly when considering metrics applied to the nose.

14.3 Applied Anatomy

Excessive alar base width has multiple causes and requires the understanding and application of a variety of techniques to correct alar width and/or flare. Alar base reduction can be considered when the interalar width exceeds the intercanthal distance. The result is what has traditionally been considered ideal in the Caucasian nose, however, as outlined above, these norms are not necessarily applicable to patients of African descent. This is due to the larger interalar to intercanthal ratio in a large percentage of these patients as outlined in the above analyses. While guidelines serve as a useful reference, patient desires should be the critical influence in terms of surgical decision-making in alar base reduction.

In addition to excessive sill width and interalar distance, alar flare is another indication for reduction of the alar base. This is defined as the lateral aspect of the alae extending significantly (≥ 2 mm) beyond the alar-facial groove **(Fig. 14.2)**.[15,16] This is best seen on the preoperative base view. In addition to alar flare's occurrence as a preoperative or native anatomical finding, it can result from rhinoplasty maneuvers that de-project or retro-displace the nasal tip. This may cause the alae to assume a more lateral position without causing a change in the interalar width or nostril size **(Fig. 14.3)**.

In some instances, the nasal sill in isolation (i.e., without flaring) may contribute to an overly wide alar base. A relative indication for sill reduction is an enlarged nostril with a horizontal axis.[15] This can often be seen in the African or platyrrhine nose, especially in the setting of nostril types V and VI as described by Farkas.[10] In contrast to a horizontally oriented nostril, with a more vertically oriented nostril, i.e., types I–III, great care should be taken when alar base surgery is planned. If the alar base is narrowed excessively in this setting, aesthetic outcomes can be poor.

If the alar base is too wide due to a lateral alar-facial insertion, as is common in patients of African descent, a V-Y advancement flap of the lateral alae can be used to correct this. Bernstein popularized this method of alar base reduction,[3] and when it is combined with correction of alar flare and excessive width of the nostril sill, it has shown good results in patients with this anatomical configuration.[15]

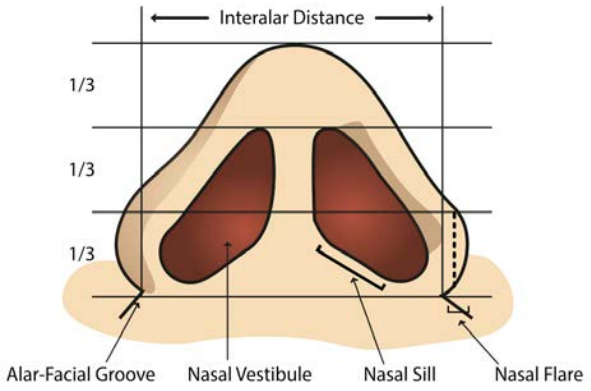

Fig. 14.2 Alar base anatomy. Excessive alar flare is noted when the lateral aspect of the alae extends significantly beyond the alar-facial junction. (Adapted with permission from Kridel RW, Castellano RD. A simplified approach to alar base reduction: a review of 124 patients over 20 years. Arch Facial Plast Surg 2005;7(2):81–93.)

In summary, the varying causes of alar base excess require an algorithmic approach for appropriate reduction and correction of a specific anatomical deformity. Correction can include narrowing an excessively wide interalar distance, reducing alar flare, reducing excessive nasal sill width, with or without a horizontally oriented nostril axis, and/or a combination of the above **(Fig. 14.4)**.

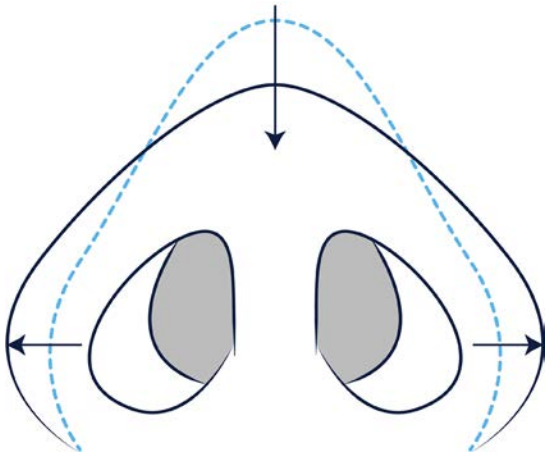

Fig. 14.3 De-projection or retro-displacement of the tip can lead to an increase in alar flaring. Conversely, an increase in projection can lead to a reduction in alar flaring.

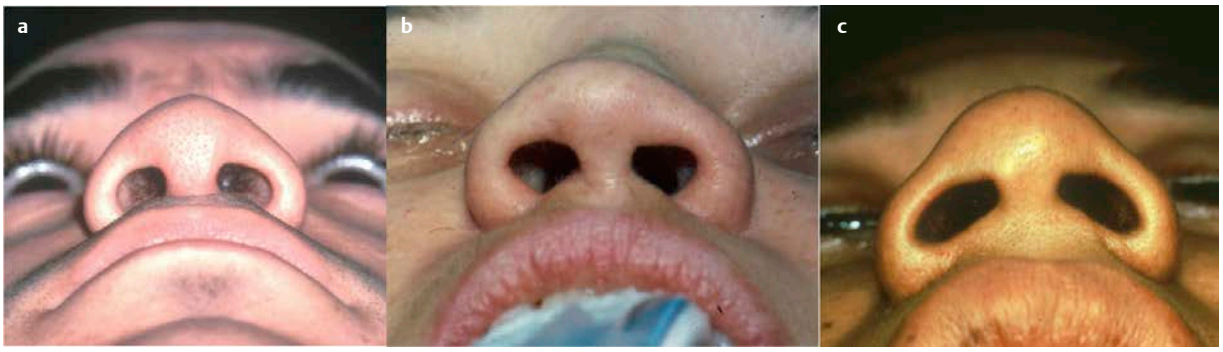

Fig. 14.4 **(a)** Excessive interalar width. **(b)** Excessive alar flare. **(c)** Excessive width of the nasal sill with horizontally oriented nostril axes.

14.4 Treatment Goals and Planned Outcomes

Correction of alar base disproportion in patients of African descent must be performed in a systematic manner that addresses a clearly defined anatomical defect in line with an understanding of ethnic features and individual patient desires. A clear preoperative plan is necessary for achieving natural results. The plan should include an assessment and diagnosis of what is causing the base to be widened, i.e., excessive flaring, excessive horizontal width of the nasal sill, true excess of the interalar width, or a combination thereof. By keeping these factors in mind, appropriate narrowing in line with ethnic, cultural, and racial features can be achieved while preserving nasal-facial harmony. Computer imaging can serve an integral role in communication of surgical goals between the patient and surgeon and should be used to clearly define a proposed treatment plan and possible surgical outcome.

14.5 Preoperative Planning and Preparation

A targeted history and physical should precede any nasal surgery. This includes a detailed history of specific nasal complaints, such as congestion and drainage, nasal airway obstruction, prior nasal trauma, and a history of nasal allergies and/or sinusitis. Patients should also be queried regarding any history of excessive bleeding or bruising and hypertrophic or keloid scarring following prior surgeries, and in particular nasal surgeries. Current medications should be discussed, including the use of over-the-counter and herbal medications. Aspirin and NSAIDs, as well as known anticoagulants like warfarin and heparin, can predispose the patient to postoperative bleeding and complications. Similarly, ginkgo, garlic, fish oil, and vitamin E may increase a patient's postoperative risk of hemorrhage.

Preoperative physical examination should include a thorough facial examination, with close inspection of the nose. Dysmorphic and/or disproportionate features should be noted. The nasal examination should include a close inspection of both the external and internal components. The nasal dorsum and cartilages should be palpated and assessed for strength and support. Intranasally, the septum and turbinates should be closely evaluated to assess for any deviations or other factors contributing to nasal obstruction. Evaluation of the nose should include documentation of the size, shape, and symmetry of the nostrils, the width and length of the columella, the relationship between the columellar length and height of the lobule, and the thickness and contour of the alae.[15] The base view should be examined to assess for the aforementioned anatomical findings, including alar flaring; excessive interalar width; the size, shape, and orientation of the nostrils; and nasal sill width. The columella should also be evaluated, as flaring of the medial crural footplates or deviations of the caudal septum can contribute to preoperative asymmetry. This asymmetry should be discussed with the patient prior to surgery. Additionally, the junction of the alae and lobule should be evaluated for alar notching. This finding may be worsened by a reduction in alar base width and may necessitate concomitant placement of an alar rim graft for correction of the deformity. As noted above, changes in the alar base can result in the creation of, or exacerbation of, this defect and its presence or absence should be noted at the time of the initial evaluation. Rhinometry can serve as a useful adjunctive measure to assess preoperative airflow before and after application of a topical decongestant, and it provides an objective evaluation of airway patency.

Preoperative photographic documentation is necessary in all facial cosmetic procedures. Photos include standard documentation of frontal, oblique, profile, base, and sky/overhead views. Additional close-up photographs can be taken of any nasal lesions and/or the naso-facial junction/peri-alar area. Computer imaging should also be performed

in all patients prior to rhinoplasty. This allows the physician to depict the changes that he/she is proposing, including modifications of the alar base and how they might affect the overall appearance of the nose from frontal and base views. Additionally, this gives the patient the opportunity to state his/her desires with regard to the rhinoplasty procedure. Some patients may desire a nose more in line with neoclassical canons, whereas others may prefer to maintain varying degrees of ethnic expression.[2]

14.6 Patient Selection

Appropriate patient selection is critical in achieving satisfying outcomes for both the surgeon and patient. Moreover, communication between the surgeon and patient is of paramount importance in that a perfectly executed alar base reduction can still lead to patient dissatisfaction if it is not what the patient had in mind prior to undergoing the procedure. Therefore, it warrants repeating that preoperative expectations must be properly assessed and explicitly defined prior to embarking on any surgical procedure. The surgeon must be aware of inherent differences in his or her own perceptions and expectations and should clearly define the goals of surgery.[15] Most patients of African descent desire nasal refinement in line with ethnic characteristics.[2,5,6,17] Nonetheless, some patients may wish to achieve a narrower alar base that more closely approximates a 1:1 intercanthal to interalar ratio. A patient's wishes should be clearly defined prior to alar base reduction, and computer imaging is effective in minimizing the risk of miscommunication between patient and surgeon. In addition, patients should be made aware of the possibility of visible scars at the locations of the alar base modification. Finally, and most importantly, patients should have reasonable expectations for the outcome of rhinoplasty and alar base correction.

14.7 Procedural Approach/ Surgical Approaches

Once the need for surgical correction of a wide alar base has been established, a combination of three basic techniques is used to achieve this goal. Excessive alar flaring is addressed using a modified Weir excision (**Fig. 14.5, Fig. 14.6, Fig. 14.7**).[18] This technique spares entry into the nostril, thereby avoiding violation of the natural curvature of the internal nostril border.[15] The goal of a wedge excision designed in this manner is to avoid over-straightening the ala, with preservation of its natural curve, and to avoid telltale incisions into the nostril opening. While this technique is effective in isolation, it can be combined with nasal sill reduction if there is excessive sill width in the setting of a horizontally oriented nostril (**Fig. 14.4c, Fig. 14.7, Fig. 14.8, Fig. 14.9**). Similarly, if the lateral insertion of

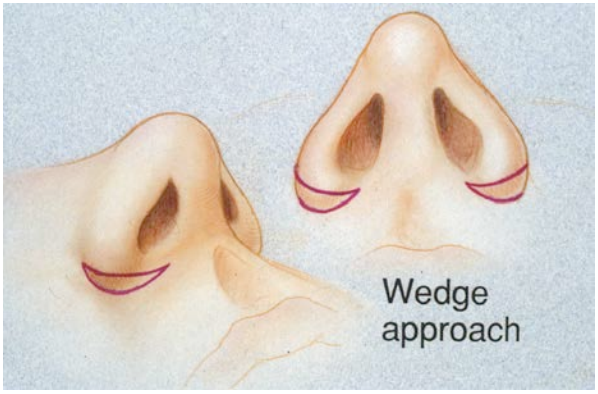

Fig. 14.5 Alar wedge excision. This is used to correct a wide alar base when alar flaring alone is the cause of excessive width. Wedges should be excised in a symmetrical fashion without violation of the vestibule or nasal sill. (Used with permission from Kridel RW, Castellano RD. A simplified approach to alar base reduction: a review of 124 patients over 20 years. Arch Facial Plast Surg 2005;7(2):81–93.)

the alae is responsible for excessive nasal base width, the wedge excision can be combined with a V-Y advancement, as described by Bernstein,[15,19] to narrow the interalar width while simultaneously reducing alar flare (**Fig. 14.10, Fig. 14.11, Fig. 14.12, Fig. 14.13**).

Considering the above factors, the best approach to the alar base is conservative, because over-resection can be extremely difficult to correct. Therefore, if there is any doubt about the need for alar base reduction, it is best to defer the procedure, as it can suitably be done in the office

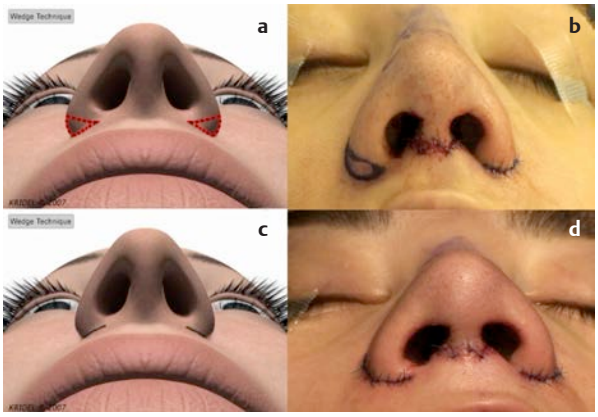

Fig. 14.6 Alar wedge excision. **(a,c)** Schematic showing alar wedge design and postexcisional narrowing of alar base. **(b)** Intraoperative view showing completed alar wedge excision on the left and design of wedge excision on the right. **(d)** Alar wedge excision completed on both sides, with narrowing of alar base.

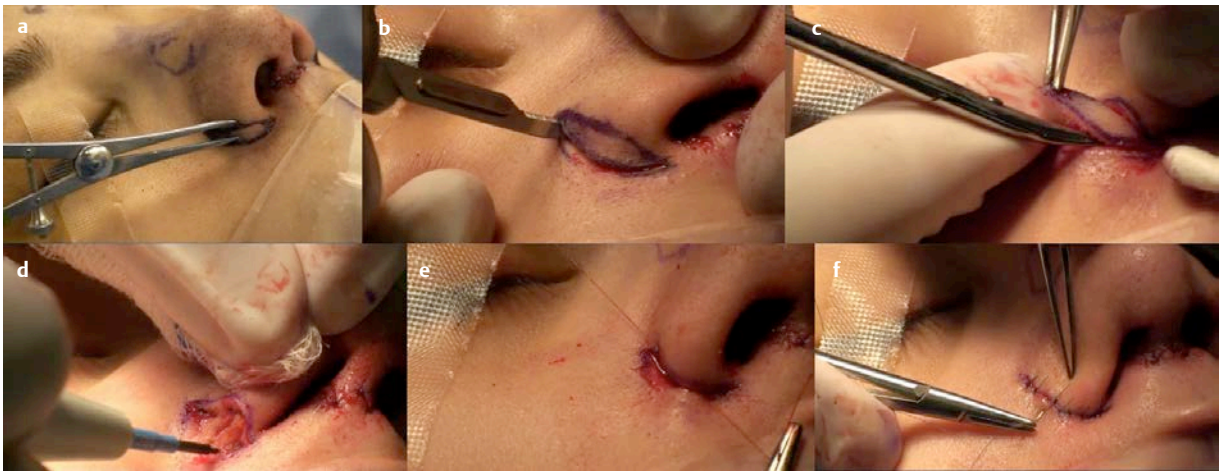

Fig. 14.7 Steps of alar wedge excision. **(a)** Measuring alar wedge with surgical calipers. **(b)** Excision of alar wedge with scalpel. **(c)** Tenotomy scissors used to complete excision. **(d)** Hemostasis using monopolar cautery. **(e)** Deep 5–0 Vicryl suture used to re-approximate edges of incision. **(f)** Superficial closure with interrupted 6–0 Prolene sutures.

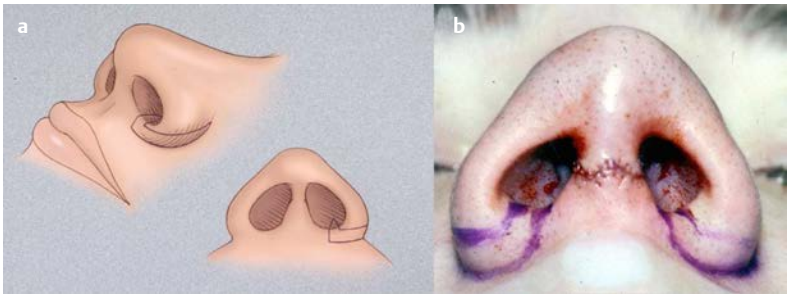

Fig. 14.8 Combined wedge and nasal sill excision. This method of alar base reduction is used to correct excessive width as a result of alar flaring combined with an excessively wide nasal sill. Undermining of the vestibular tissues is required and eversion of the incision at the sill is critical to avoid postoperative notching at this location. **(a)** Schematic showing design of wedge and sill excision. **(b)** Intraoperative view showing design of excision that is medial to the long axis of the nostril without violating the natural curve of the ala. (Used with permission from Kridel RW, Castellano RD. A simplified approach to alar base reduction: a review of 124 patients over 20 years. Arch Facial Plast Surg 2005;7(2):81–93.)

Fig. 14.9 Wedge and sill excision for wide nasal sill. **(a)** Preoperative base view. **(b)** Design of wedge and sill excision (see also **Fig. 14.8**). **(c)** Intraoperative view of completed left wedge and sill excision, with reduction of alar base and sill width, and preservation of natural alar curve.

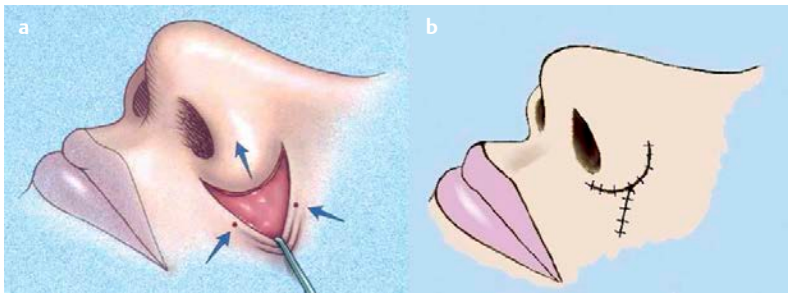

Fig. 14.10 V-Y advancement combined with alar wedge excision. **(a)** The crease incision is lateralized with a skin hook. The V shape of the wedge incision is converted to a Y by retracting laterally. The midportions of the skin edges, with the dots shown in the drawing, are then sutured to one another, creating the Y-leg. This technique is used to correct a wide alar base that is the result of alar flaring coupled with excessive interalar width. This is done to medialize the alae. **(b)** After closure. Additional sutures placed along the stem of the Y will lead to additional medialization. (Used with permission from Kridel RW, Castellano RD. A simplified approach to alar base reduction: a review of 124 patients over 20 years. Arch Facial Plast Surg 2005;7(2):81–93.)

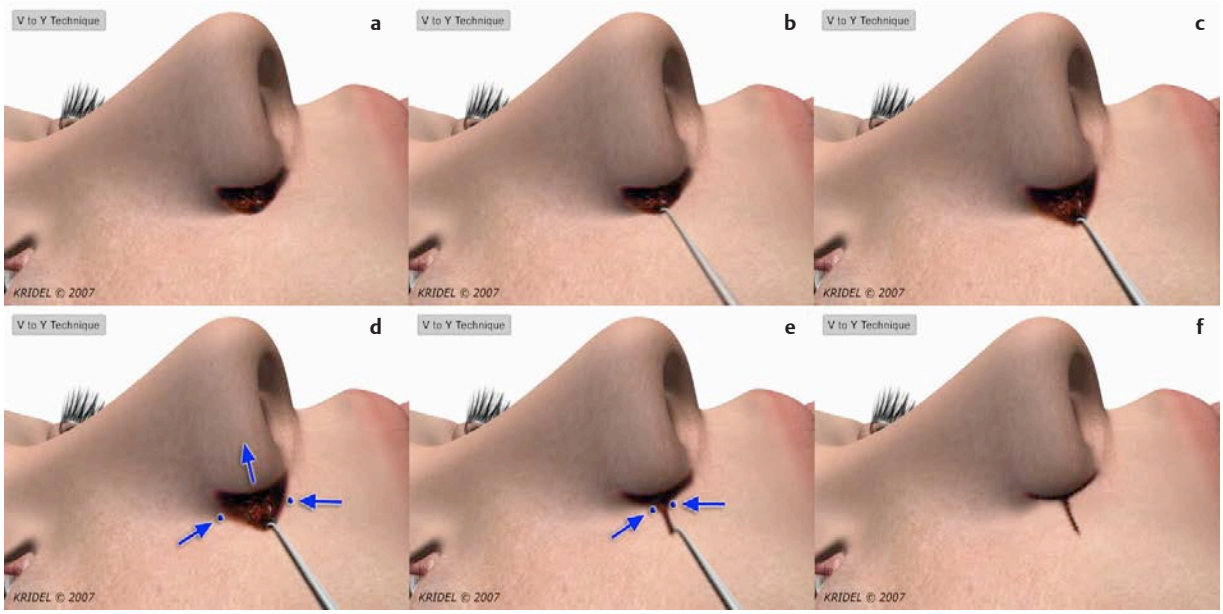

Fig. 14.11 Schematic showing steps of V-Y advancement of alar base for narrowing of interalar width. **(a)** Alar wedge excision completed. **(b)** Hook in place at nasolabial fold. **(c)** Lateral retraction of hook. **(d)** Location of suture placement and medial displacement of alar-facial junction. **(e)** Suture placed for medialization. **(f)** Completed V-Y advancement for narrowing of alar base. More narrowing of the alar base will result when more sutures are placed in the stem of the Y during advancement.

under local anesthesia with or without mild sedation. If it is done at the time of the rhinoplasty, it should be the last maneuver performed during the operation. Projection and de-projection of the nose can have a significant effect on alar flare, as outlined above **(Fig. 14.3)**.

Given the general tendency toward under-projection in noses of African descent, we prefer to perform alar base reduction after the completion of all other rhinoplasty maneuvers. The transcolumellar and marginal incisions are closed prior to addressing the alar base. As stated above, one of the principal goals in surgery of the nose in these patients is to achieve more projection and tip refinement. This is usually achieved using dorsal onlay grafts, columellar strut grafts, the creation of a double dome after lateral

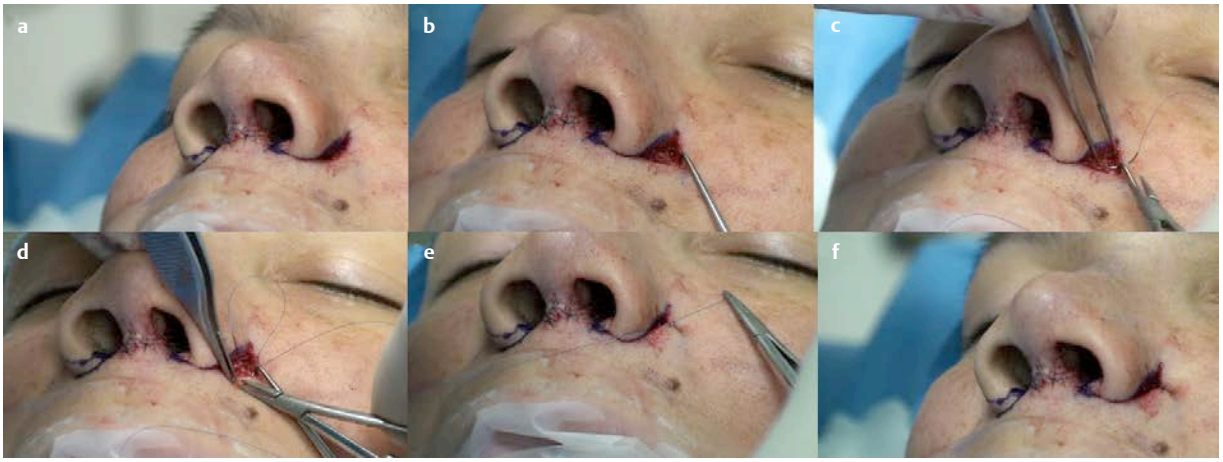

Fig. 14.12 Intraoperative views of V-Y advancement. **(a)** Wedge and sill reduction completed. **(b)** Lateral retraction of hook in nasolabial fold. **(c)** Suture placement in superior aspect of wedge excision. **(d)** Suture placement in inferior aspect of wedge excision. **(e)** Suture tied resulting in medialization. **(f)** Completed V-Y advancement of left alar base.

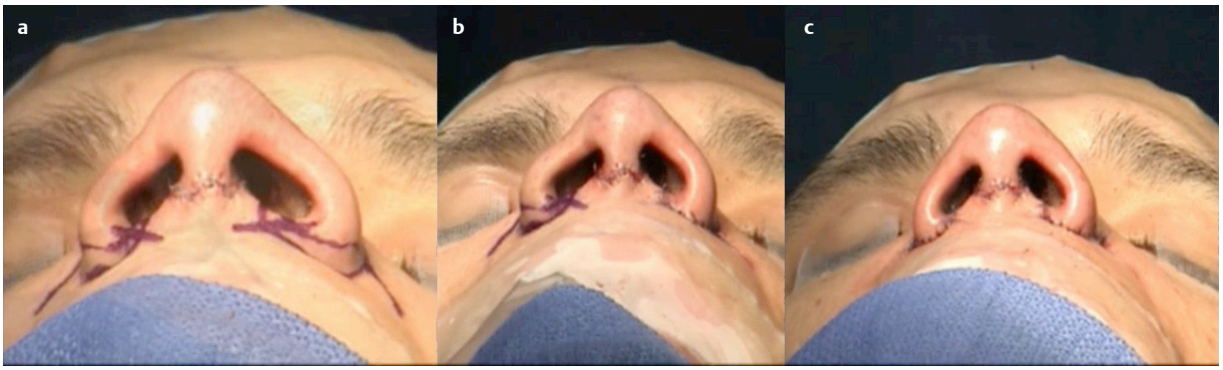

Fig. 14.13 Wedge and sill with V-Y advancement for narrowing of alar base. **(a)** Intraoperative view before alar base reduction. **(b)** Left wedge and sill with V-Y advancement completed on patient's left. Correction of excessive sill width and wide interalar distance on left can be seen with preservation of natural alar curve. **(c)** Completion of wedge and sill with V-Y advancement on both sides. Narrowing can be seen, with improvement of nostril asymmetry.

crural steal, and other maneuvers that may increase projection. With increased projection, there may be a "tent-pole" effect that leads to changes in the anatomical positioning of the alar base and mandates re-evaluation prior to undertaking alar base reduction. If an increase in nasal projection has led to a correction of the alar base by reducing alar flaring, treatment of the alar base may be obviated. By focusing on alar flare, sill excess, and overall base width, an algorithmic approach, as outlined in **Fig. 14.14**, can be followed for an appropriately tailored approach to each patient.

The first step in alar wedge excisions is appropriately marking skin incisions in the alar-facial groove. This is done to preserve the (natural) curve of the ala, and to prevent a postoperative teardrop or q-deformity of the nostril (see below, **Fig. 14.15**). The importance of symmetrical preoperative marking cannot be overstated, and the use of surgical calipers can facilitate the task. Caution is advised to avoid excising too much tissue in this location or an excessively straight appearance of the ala as it joins the alar-facial groove may result. Finally, as noted above, the excision should not go above the supra-alar groove, or the dominant blood supply to the nasal tip, in the form of the lateral nasal artery, may be compromised.

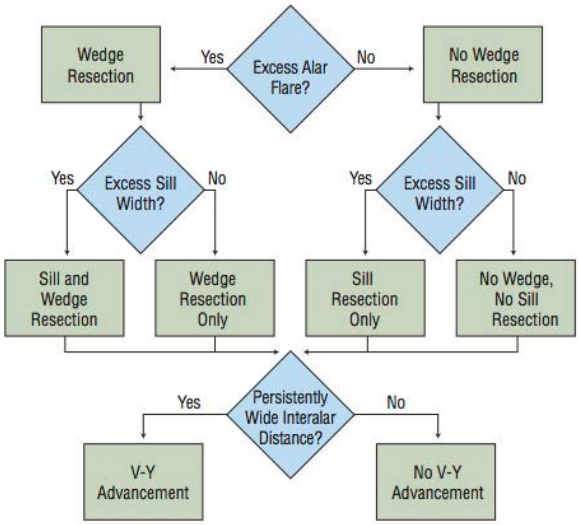

Fig. 14.14 Algorithm used in determining the appropriate surgical technique for correction of a wide alar base. (Used with permission from Kridel RW, Castellano RD. A simplified approach to alar base reduction: a review of 124 patients over 20 years. Arch Facial Plast Surg 2005;7(2):81–93.)

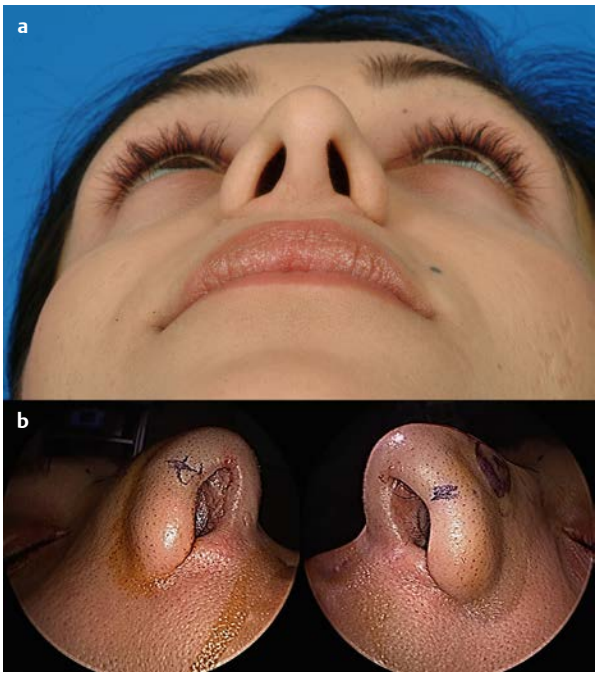

Fig. 14.15 Q (or teardrop) deformity of the nasal sill caused by reducing the alar flare and entering into the nostril when unnecessary. **(a)** Base view of a patient who underwent rhinoplasty at another institution with bilateral Q deformity of the alar base/nostrils. **(b)** Intraoperative views of right and left alar-facial junction showing Q deformity.

After injection of local anesthetic (usually 1% lidocaine with 1:100,000 epinephrine), a No. 15 scalpel is used to make the incisions. Care is taken not to violate the underlying muscle deep to the skin. Similarly, care must be taken not to violate the vestibular mucosa or notching can result. Needle-point cautery can then be used to achieve hemostasis. Meticulous re-approximation of the incision edges is necessary to avoid step-offs, and this is best achieved by placing one or two buried, interrupted deep 5–0 Vicryl sutures. Then 6–0 Prolene is used in a simple interrupted fashion to close the cutaneous layer. If flattening or over-straightening of the ala has occurred as a result of the closure, one should consider a modest V-Y advancement, as outlined below, to recreate the alar-facial groove **(Fig. 14.7, Fig. 14.11)**.

Sill excisions are not often performed in isolation, and are typically combined with wedge excisions with or without V-Y advancement (see algorithm for specific indications for each, **Fig. 14.14**). When planning the incision for the enlarged nasal sill, the most natural results occur when the resection of the sill does not extend laterally past the long axis of the nostril or does not include too much of the vestibular lining.[15] When performing sill excision, additional undermining of the sill and vestibular tissues is recommended to avoid any notching or bunching of tissue. A 6–0 Prolene suture is used to precisely re-approximate the nostril border, and a deep 5–0 Vicryl suture is used to evert the skin edges at the nasal sill **(Fig. 14.8, Fig. 14.9)**.[15] Everting the skin edges is critical in this location because improper suture technique can result in a notched appearance of the nasal vestibule.

If indicated, V-Y advancement is performed after either of the two previously described maneuvers has been completed but prior to closure of the incisions. Prior to V-Y advancement, the nostril sill must first be re-approximated with a single 6–0 Prolene suture if nasal sill excision was performed.[15] The lateral aspect of the open alar wedge incision is then drawn into the nasolabial fold with a single-pronged skin hook. Simple, interrupted 6–0 Prolene sutures approximate the Vto create the stem of the Ywithin the nasolabial crease. The more sutures that are placed along the stem of the Y, the further the ala will be medialized **(Fig. 14.10, Fig. 14.11, Fig. 14.12, Fig. 14.13)**. In 3 days, every other suture is removed, and at 5 days, all sutures are removed.[15]

14.8 Potential Complications and Treatment

Alar base reduction can usually be achieved safely with minimal residual untoward effects. Nonetheless, certain risks exist, including infection, bleeding, scarring, and other cos-

metic deformities that can result from poor technique. Visible scarring can result from improper placement of incisions, and incision placement is critical in achieving nearly imperceptible scars. We prefer to place the incisions into the alar-facial junction, as this results in the best camouflage and preservation of the curve. Nonetheless, noticeable scars and hypertrophic scarring can occur in this area due to the increased density of the sebaceous glands at the alar-facial junction. For correction of scarring in this location, dermabrasion can be performed under local anesthesia in the office and it has resulted in a high degree of patient satisfaction. We found that patients who underwent wedge and sill excision were more likely to require postoperative dermabrasion.[15] Additional indications for dermabrasion are noticeable or irregular scars present after 6 weeks.[15] Similarly, one patient in our series had noticeable suture tracking that necessitated postoperative excision with scar revision. Proper timing of suture removal and avoidance of excessive tension on wound edges can minimize the chance of this complication.

In addition to the external scar of the wedge excision, incisions that violate the nostril can result in step-offs or notching of the nasal sill or internal alar margin. Failure to achieve exact epithelial alignment in these locations can lead to a Q or teardrop deformity of the nostril as viewed from the base **(Fig. 14.15)**. As noted above, incisions should be extended into the nostril only when excessive nasal sill width is present and then only through the horizontal portion of the nasal sill and not via a lateral approach.[15] Another factor believed to contribute to notching of incisions is violation of the deep muscular layer in the alar base, and this is best avoided during dissection and excision of the alar wedge.[20] Keloid formation is also a concern in patients with Fitzpatrick skin types IV, V, and VI; however, in our experience, as in other studies, this has not been a problem.[2,4–6,15]

In addition to scarring, alar base asymmetry and/or excessive reduction can result from improper preoperative planning. Marking and measurement of the alar base excision should be done systematically, with calipers as a guide for symmetrical removal of tissue. Excessive alar wedge excision can result in an overly straight alar-facial junction, without the natural and desirable curve in the alae.[15,21] In our series, we removed an average of 4.6 mm of tissue from the alar wedges and 3.4 mm from each side during sill reduction. There were no significant complications with this amount of tissue excision.[15] Excessive reduction of the alar base can also lead to a noticeable notch at the junction of the alar and lobular nasal aesthetic subunits. Therefore, we recommend assessing the base view after excision has been completed but prior to complete closure of the incisions. An alar rim graft can be placed via the marginal incision or via the alar base excision if needed. Excessive narrowing of the alar base may also lead to ethnic incongruities. Finally, functional airway problems can result from excessive narrowing of the external valve, with resultant stenosis or collapse.

While we did not encounter any problems with the viability of the tip skin, damage to the vascular plexus of the tip is a theoretical risk when combining open rhinoplasty with alar base reduction. Recent studies have shown that this combination can be performed safely in both primary and revision rhinoplasty if the superior extent of the alar wedge excision is not taken beyond the supra-alar groove.[22,23] Additionally, dissection in the avascular plane immediately superficial to the lateral cartilages does not violate the major blood supply to the nasal tip from the lateral nasal artery (2–3 mm above the supra-alar groove).[24,25] Excessive defatting of the nasal tip is also discouraged as violation of the subdermal plexus can occur with overly aggressive thinning in the layer superficial to the nasal superficial muscular aponeurotic system.

14.9 Postoperative Care, Recovery, and Follow-up

As noted above, we prefer to perform alar base reduction as the last part of any rhinoplasty. After the procedure is completed, we apply a standard dressing and splint to the nasal dorsum as well as antibiotic ointment to any exposed incisions. The skin of the dorsum is cleaned and a liquid adhesive, such as Mastisol (Ferndale Laboratories, Ferndale, MI), is applied, followed by a layer of Micropore tape (3M, St. Paul, MN) to the dorsum and tip. A metallic tin splint is then applied, followed by a second layer of tape.

We advise all patients to keep their incisions clean and covered with a thin layer of antibiotic ointment at all times in the immediate postoperative period. Patients are usually seen on postoperative day 3, and every other alar Prolene suture is removed. The patient is again seen on postoperative day 5, and the remaining alar sutures and transcolumellar sutures are removed. The splint is taken down and, after inspection, the dorsum is usually retaped for a total of 10 days. Postoperative taping may need to be left in place for longer than usual in patients of African descent. Given the thick, fibro-fatty nature of the skin and soft tissue envelope in these patients, edema may be more prolonged than in Caucasians and thinner-skinned individuals.[5] We will often have the patient switch from an antibacterial ointment to a petroleum-based or mineral oil–based compound like Aquaphor (Beiersdorf US, Wilton, CT) to reduce the risk of contact dermatitis and other local skin reaction.

The patient is followed closely for the first month postoperatively and then every 2–3 months for the first year. Supratip fullness can be treated with Kenalog (triamcinolone) injections and can be done as early as 1 week postoperatively.[2] Generally, no more than two to three injections of Kenalog 10 mg/ml are necessary for this purpose.[4] Similarly, if there are noticeable or irregular scars at 6 weeks post-op, dermabrasion can be performed. When necessary, it is done on both the alar and sill scars. We prefer using

a hand-held dermabrader with a pear-tipped diamond fraise. The scar is treated until pinpoint bleeding is noted, indicating that the papillary dermis has been reached.

14.10 Outcomes

In 2005, the senior author published data from the 20-year review of 124 medical charts in his practice of patients who underwent alar base surgery. Inclusion criteria were history of wedge resection, nasal sill excision, and/or V-Y advancement during rhinoplasty. Exclusion criteria were those patients who did not follow up at the practice.[15] Of these patients, 16 were of African descent. Six patients underwent wedge excision alone, three underwent wedge and sill excision, one underwent wedge excision with V-Y advancement, and six underwent combined wedge and sill excision with V-Y advancement.[15] Patients ranged in age from 23 to 54 years and dermabrasion was required in 5 of 16 (31%).

The hallmark of surgery in patients of African descent is augmentation of the osseo-cartilaginous framework using grafts to increase projection and reduce nasal width. The alar base was appropriately narrowed using the techniques outlined above, with minimal complications and a high degree of patient satisfaction. **Fig. 14.16**, **Fig. 14.17,** and **Fig. 14.18** are representative examples of surgical cases and outcomes when alar base reduction is combined with rhinoplasty in a patient of African descent. Other studies have shown similarly good outcomes in achieving harmonious results in patients of African descent when alar base reduction has been performed.[5,6,21,26]

14.11 Conclusions

Patients of African descent can have a great deal of variability in the anatomical characteristics of their noses. This goes significantly beyond the platyrrhine classification that has been used to define all noses in this group. When addressing alar base disproportion, an individualized approach to each patient will yield the best surgical outcomes. An algorithmic approach tailored to the specific anatomical deformity is outlined above and has shown satisfactory long-term outcomes in this patient population. Finally, patients of African descent often seek nasal refinement in the framework of ethnic identity, and preoperative evaluation should include a clear discussion with the patient about his or her surgical goals. As Porter has summarized, the goal should be to obtain an aesthetically pleasing result that is congruent with the patient's ethnicity and heritage,[9] while also accounting for a patient's individual desires.

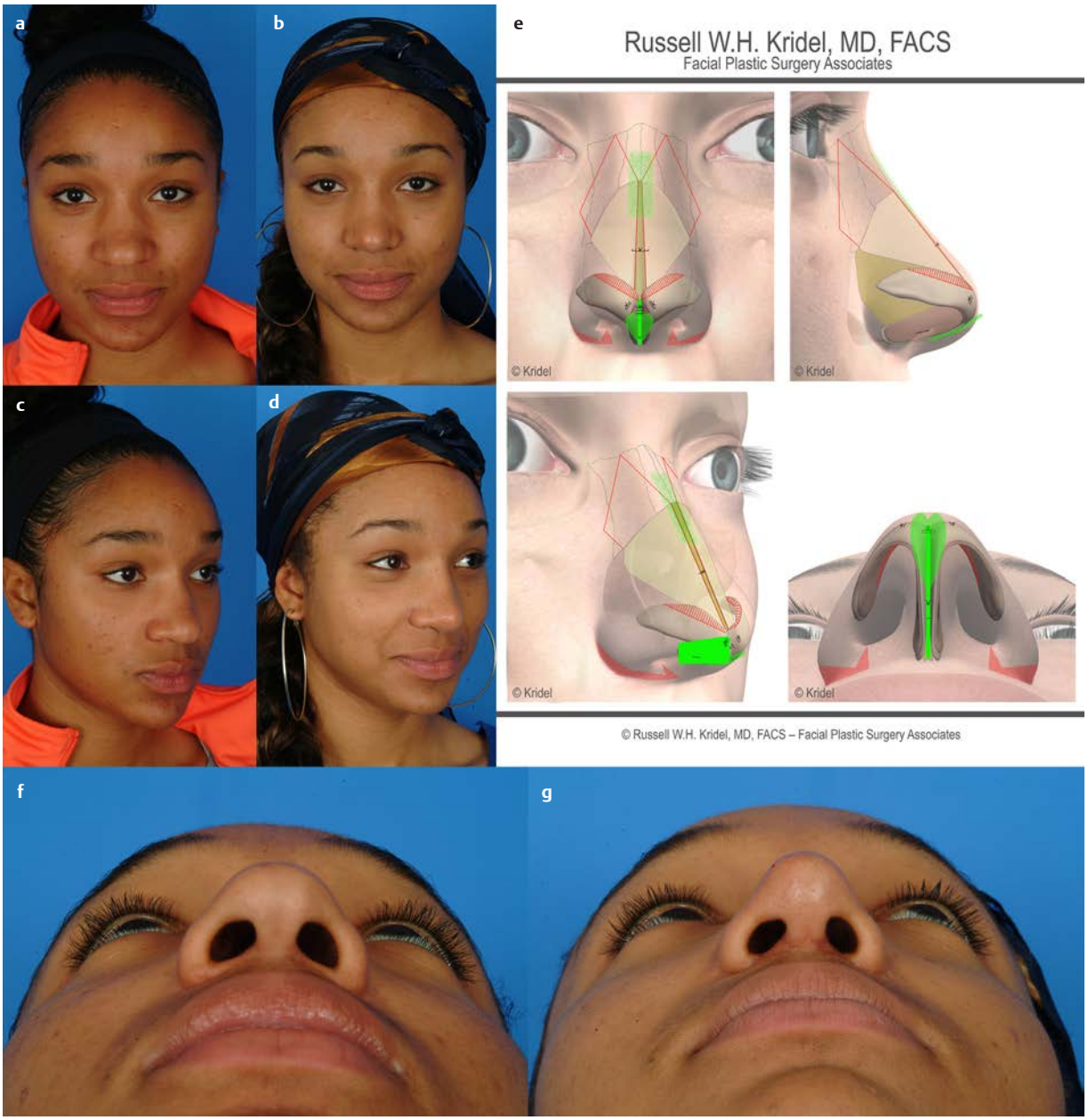

Fig. 14.16 **(a,c,f)** Preoperative views. **(b,d,g)** Postoperative views. **(e)** Nasal schematic depicting rhinoplasty in an African-American patient. Alar base corrected with alar wedge and sill reduction. **(f,g)** Pre- and postoperative base views demonstrate reduction in alar flare and horizontal width of nasal sill.

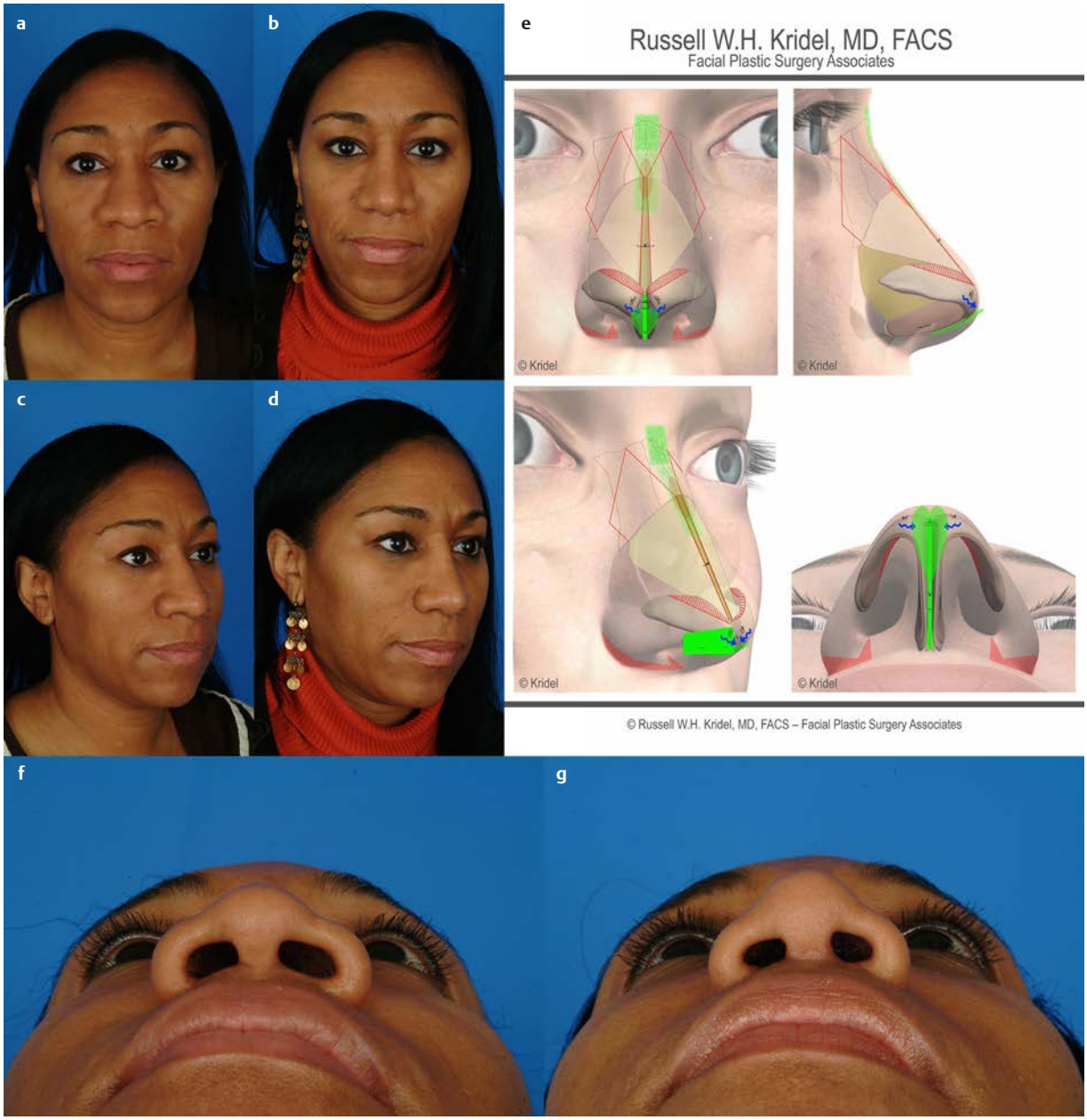

Fig. 14.17 **(a,c,f)** Preoperative photos. **(b,d,g)** Photos at postoperative month 2. **(e)** Nasal schematic of primary rhinoplasty for an African-American woman. Wedge and sill reduction performed to correct excessive alar base width. **(f,g)** Base views demonstrate reduction in alar flare and horizontal width of nasal sill.

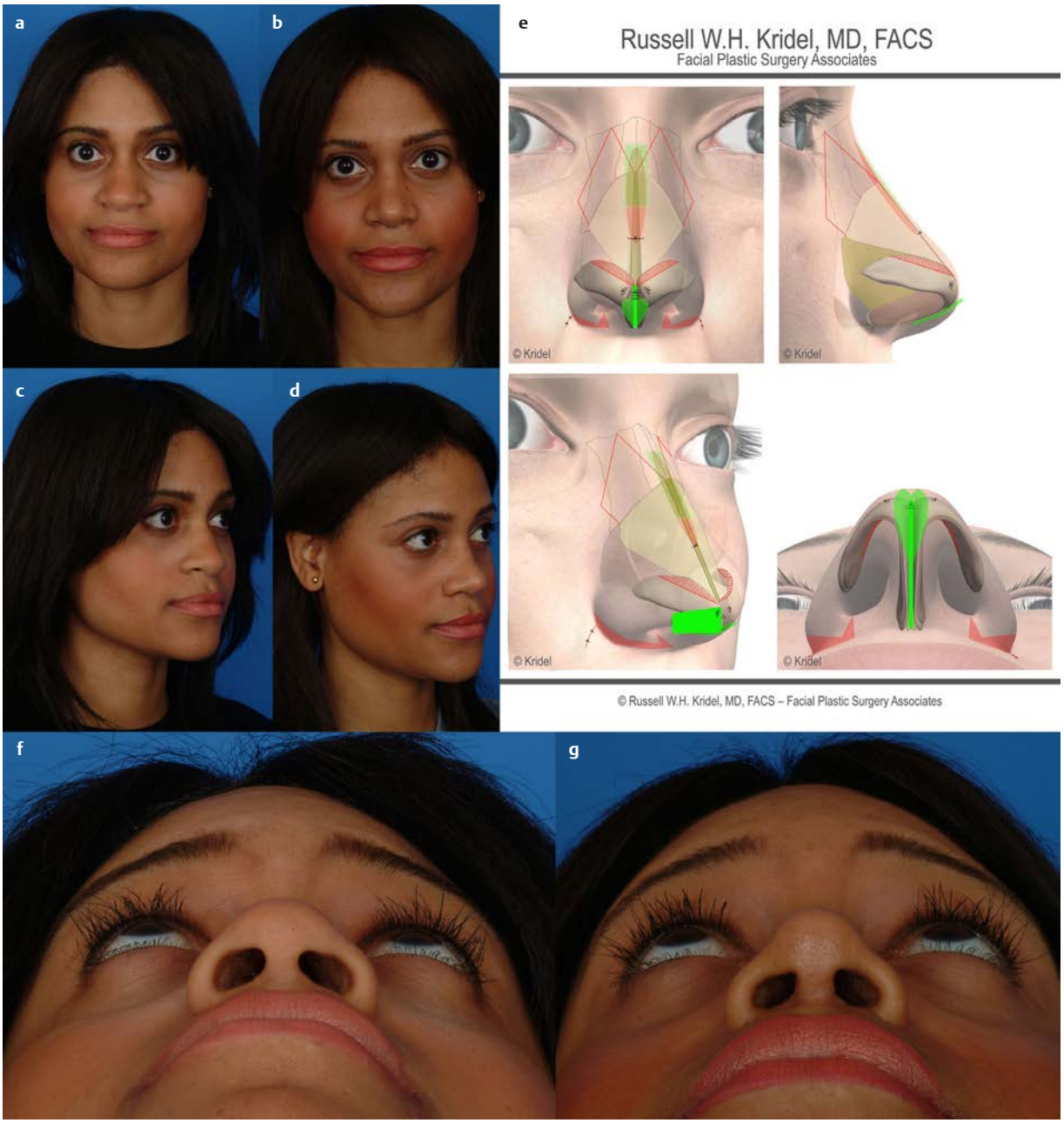

Fig. 14.18 **(a,c,f)** Preoperative views. **(b,d,g)** Postoperative views. **(e)** Nasal schematic depicting primary rhinoplasty in African-American patient. Alar base correction performed using V-Y advancement with alar wedge and sill reduction. **(c,d)** Oblique views with minimal perceptible scarring at site of V-Y advancement. **(f,g)** Base views demonstrate tip refinement and reduction in interalar width, horizontal width of nasal sill, and alar flare.

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15 Rhytidectomy in Dark-Skinned Patients

Satyen Undavia and Babak Azizzadeh

15.1 Introduction

Facial rejuvenation surgery has become increasingly popular over the past century due to the emphasis placed on beauty and youth in the media. Rhytidectomy, or facelift, is at the core of facial rejuvenation surgery, as it remains the most effective and reliable way to provide a more youthful appearance. The goals of rhytidectomy include tightening of the jawline, improving the cervicomental angle, and removing excess skin. While rhytidectomy literally means "removal of wrinkles," we now understand that facial aging is due to differences in skin quality and elasticity, alterations in the volume and distribution of facial fat, and changes in the facial skeleton.[1–9] These changes occur to a varying degree in all patients and it is critical that surgeons accurately assess them prior to performing any procedures. Dark-skinned patients differ from Caucasians in these areas due to different morphologic characteristics of their skin and craniofacial structure.[10–13] These characteristics lead to subtle differences in the aging process between the two groups. In this chapter, we first outline the differences between ethnic groups as they relate to facial rejuvenation surgery and then highlight changes in the surgical approach that are required to maximize cosmetic outcomes in these patients.

15.1.1 African Americans

Photodamage is known to play a critical role in the aging process.[14] Ultraviolet radiation accelerates this process by creating genetic mutations and damaging critical support structures of the skin. Melanin, which provides the pigment in skin, has been shown to be protective against the damaging effects of ultraviolet radiation.[15] Although there is no significant difference between the total numbers of melanosomes between the races, African-American skin has larger melanosomes with significantly more pigment.[16] In addition, the melanosomes are more evenly distributed throughout the epidermis and are not confined to the stratum basale, as in Caucasians. While photodamage causes aging in all races, the effect is either less pronounced in African Americans or may present later in life. As a result, fine lines and wrinkles are less pronounced and are not a significant contributor to the aging process in this patient population.[10] In addition, the increased thickness of African-American skin also protects against fine lines and wrinkles, due to the thicker stratum corneum and increased number of fibroblasts.[16] This quality is important in lower facial rejuvenation because the increased weight of the skin is the cause of jowling, as opposed to increased laxity, as in Caucasian populations.

The quality of the patient's hair is a critical factor in facial rejuvenation surgery because many of the scars are camouflaged in hair-bearing areas. An important consideration in African Americans is the high rate of traction alopecia, which occurs when tension is placed on the scalp for long periods of time. Hairstyles with tight braids and the use of chemical straighteners significantly increase the incidence of this condition in African Americans.[17]

Finally, structural differences in the craniofacial skeleton also affect the aging process in African Americans. The malar eminence is commonly hypoplastic and the orbit is slightly proptotic, which is known as a negative vector.[18] These two factors lead to a more concave appearance of the midface. In addition, the weight of the skin and lack of bony support lead to premature descent of the malar fat pads, which is a significant factor in African-American facial aging.

15.1.2 Mestizo/Hispanic Patients

Mestizo skin is also thicker and contains more pigment than Caucasian skin; therefore, photoprotective effects of melanin apply. In general, Mestizo patients have fewer fine rhytids and their heavy skin is the contributing factor in jowling. In contrast, however, the malar eminence has slightly more projection, which protects against midface fat pad ptosis. In addition, the Mestizo chin is often slightly more retrusive, which contributes to the obtuse cervicomental angle.[13]

15.2 Historical Background

Early facelifts, described by German surgeons in the early twentieth century,[19] involved skin excision only, which resulted in excessive tension along suture lines and short-lived results. In the 1960s, Aufricht,[20] Webster,[21] and others described plication of the "deeper layers" to improve their results. Prior to the description of the superficial muscular aponeurotic system (SMAS), Skoog described using the platysma and superficial fascia of the face to support the tension of the lift.[22] In a landmark article by Mitz and Peyronie in 1976, the SMAS was characterized as the superficial fascia of the face and as the cephalad extension of the platysma.[23] Surgeons realized that tightening the SMAS provided an enhanced lift and increased the longevity of the results. This class of facelift became known as SMAS rhytidectomy. In general, SMAS facelifts produce substan-

tial benefit in the neck and jowl but exert minimal effect on the midface or nasolabial fold (NLF).

The next major advancement in facial rejuvenation surgery came in 1990, when Hamra described the deep-plane facelift.[24] In this procedure, the SMAS is incised over the parotid gland and a plane is created beneath it and elevated toward the NLF. To achieve adequate midface and NLF elevation, the dense zygomaticocutaneous ligaments must be released. The theoretical drawbacks of this technique are prolonged recovery time and a potentially increased rate of facial nerve injury where the nerve is exposed at the anterior border of the parotid gland and lateral border of the zygomaticus major muscle. Proponents of this technique argue that, with careful and meticulous dissection, the branches of the facial nerve, which lie in the deeper parotimasseteric fascia, should be protected. Furthermore, they contend that elevation and suspension of the strong and resilient SMAS leads to increased lift with greater longevity and decreased tension on the suture line. Hamra later modified his technique to include elevation and suspension of the orbicularis oculi muscle to address laxity in the orbital region, and he termed the procedure a composite facelift.[25]

Owsley reported his facelift technique, the extended supra-SMAS rhytidectomy,[26] which seeks to achieve the lift and longevity of the deep plane facelift while reducing the risk of facial nerve injury.[27,28] In this procedure, first the SMAS is suspended to address the jowl and neck, as in a traditional facelift. In the second stage of the procedure, a supra-SMAS dissection is begun at the orbicularis oculi and zygomaticus major muscles and is continued medially beyond the NLF. The midface is then suspended superolaterally to the SMAS and temporalis fascia to elevate the midface and to efface the NLF. Another modification included a subperiosteal dissection to address the midface, which was described by Ramirez in 1991.[29] This deeper plane also provides a safer region to dissect while theoretically reducing injury to the facial nerve.

Facial rejuvenation surgery was also influenced by the growing popularity of minimally invasive techniques in the 1990s. Saylan was the first to describe a short-scar facelift, which he called the *S-lift* due to the S shape of the incision.[30] Today, Baker's SMASectomy[31] and Tonnard and Verpaele's minimal access cranial suspension (MACS) lift[32] are the short-scar facelifts that are most commonly performed. These facelifts do not have a postauricular component, and therefore they necessitate a more vertical vector of lift. While these approaches can be effective, patient selection is critical, as older patients or those with more advanced photoaging will likely benefit from more traditional approaches.

15.3 Anatomy

Facial anatomy is covered in detail elsewhere in this book, but a few key points are worth emphasizing. All surgeons should have a thorough understanding of facial nerve anatomy to safely and effectively perform rhytidectomy. The facial nerve trunk exits the stylomastoid foramen and enters the body of the parotid gland before splitting into five main branches (the temporal, zygomatic, buccal, marginal mandibular, and cervical).[33] It is critical to anticipate the variety of branching patterns that are possible from patient to patient. The most important concept to appreciate is that facial nerve branches are relatively unprotected between the anterior edge of the parotid gland and the lateral edge of the facial muscles. While the muscles around the eye and central face receive multiple inputs from numerous buccal and zygomatic facial nerve branches, the temporal (also known as the frontal) and marginal mandibular nerve are typically terminal branches. Because they are the sole innervation for these muscle groups, injury to these branches is more likely to result in facial asymmetry and to have more permanent effects.

Over the zygomatic arch, the temporal branch of the facial nerve is at increased risk in both traditional SMASectomy and deep-plane techniques. Typically, two to four rami pass over this region at the inferior border of the arch, ~ 8 mm medial to the external auditory canal and 17 mm posterior to the junction of the arch and the zygomatic body **(Fig. 15.1)**.[34] As the branches cross the arch, they are relatively deep within the parotidomasseteric fascia; however, as they pass above it, they become superficial.[35] The transition zone begins 15 mm superior to the zygomatic arch and 15 mm posterior to the lateral orbital rim. This is where the frontal branch enters the underside of the temporoparietal fascia. While dissecting in the temple, it is important to elevate either in the subperiosteal plane or just deep to hair follicles to help protect the nerve.

As the marginal mandibular branch of the facial nerve emerges from the parotid gland, near the angle of the mandible, it travels deep to the platysma muscle and parotidomasseteric fascia over the surface of the masseter muscle. It then passes superficial to the facial artery and vein before innervating the lip depressors. When elevating deep to the platysma, it important to proceed cautiously and to use cautery sparingly, as the marginal nerve is long and thin and very susceptible to neuropraxia or inadvertent injury during cautery of small branches of the facial vessels.[36]

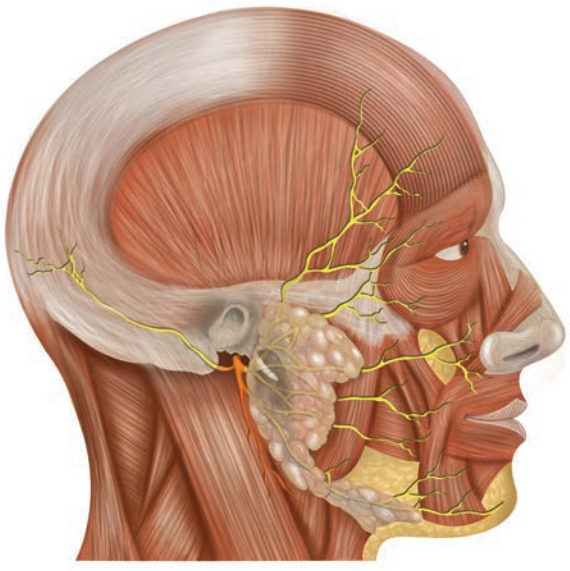

Fig. 15.1 Illustration of facial nerve anatomy. The temporal branch of the frontal nerve crosses over the zygomatic arch ~ 8 mm medial to the external auditory canal and 17 mm posterior to the junction of the arch and the zygomatic body.

15.4 Patient Evaluation and Preoperative Planning

During the initial facial rejuvenation consult, it is important to begin by eliciting the patient's desires and goals for treatment. It can be helpful to have the patient, while facing a mirror, point to the areas that they would like to have addressed. While patient's initial complaint may be aging-related changes in the lower third of the face, this is an important opportunity to evaluate the face as a whole. If patients have significant brow ptosis, upper lid dermatochalasia, pseudoherniated lower lid fat, or midface ptosis, facial rejuvenation of the lower face alone may not be adequate. Once lower facial rejuvenation has been decided upon, we prefer to have the patient look in a mirror while the surgeon uses his hands to lift both sides of the face to create an appearance that resembles an achievable postoperative result. When performing this technique, it is important not to over-correct the jowling in a manner that is not surgically attainable, because this could give the patient false expectations.

The submental and cervical areas deserve careful visual and tactile analysis to identify the precise anatomic components that need alteration. Aging in these areas can be due to any combination of increased skin laxity, excess submental and subplatysmal fat, poor hyoid position, platysmal banding, and/or microgenia. To create an effective surgical plan, it is important to identify the factors that are contributing to the patient's complaints. In ethnic patients, it is also important to evaluate the color changes in the skin. Rhytidectomy will usually involve some degree of skin advancement and excision, and significant color variation across the face can lead to color mismatch at the suture lines, making them more visible. As mentioned above, it is important to address skeletal structure as well, especially in ethnic patients. African Americans often have inadequate projection of the zygoma, leading to a hollowed look in this region. We often recommend multilevel fat grafting to address these areas.

As in all fields of medicine, a complete medical history must be obtained at the initial consultation. This is particularly important to ensure that the patient is healthy enough for elective cosmetic surgery. Chronic medical conditions like asthma, diabetes, and cardiovascular disease should be optimized before attempting any surgery. Any personal or family history of coagulopathy or problems with anesthesia must be carefully evaluated. All prior interventions that have been performed on the face should be discussed. This includes botulinum injections, facial fillers (specifically, type and location placed), laser treatment, and prior facial rejuvenation surgery. A history of herpes labialis warrants prophylactic treatment with valacyclovir 2 g twice daily the day before surgery to guard against reactivation. Patients on chemotherapeutic and immunomodulatory drug regimens, including oral steroids, should consult their prescribing physician prior to surgery. Tobacco use a critical component of the preoperative history. Active tobacco users are at higher risk of skin slough[37] and hematoma formation,[38] and they should be asked to quit for at least 2–4 weeks prior to surgery. Parikh and Jacono[39] examined 183 patients who underwent deep-plane facelift. In the 15 (8%) who were smokers, they found no increased risk of these complications. Their conclusion was that the deep-plane facelift, due to its minimal subcutaneous undermining and thick soft tissue flap, is a safe alternative in active smokers. Any significant psychiatric history, including anxiety and depression, should be elicited and addressed. Prior to surgery, all patients also have a set of photographs taken for documentation. Finally, it is important to obtain a detailed history of medication usage. Below is a list of medications that should be stopped 7–14 days before surgery:

- A.P.C
- Advil
- Alka-Seltzer
- Anadin
- Anaprox
- Arthritis Pain Formula
- Ascodeen-30
- Ascriptin
- Aspirin suppositories (all brands)

- Aspirin
- Bayer Aspirin
- Buff-a-comp
- Buffadyne
- Butalbatal
- Cama Arthritis Pain Reliever
- Cama-Inlay tabs
- Cheracol Capsules
- Congespirin
- Cope Coricidin
- Coricidin
- Darvon Compound
- Dristan
- Doan's Pills
- Duragesic
- Ecotrin
- Empirin
- Emprazil
- Equagesic
- Excedrin
- Fiorinol
- Four-Way Cold Tablets
- Indocin
- Measurin
- Midol
- Monacet with Codeine
- Motrin
- Naprosyn
- Norgesic
- Nuprin
- Os-Cal-Gone
- Pamprin

15.5 Techniques

Below is a detailed description of our technique for lower facial rejuvenation, the short-flap SMAS rhytidectomy. The technique is performed similarly among all races, but a few key points are mentioned. We also summarize the deep-plane facelift technique.

15.5.1 Incision Planning

The placement of incisions for a rhytidectomy is critical to maximize patient outcome and satisfaction. The incisions described below can be used in all skin types. In women, the starting point for the temporal aspect of the incision depends on the predicted amount of skin excision. If a significant amount of skin is to be excised, the incision should begin parallel to the hairline in a trichophytic manner. This will prevent significant displacement of the hairline. If a moderate skin excision is expected, the incision can simply pass obliquely within the hair down to the helical root **(Fig. 15.2a)**. From the helical root, the incision is continued inferiorly toward the tragus, with a gentle curve along the junction of the auricle and the face. Incisions are continued either in front of, or posterior to, the edge of the tragus. We prefer the posttragal incision in females as it camouflages the scar. The incision then continues in between the auricle and face and around the lobule of the ear. The incision over the concha is made several millimeters superior to the sulcus **(Fig. 15.2b)** to allow the healed scar to fall within the sulcus. At the point of maximal width of the auricle, the incision is angled toward the occipital hairline. To obtain adequate rotation while limiting dog-ear formation, the incision must either be carried into the hairline for 2 cm or along the occipital hairline. We prefer to carry the incision into the hairline, as incisions parallel to the hairline tend to be more visible.

The facelift incision in males must be tailored differently due to the differences in facial hair. Temporal incisions can be placed within the temporal tuft of hair because the skin that is pulled up to the incision following the lift will continue to grow hair and can become a new sideburn. The next major difference is in the pre-auricular incision. The incision should be placed ~ 8 mm in front of the auricular cartilage and should pass pretragally to avoid placing hair-bearing skin too close to the ear. If the expected skin excision is conservative, the postauricular incision can be made as described above. The challenge is when significant excision of skin is performed and redraping brings hair-bearing skin into the postauricular sulcus. To avoid this issue, the incision is made in the sulcus and not a few millimeters above it.

15.5.2 Submentoplasty

One of the main areas requiring attention in lower facial rejuvenation surgery is the submental area and cervicomental angle. The five visual criteria associated with a youthful neck profile, described by Ellenbogen and Karlin,[40] include: 1) distinct inferior mandibular border from mentum to angle, with no jowl overhang; 2) slight subhyoid depression at the cervicomental angle, which gives the impression of a long neck; 3) visible thyroid cartilage contour; 4) distinct, visible anterior border of the sternocleidomastoid muscle (SCM) from the sternum to retromandibular region; and 5) cervicomental angle between 105 and 120 degrees. Excess submental fat, a low and anterior hyoid, skin laxity, microgenia, platysmal banding, and abnormal occlusion are anatomical factors that contribute to an undesirable submental contour. The planned intervention must be tailored to address the above-mentioned factors to maximize patient satisfaction.

For thin-faced patients with minimal submental adiposity and limited platysmal banding, the lateral pull on

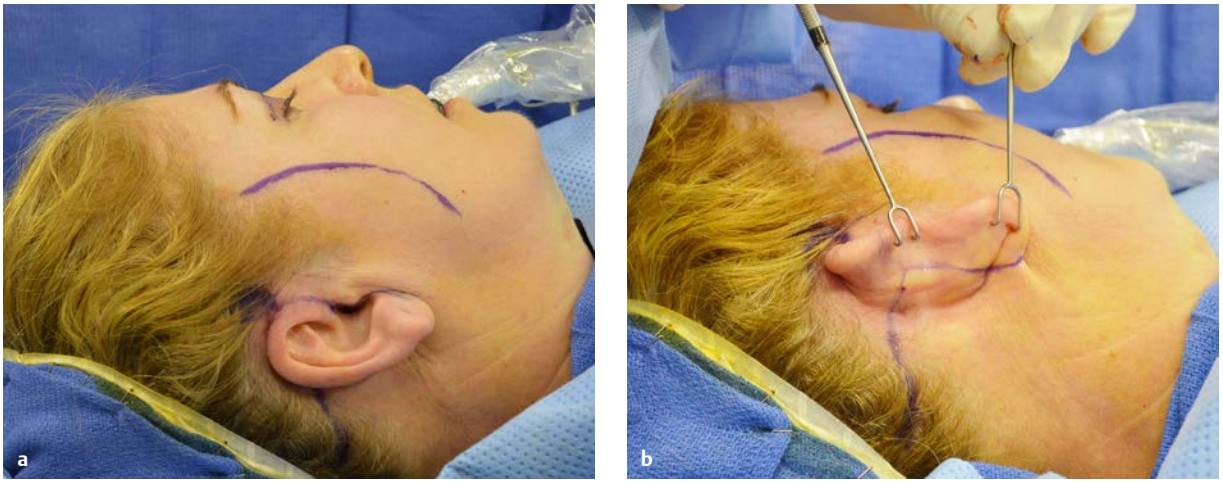

Fig. 15.2 **(a)** Representative markings for the incision in a female patient. Also demarcated is the planned area of maximal anterior dissection. **(b)** The postauricular incision locations.

the SMAS and skin excisions may be all that is required. Excess submental fat can be located either above (subcutaneously) or below the platysma. Failure to adequately address subplatysmal fat can lead to persistent submental fullness. Direct excision is the preferred modality, as submental cannula-assisted liposuction can lead to inadvertent marginal mandibular nerve injury. If a limited amount of subplatysmal adipose tissue is present, bipolar cautery can ablate the pad safely. Subcutaneous fat can be excised under direct visualization with scissors or with a liposuction cannula. Whichever technique is used, it is critical to maintain a uniform subcutaneous flap to avoid contour irregularities **(Fig. 15.3)**.

While lateral manipulation of the SMAS will lead to some degree of platysmal elevation, patients with heavy platysmal banding require more aggressive interventions. A variety of methods are available to address laxity in the medial edge of the platysma. Techniques include placement of midline sutures, direct medial platysmal excision, lateral platysmal suspension, and platysmal transection. After placing a stab incision, the suction-assisted lipectomy is performed prior to the platysmaplasty, which aids in elevation of the subcutaneous flap. The incision is then extended in the submental crease for 2–3 cm, and a blunt and sharp dissection is performed with vertical spreading to complete the flap and to expose the medial borders of the platysma **(Fig. 15.4)**. The platysma is exposed from the anterior border of the mandible down to the thyroid notch. The medial border of the platysma is then sutured together with interrupted 3–0 polydioxanone (PDS) sutures in a buried fashion.

Feldmen describes a modification of this technique in which a running suture is placed from the submentum down to the thyroid notch, back up to the submentum, and then finally the knot is tied at the thyroid notch.[41] This corset-like technique recruits the platysma laterally and overlaps the medial edges to create a smooth contour. Some authors have reported the creation of a single anterior band over time. Guyuron has described a vest-over-pants technique in which the medial borders of the platysma are overlapped to eliminate midline roll.[42] He found, in 88 patients over 26 years, that there was no recurrence of platysmal banding. Another modification of the traditional platysmaplasty involves performing a wedge resection of the medial border of the platysma near the hyoid bone. Proponents of the technique state that it allows for the cephalad portion of the muscle to migrate superiorly, which creates a sharper cervicomental angle. It also breaks the continuity of the anterior platysmal bands, which should prevent their recurrence. Most of these techniques recruit the skin and platysma more medially, which can lead to tethering of the skin laterally. This can be easily resolved by undermining the skin in these areas.

15.5.3 SMAS Techniques

Techniques for short-flap SMAS rhytidectomy (SFSR) and deep-plane rhytidectomy are described in detail below, followed by the potential complications.

SMAS Rhytidectomy

Our modification to the traditional rhytidectomy, performed as SFSR, involves conservative undermining of the skin in the facial region and a multivector SMAS imbrication. The anterior dermal-SMAS attachments, namely

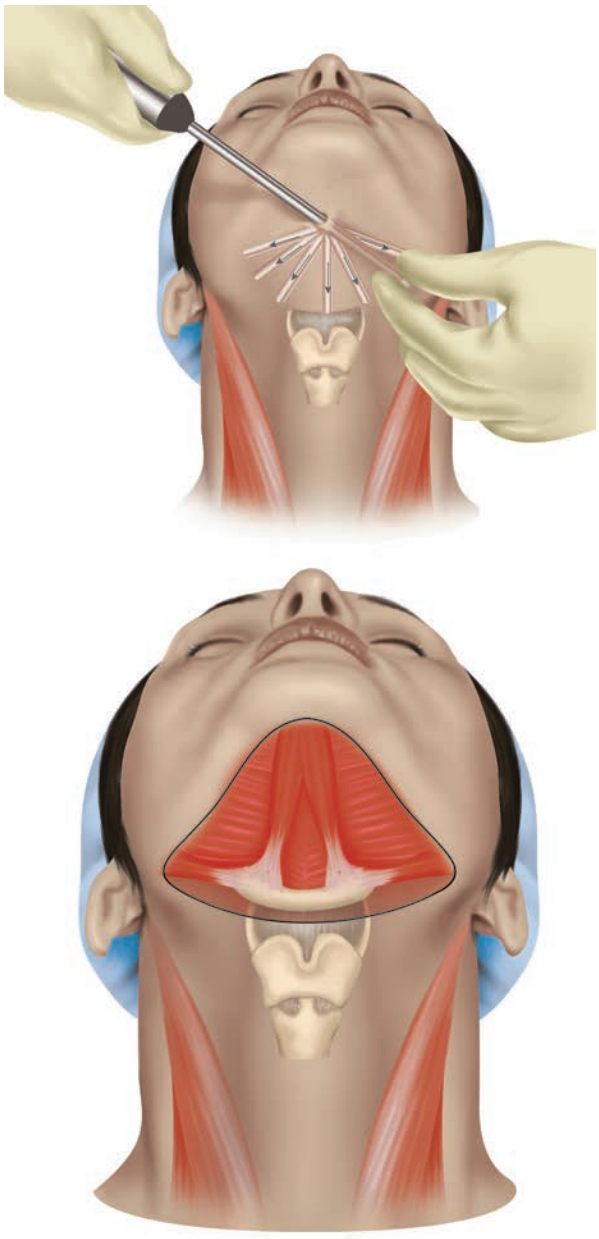

Fig. 15.3 Illustration of technique used for submental liposuction.

zygomaticocutaneous and mandibulocutaneous ligaments, are undisturbed in this approach, which allows for aggressive SMAS suspension without applying significant tension on the wound. While some volume is added to the midface, we prefer using autologous fat grafting to restore volume and to establish a more youthful ogee curve. This is particularly important in African-American patients who have under-projection of the malar eminence.

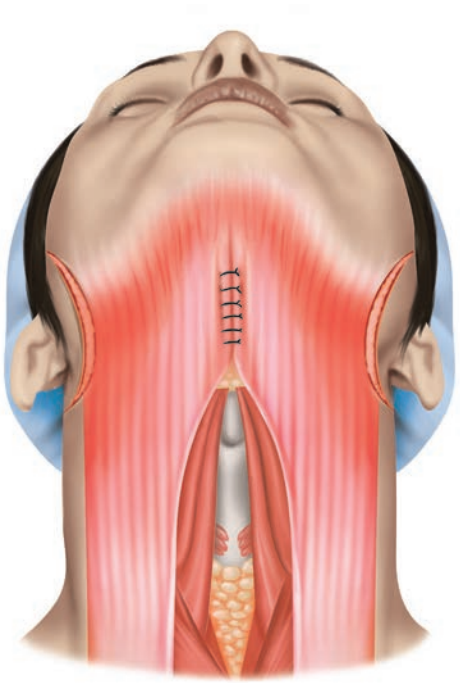

Fig. 15.4 Example of medial plication of the platysma for platysmaplasty in patients with significant banding.

We prefer the SFSR because the limited cutaneous undermining minimizes the risk for facial nerve injury and for postoperative hematoma formation. Muzzafar and Mendelson demonstrated that releasing these ligaments in the prezygomatic space through extensive subcutaneous dissection can potentially cause injury to the facial nerve branches to the orbicularis oculi.[43,44] In addition, the likelihood of vascular compromise is also diminished, especially in smokers, diabetics, and elderly patients. Finally, we have found that patients undergoing this technique are able to resume normal activity within 7–10 days postoperatively.

This technique can be performed with either IV sedation or general anesthesia; however, we prefer the latter. We also routinely administer IV cefazolin and steroids and apply lower extremity intermittent compression devices. The incisions are marked preoperatively with the patient in the supine position. Lidocaine 1% with 1:100,000 epinephrine is infiltrated into one side of the face and the submental region if submentoplasty is planned. Our preferred method to secure hair away from the surgical field is to wrap autoclave tape circumferentially around the head 2–4 cm behind the hairline. After prepping the entire face, neck, and hair just beyond the tape, a sterile head drape is secured to the tape using surgical staples. The endotracheal tube and circuit are placed into a sterile, clear plastic sheath

typically used for endoscopic sinus surgery, which allows for manipulation of the tube during the case **(Fig. 15.5)**.

Once the adjunct procedures are completed, attention is directed toward performing the rhytidectomy. We use a ruler to mark out the planned distance of skin undermining prior to elevation, which is typically 4–6 cm depending on the patient's facial proportions **(Fig. 15.6)**. The overhead lights are positioned so that one is directed at the incision from a posterior direction, and the other is directed at the skin flap from an anterior position. A gender-appropriate incision is made using a 15-blade scalpel as described above **(Fig. 15.3, Fig. 15.4)**. A Brown-Adson forceps and the scalpel are used to begin the flap elevation in the subcutaneous plane in the preauricular region. After properly entering the plane and elevating for ~1.5 cm, the double-prong skin hooks or 4-prong cat-paws are engaged, and skin undermining proceeds with Metzenbaum scissors **(Fig. 15.7a)**. Critical to maintaining the proper plane and uniform elevation is traction and countertraction on the skin flap. The surgeon pulls the skin hook in the posterior and superior vector while the assistant applies countertraction on the skin in the opposite direction. As mentioned above, overhead light positioning is critical, as transillumination through the flap helps to guide the surgeon in maintaining the plane.

The frontal nerve is at highest risk over the zygomatic arch and temple region, and subcutaneous elevation should be performed just deep to the hair follicles to minimize risk of injury. After elevation of the preauricular flap, a moist surgical sponge is placed under the flap to tamponade any bleeding. After the entire subcutaneous elevation has been performed, hemostasis will be obtained along the entire flap to maximize efficiency.

The posterior occipital area is elevated also initially with a No.15 blade and forceps. The skin over the mastoid is very thin and easy to tear or perforate. Over the SCM, there is little subcutaneous fat and the skin tightly adheres to the underlying muscle and fascia. To avoid injury to the external jugular vein and great auricular nerve, the fascia overlying the muscle should be preserved. The inferior limit of the dissection is 4–5 cm below the auricle. If the patient has significant cervical skin laxity, undermining is performed toward the submental dissection and is connected to elevate this skin. A surgical sponge is placed under the postauricular flap.

The pre- and postauricular dissections are then connected **(Fig. 15.7b)**. Flap elevation in this region should be performed judiciously or under direct visualization to avoid potentially entering the deep plane and inadvertently injuring the marginal mandibular branch of the facial nerve. Once the subcutaneous flap is completely elevated, hemostasis is meticulously achieved with bipolar cautery **(Fig. 15.7c)**. An assistant always observes the face to identify any facial nerve stimulation and thereby to avoid inadvertent injury.

The SMAS imbrication is performed next. Starting ~ 15 mm anterior to the superior point of the tragus, a J-shaped strip of SMAS/plastysma 1 cm in width is excised anterior and inferior to the auricle with facelift scissors **(Fig. 15.8a)**. Excision of the SMAS is safe in this region as the facial nerve

Fig. 15.5 Example of patient after the full face is prepped and a sterile head drape is applied. Prepping and draping the endotracheal tube and placing the ventilation tubing in a sterile camera bag allows for easy and safe manipulation of the head during the operation.

Fig. 15.6 Area of planned dissection, typically 5 cm.

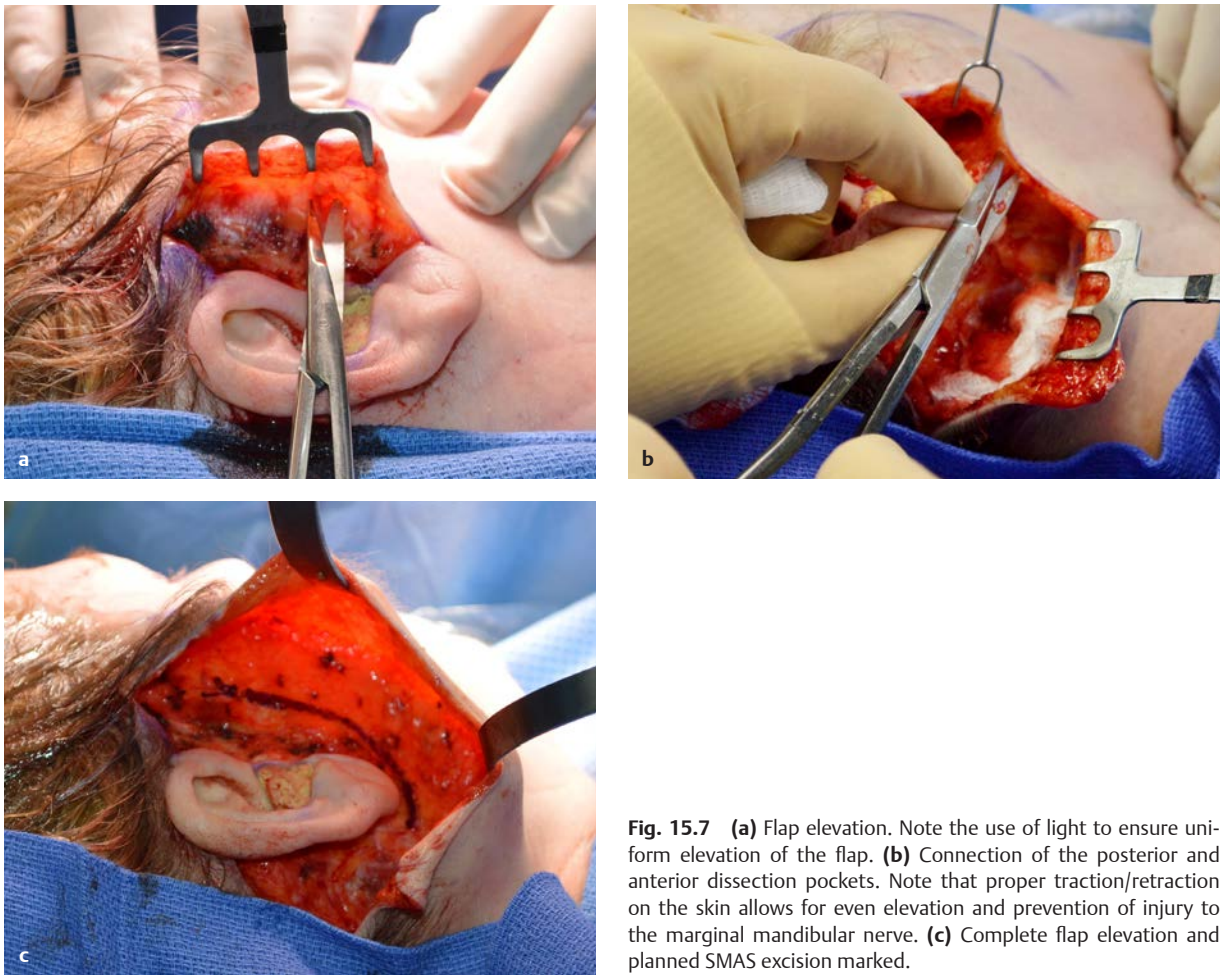

Fig. 15.7 **(a)** Flap elevation. Note the use of light to ensure uniform elevation of the flap. **(b)** Connection of the posterior and anterior dissection pockets. Note that proper traction/retraction on the skin allows for even elevation and prevention of injury to the marginal mandibular nerve. **(c)** Complete flap elevation and planned SMAS excision marked.

is well protected deep within the parotid gland. Sub-SMAS dissection can be performed if desired using this entry point **(Fig. 15.8b)**. The edges of the SMAS are then imbricated with multiple buried 3–0 PDS horizontal mattress sutures to suspend the soft tissue **(Fig. 15.8c)**. The upper portion of the SMAS is secured in a more vertical fashion by imbricating the tissue near the mandible to the tissue in front of the tragus. The lower SMAS/plastysma is secured in a more lateral vector by securing to the mastoid fascia. This vector of pull must be tailored to each patient, as it varies depending on the patient's age. Jacono and Ransom[45] recently described this concept. They found that younger patients required a more superior vector, whereas older patients needed a more lateral vector.

Any areas of SMAS fullness are oversewn using buried interrupted sutures. For individuals with cherubic faces and/or prominent parotid glands, gently cauterizing this region and also oversewing the SMAS can narrow the parotidomasseteric fascia just anterior to the auricle. This is a powerful technique that can further restore the triangle of youth.

Additional subcutaneous undermining is performed to release the tethering created after SMAS suspension. The wound is copiously irrigated and hemostasis is obtained one last time. A perforated 10-French Jackson-Pratt drain is placed in the wound and is immediately attached to suction drainage. The next step is skin redraping and excision to complete the rhytidectomy **(Fig. 15.9)**. The ideal redraping places minimal tension on the preauricular incision by distributing this tension posteriorly. This concept is critical to obtain a nearly invisible scar. There are multiple techniques for redraping and excising skin. We start by placing four key anchor points using 4–0 PDS buried sutures. We have found that a stepwise approach to skin redraping maximizes efficiency and reduces errors.

The first anchor point (AP1) is the helical root. A single-toothed forceps is used to calculate the excess skin to be excised, and a 15-blade scalpel is used to create a slit in the flap parallel to the orientation of the incision **(Fig. 15.10a)**. The incision is closed to the base of the slit with buried 4–0 PDS suture. A single prong hook is then

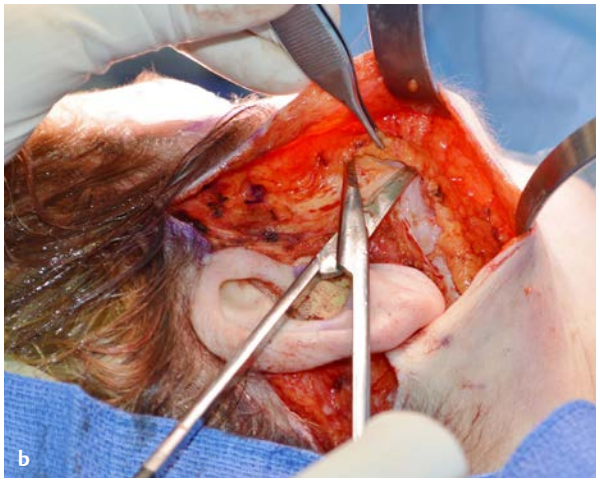

Fig. 15.8 **(a)** J-shaped strip of SMAS being excised. **(b)** Sub-SMAS elevation to allow for adequate lift and flap rotation. **(c)** Suture fixation of the cut edge of the SMAS.

Fig. 15.9 Skin being redraped after SMAS suspension. Note the excess skin that now requires tailoring.

placed at the superior aspect of the temporal incision to elongate and straighten the wound. The excess skin superior to AP1 is excised using a gentle curve that allows for redraping without a significant dog-ear. The anti-tragus serves as the second anchor point (AP2), which is placed in a similar fashion to AP1 **(Fig. 15.10b)**. Once AP2 has been placed, the intervening skin between AP1 and AP2 is excised. The skin is gently draped over the tragus in a manner that places no tension and then is marked along the planned excision. The skin is then stretched and excised along the marks. Because the new skin in this region is from a more anterior portion of the face, it must be defatted and thinned to create a natural contour. The third anchor point (AP3) is placed toward the apex of the postauricular region **(Fig. 15.10c)**. It is critical to examine the neck contour to ensure that no significant redundancy was created in this region. Following this, a single hook is used to place traction at the lateral apex of the occipital incision, and the excess skin is excised in a similar manner to the temporal incision. Either a staple or

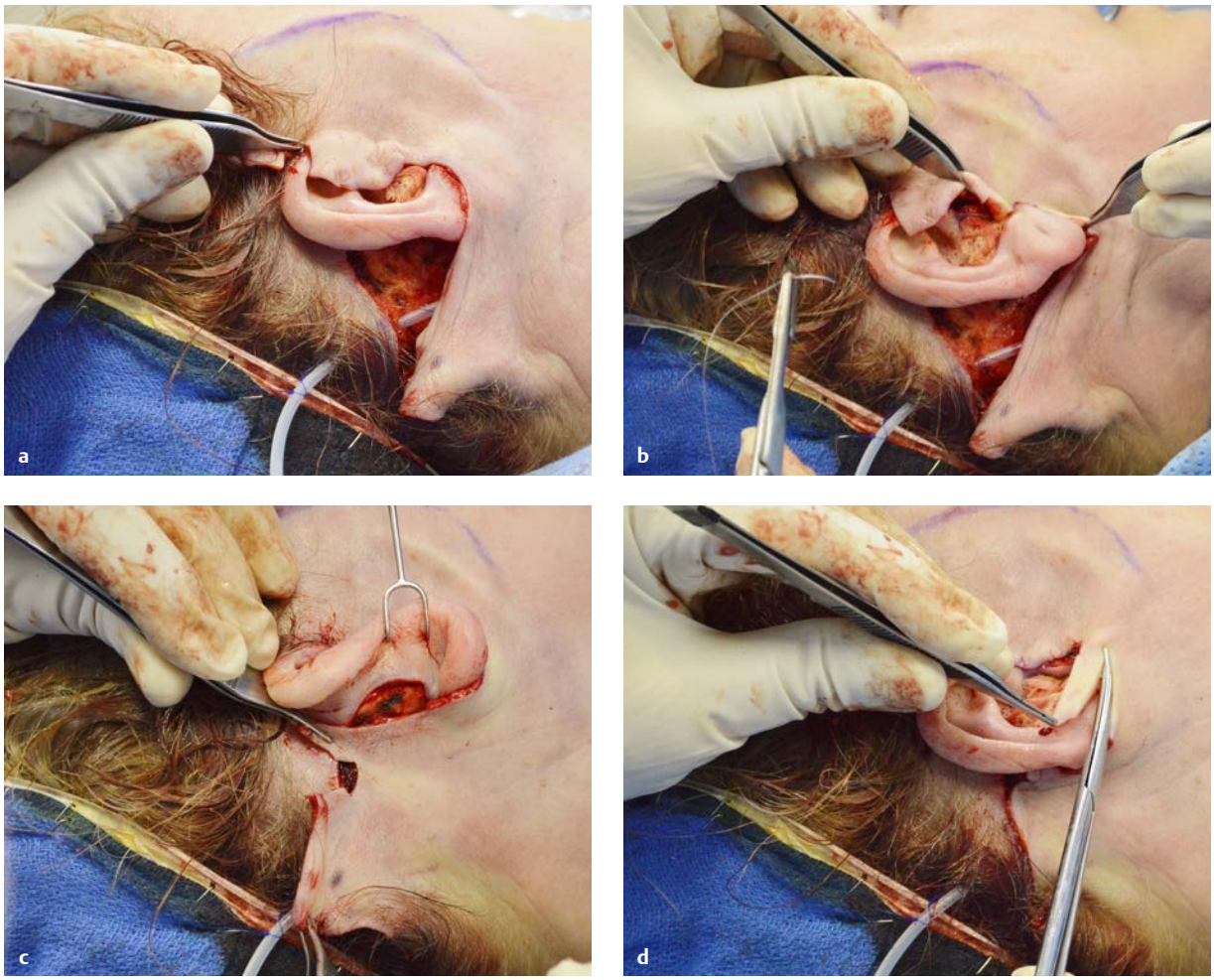

Fig. 15.10 **(a)** The first anchor point (AP1) at the root of the helix. **(b)** AP2 at the antitragus. **(c)** AP3 at the apex of the postauricular incisions. **(d)** Conservative excision of skin under the lobule to allow for proper ear position and prevention of the pixie ear deformity.

another deep suture is placed to perfectly align the occipital hairline and to avoid a step-off. The tissue between AP2 and AP3 is draped over the ear lobule to assess the amount of skin to excise. Facelift scissors are then used to carefully excise the postauricular excess skin, as the apex will become the anchor point of the lobule attachment (AP4). One must be careful to be very conservative in skin excision under the lobule (**Fig. 15.10d**). If there is any tension in this location, a "pixie ear" deformity will result.

Skin excision is now complete and additional 4–0 PDS deep dermal sutures are placed as necessary. The preauricular incision is closed using a running locking 6–0 nylon or Prolene (Ethicon Inc.,) suture between AP1 and AP4. A running 4–0 plain gut suture is used to close the skin in the postauricular region. Staples are used to close the hair-bearing areas to reduce the risk of alopecia (**Fig. 15.11**). Ice is placed in a sterile glove and is applied on the first side while the facelift is performed on the second side. The cooling promotes vasoconstriction and limits perioperative ecchymosis.

As discussed earlier, volume restoration is a key component of facial rejuvenation and most patients at this point will undergo multilevel fat grafting, most commonly in the infraorbit, pyriform, buccal, and prejowl regions. At the conclusion of all the procedures, a light facial pressure dressing is applied and the patient is transported to the recovery room. **Figure 15.12** shows a representative SFSR result in a Hispanic patient.

Fig. 15.11 Incisions after closure.

Deep-Plane Rhytidectomy

The first published description of the deep-plane rhytidectomy was in 1990 by Hamra, who developed the technique to achieve more effacement of the nasolabial fold than was possible with a SMAS facelift. In 1993, Hamra added the dissection of the orbicularis oculi to better address the nasojugal and palpebromalar grooves and termed the procedure a composite rhytidectomy. The rationale for the deep-plane and composite rhytidectomies was the belief that facial aging was due to descent of the platysma and orbicularis oculi muscles, as well as the "cheek fat." This concept and the terminology are now debated among aesthetic surgeons. Rohrich and Pessa have elegantly described in multiple studies the deep and superficial fat compartments in the midface,[7,46] and volume loss is now felt to be as important as tissue descent in causing the appearance of the nasola-

Fig. 15.12 **(a)** Frontal and **(b)** oblique views of a patient who underwent a rhytidectomy. Note the significant improvement in the jowls and platysmal banding.

bial fold and palpebromalar grooves. Lambros[47] and others have shown that the lid–cheek junction and skin blemishes do not migrate inferiorly over time, and Rohrich et al[2] have elegantly demonstrated in cadavers that adding volume to the midface fat compartments achieves tremendous facial rejuvenation. Interestingly, in 2002 Hamra performed a retrospective analysis of his deep-plane results 10 years after surgery, and he found that there was very little long-term NLF effacement.[48] This further supports the more modern conclusion that the NLF forms due to bone and deep fat loss, not tissue descent. That being said, the deep-plane facelift is a very effective, and still widely practiced, surgery.

The incision for the deep-plane lift is similar to that described for the SFSR above. Subcutaneous dissection is performed for only 2–3 cm anterior to the auricle, stopping inferiorly at the jawline. The SMAS is incised between the angle of the mandible and the malar eminence, which is anterior to the frontal branch of the facial nerve. A combination of sharp and blunt dissection in the sub-SMAS plane is carried anteriorly, with the mandibular border as the inferior extent. Superiorly, the orbicularis oculi and zygomaticus musculature are identified and the dissection transitions superficial to the zygomaticus muscle as one moves anteroinferiorly. The zygomaticus muscle allows the surgeon to carry the dissection into the midface across the nasolabial fold without risk of injury to the terminal branches of the facial nerve, which are deep to the muscle. In the lower face and neck, the SMAS is continuous with the platysma and the dissection is continued either superficial or deep to this structure depending on surgeon preference. Beyond the anterior edge of the parotid gland, the facial nerve branches are held down by the masseteric fascia but can be easily transected if the surgeon is not in the correct plane. Submentoplasty with or without platysmaplasty is typically included as well, as described above. When using the deep-plane technique, it is common to completely dissect the neck skin from SCM to SCM. This is typically performed in the subcutaneous plane, but it can also be done bluntly, just deep to the platysma.[45] In other words, the facial dissection is sub-SMAS and the neck dissection is usually supra-platysmal. The SMAS and platysma are advanced superolaterally and are attached to the tough preauricular and mastoid fascia to support the lift. The skin is redraped and tailored as necessary.

Theoretically, the deep-plane facelift carries a higher risk of facial nerve injury than other facelift methods. Because it is a larger surgery, the recovery time is often longer than that for the SFSR. Some well-designed studies do suggest that the deep-plane facelift allows excision of more skin and has a lower early revision (tuck-up) rate than SMAS facelifts.[49–51]

15.6 Perioperative Care

One of the first and most important choices in perioperative care is the use of venous thromboembolism (VTE) prophylaxis. The 2005 Caprini Risk Assessment Module,[52] available online, has been adopted by the American Society of Plastic Surgeons (ASPS) as the preferred method for determining a patient's risk for VTE in the 30-day perioperative period, and it appears to be more accurate than the 2010 Caprini model.[53] In general, elective facial surgery has a much higher risk of bleeding than thrombosis. Chemoprophylaxis with heparin or low-molecular-weight heparin may increase the risk of bleeding, and so the surgeon must carefully balance the risks of bleeding and thrombosis in each patient. In a 2001 survey of ASPS members, Reinisch et al identified 35 incidents of deep venous thrombosis (DVT) in 9,937 facelifts (0.35%), resulting in 14 cases of pulmonary embolism and one death.[54] The risk of thrombosis was higher in patients undergoing general anesthesia, and intermittent compression devices seemed to significantly reduce the risk of thrombosis. Compressive stockings alone did not seem to protect against DVT. In 2006, Durnig and Jungworth retrospectively reviewed bleeding and DVT in 126 patients undergoing facelift under conscious sedation.[55] No patient experienced known DVT; however, the rate of bleeding complications was much higher in the group receiving perioperative chemoprophylaxis than in the group who received compression stockings alone (16.2% versus 1.1%, $p = 0.003$). Importantly, the group receiving chemoprophylaxis was admitted to an inpatient setting and received low-molecular-weight heparin 2 hours prior to surgery and every 24 hours until discharge on postoperative day 2. This is an unusual postoperative course for facelift patients, making the interpretation of the results challenging. Our conclusion is that intermittent compression devices (ICDs) should be used on patients receiving general anesthesia. Patients receiving conscious sedation should probably wear ICDs as well, although this does add some cost. Patients with very high Caprini risk scores (³ 7) should be considered for perioperative chemoprophylaxis and may be poor candidates for elective aesthetic surgery.

A few well-designed studies have examined the efficacy of tissue sealants and suction drains in reducing hematoma, bruising, and edema following rhytidectomy. Jones et al performed a randomized controlled within-subject trial of suction drainage in 50 consecutive facelift patients.[56] Patients had two subcutaneous Jackson-Pratt type suction drains placed on one side of the face, and no drains on the other side. Drains were removed on postoperative day 1 and objective health care providers blindly assessed for hematoma formation, edema, and bruising. Patients also subjectively compared the two sides for bruising, edema, and pain at 1 day and 1 week. While patients' reports showed no statistically significant difference in edema formation between the two sides, there was a highly significant ($p = 0.005$) provider-scored reduction in bruising on the drained side at the 1-week (but not the 1-day) visit. Patients also noted a significant reduction in bruising on the drained side at 1 week ($p = 0.002$). Kamer and Nguyen compared a retrospective review of 100 facelift patients receiving no fibrin glue to a prospective analysis of 100 patients who had fibrin glue sprayed under the skin

flap.[57] It is unclear if the no-fibrin-glue group received suction drainage or not. The comparison revealed a non-significant reduction of expanding hematoma and seroma, but a significant reduction in prolonged edema and bruising, in the fibrin group. In 2008, Zoumalan and Rizk performed a retrospective comparison of 146 patients who received compression dressings only to 459 patients who received fibrin glue and compression dressings.[58] There were no expanding hematomas in either group, but the rate of minor hematoma requiring needle aspiration was significantly lower in the fibrin-glue group (3.4% versus 0.4%, $p = 0.01$).

Several authors have also studied the use of platelet gel under rhytidectomy flaps. Powell et al performed a randomized within-subject comparison of platelet gel use on one side of the face in eight patients.[59] The side receiving platelet gel was much more commonly considered less edematous or bruised than the side that didn't receive platelet gel. Multiple other small studies have examined the efficacy of platelet gels with mixed results. In a recently published commentary on the subject, Farrior stated that he no longer uses autologous platelet gels because the benefit does not seem to outweigh the cost.[60]

There are no high-quality studies comparing the efficacy of tissue sealants to suction drains. Based on this information, the authors feel that suction drainage for 24–48 hours under a light compression dressing is the most cost-effective method to limit bruising and edema in the postoperative period. The prevention of expanding hematomas is likely most dependent on surgical technique, and one should not depend on tissue sealants to prevent this potentially disastrous complication.

The plant *Arnica montana* was studied by Seeley in 14 patients receiving the substance and 15 patients receiving placebo.[61] Ecchymosis was assessed on postoperative days 1,5, 7, and 10 using patient and provider visual analog scales, as well as an objective computer-based measure of skin color to more finely analyze bruising. The visual analog scales showed no significant difference at any time point. The computer analysis suggested a smaller area (in square centimeters) of bruising on postoperative days 1 and 7, but not 5 or 10. This study does not conclusively support the use of *Arnica*, but we do routinely prescribe it to our facelift patients as there is likely no downside and it is relatively inexpensive.

No high-quality studies examining the necessity of prophylactic antibiotics following rhytidectomy have been published to our knowledge. Most surgeons do prescribe a week of oral antibiotics to cover gram-positive organisms, while some surgeons prefer ciprofloxacin to cover *Pseudomonas* from the ear canal instead.

15.7 Complications

All surgical procedures have potential complications. A detailed discussion of the risks is an important aspect of informed consent. The surgeon's goal should be to reduce complications and, when they occur, to minimize their effect.

15.7.1 Hematoma

The most common postoperative complication of rhytidectomy is the formation of a hematoma. Large studies typically report a rate of 2–4%, and hematoma is more common in men due to the increased vascularity of their hair-bearing facial skin.[62,63] Hematomas can be divided into expanding and non-expanding hematomas. Expanding hematomas typically occur in the first 24 hours after surgery and are heralded by frank blood in suction drains, increasing pain, and significant facial swelling. If compressive dressings have been applied, it is important to examine underneath them because they can camouflage a hematoma. Other possible findings on physical exam include a bluish discoloration of the buccal mucosa, eversion of the lips, and an unexpected amount of bruising. If expanding hematomas are not promptly addressed, they can result in tissue necrosis and/or airway obstruction. All clots should be removed and the source of bleeding should be identified when possible. It is always necessary to place new suction drains. Some authors would recommend placing fibrin glue in the wound as these patients are clearly in a high-risk group for bleeding. The patient should be checked within 24 hours of hematoma evacuation to assess for blood reaccumulation. Smaller, non-expanding hematomas can be evacuated at the bedside or in the office by taking out one or two sutures and passing a thin sterile Frazier suction into the area of blood accumulation. Small, non-expanding hematomas will typically liquefy after 5–10 days and can also be aspirated with an 18-gauge needle.

15.7.2 Skin Loss

Skin flap necrosis after rhytidectomy has a variety of causes, the most common being hematoma formation. Surgical errors, including superficial dissection causing damage to the subdermal plexus, excess tension on the skin closure, or extensive cervicofacial dissection, can cause skin slough as well. Tobacco use in the perioperative period also increases the risk of skin necrosis. Skin loss is typically only partial thickness and re-epithelialization will occur with conservative wound care. Full-thickness skin loss may result in a hypertrophic scar, and large areas may require skin grafting. Hyperbaric oxygen may be beneficial in the management of these patients.

15.7.3 Nerve Injury

The great auricular nerve is the most commonly injured nerve during rhytidectomy.[64] This is due to its superficial location on the surface of the SCM in the infra-auricular region. The thick, fibrous attachment of the skin over the SCM and minimal subcutaneous fat in this area also make it more difficult to establish a clear plane of dissection. Care-

ful flap elevation under *direct visualization* is likely the best way to avoid injury to this nerve. If the nerve is transected, it should be repaired using 9–0 nylon suture under magnification, or with a nerve conduit to prevent neuromas.

The most feared complication of rhytidectomy is facial nerve injury. Theoretically, the facial nerve is at more risk during deep-plane and high SMAS and endoscopic subperiosteal facelifts, but no conclusive evidence of increased risk has been identified. This could be due to insufficient reporting of complications by some surgeons. Lidocaine can take up to 6 hours to wear off, and so a region of dense paresis should be observed initially. A dense paresis lasting longer than 24 hours can be due to either a stretch, cautery, or transection injury. The best treatment for a facial nerve transection involving the buccal and/or zygomatic branches is exploration and primary nerve repair. It is easier to find the injured nerve early on before significant scarring occurs. If a transection is judged to be unlikely, it is not unreasonable to observe the patient for 1–2 weeks for signs of recovery, but exploration should occur within 30 days if possible. Most studies suggest that open and honest communication of medical errors helps to prevent and to resolve malpractice claims.[65] If the facelift surgeon is uncomfortable performing facial nerve exploration, the patient should be referred to a facial nerve expert. Marginal and frontal branch injuries should probably just be observed, because the chance of meaningful reinnervation, even with successful exploration and repair, is low. Selective chemodenervation with injectable neurotoxins of the muscles on the contralateral face can create better facial symmetry.

15.7.4 Scars

Rhytidectomy incisions usually heal well in the absence of significant tension on the closure line. A tension-free closure is particularly important in dark-skinned individuals who are prone to hypertrophic scarring and keloid formation **(Fig. 15.13)**. The portion of the incision between the auricle and occipital hairline is most at risk of this complication. Hypertrophic scarring typically responds to serial injections of triamcinolone, though this does carry some risk of skin atrophy and pigmentary changes in darker skin types. There is some recent evidence that 5-fluorouracil (5-FU) injections are similarly efficacious and have less risk of skin thinning and pigment change.[66,67] 5-FU is an antimetabolite that specifically targets synthetically active cells like fibroblasts, and it has been shown to specifically reduce type I collagen production in human fibroblasts.[68] We typically inject 0.1–0.5 cc of 5-FU in a 9:1 mixture with triamcinolone (10 mg/cc) every 2–4 weeks.

Fig. 15.13 **(a)** Significant keloid formation after rhytidectomy. **(b)** Postoperative view after excision and resuspension.

Tension on the skin closure around the ear lobule can cause a variety of deformities, including inferior displacement of the earlobe, obliteration of the sulcus between the auricle and face, or pixie ear deformity. These deformities can typically be repaired at 6–12 months after surgery with scar excision and a tension-free closure. A retracted or pixie ear lobule can be released with a V-Y superior advancement of the earlobe.

15.7.5 Hair Loss

Hair loss is most common in the sideburn and temple. Permanent hair loss can occur with poor surgical technique after transecting or cauterizing hair follicles. However, even dissection in the proper subfollicular plane can cause telogen effluvium, in which case the hair should return within 6 months. As discussed above, it is important to use a trichophytic incision inferior to the temporal tuft in women when planning significant skin excision to prevent excessive elevation of the preauricular hairline. Also, it is important to realign the occipital hairline after skin excision in the postauricular sulcus. In severe cases, micrograft hair transplantation is an option.

15.7.6 Parotid Injury

Sub-SMAS dissection risks injury to the parotid gland parenchyma and/or ductal system. This can result in a salivary accumulation beneath the superficial flap (sialocele), which may delay healing. If the parotid capsule is injured during facelifting, it should be repaired to prevent these complications. The SMAS can then be used to reinforce this area during SMAS suspension. If the injury is too large for primary closure, acellular dermis can be laid over the injury. Salivary pseudocysts should be treated with light pressure dressings and intermittent needle aspiration until resolution. Larger pseudocysts and fistulas through the skin may require closed suction dranage.[41]

15.7.7 Depression

Short-term depression occurs in up to 50% of women undergoing rhytidectomy.[69] This develops in the acute recovery period in response to the edema, bruising, and overall unnatural appearance. It typically resolves once the patient's appearance normalizes. In rare cases, a short course of antidepressant medication is necessary. For patients with a history of psychiatric illness currently on medication, the prescribing physician should be consulted prior to surgery. There is some association of selective serotonin reuptake inhibitors (SSRIs) with an increased risk of bleeding. However, a recent large retrospective analysis found no evidence that SSRI use increases the incidence of hematoma after rhytidectomy.[70]

15.8 Conclusion

Rhytidectomy continues to be one of the most powerful techniques for facial rejuvenation in our armamentarium. Most rhytidectomy techniques that employ SMAS suspension are very effective at improving the jawline and repositioning ptotic tissues. Rhytidectomy in dark-skinned individuals is similar to rhytidectomy in light-skinned individuals, with special attention paid to differences in skin color and thickness. In our practice, particularly in the African-American population, complementary techniques, such as midface volume restoration, chin augmentation, and customized submentoplasty, have allowed more natural facial rejuvenation outcomes.

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16 Lip Remodeling Surgical Techniques

Melissa Hu and Fred J. Stucker

16.1 Introduction

Cosmetic procedures for the lips largely focus on augmentation with fillers and autogenous materials. Perhaps the media and movies have directly influenced the concept that the ideal lip is fuller, more youthful, and sensual. It has also been suggested that the gradual internationalization of our society has influenced our cultural standards of ideal beauty. For Caucasian women, a more ethnic, fuller lip is now more desirable. However, for the ethnic female, a less protrusive, thinner lip may be more desirable. Whatever cultural preference the individual patient brings to the clinic, it is important that the surgeon not only understand cultural differences, but also master the surgical techniques that can assist our patients in achieving their desired cosmetic ideal.

16.2 Lip Anatomy

The lip serves important functional and aesthetic purposes. The sphincter formed by the orbicularis oris muscle is essential in maintaining oral competence to prevent the spillage and extrusion of food while eating. In speech, certain phonetic sounds require the approximation and tension formation of the lips. The lips not only play a vital role in verbal communication, but also communicate our emotions. When stretched in a smile, the lips connote happiness, pleasure, and contentedness. Frowning suggests anger, displeasure, and disgust, while tightened lips convey anxiety, stress, and uncertainty. The appearance of the lips may also suggest one's age, or even gender. Perioral wrinkles and the thinning of the red lip are signs associated with aging. A full, supple lip is often considered more feminine, while a thin, firmer lip may be considered more masculine.

The lip is a component of the lower face. It extends from the subnasale to the mental crease. The upper lip spans from the subnasale to the stomion superius, and horizontally between the nasolabial folds. The lower lip extends from stomion inferiorus to the mental crease, and lies between the oral commissures. Particular features of the upper lip consist of the philtrum, cupid's bow, and median tubercle. The philtral columns are paramedian, vertical prominences where orbicularis oris muscle fibers insert into skin after decussating in the depressed midline region of the upper lip.[1] The cupid's bow lies along the vermilion border or cutaneous-mucosal junction of the upper lip, at the base of the philtral columns. It is shaped like an M, or an archer's bow, with two apices divided by a central, median depression. The shape and definition of the cupid's bow often define an attractive lip. The median tubercle is a slight projection of the red lip that lies centrally, in line with, and inferior to, the philtrum. The absence of this tubercle is abnormal and may suggest lip pathology, such as cleft lip or a previously operated-on lip, for either reconstructive or cosmetic purposes.

The surface of the lip is composed of three histologically distinct regions: cutaneous, vermilion, and mucosal. The cutaneous region is composed of skin similar to the face. Here, there are hair follicles, eccrine glands, and sebaceous glands. This region ages similarly to the rest of the face, with development of rhytids along relaxed skin tension lines that radiate outward from the stomion from overuse of the orbicularis oris. The "white roll" consists of a pale line on the surface of the lip that marks the transition from the highly keratinized cutaneous skin to the thinner, less keratinized vermilion. The epithelium of the vermilion lacks hair follicles and apocrine sweat glands. The red color of the vermilion is due to the thin, transparent nature of the epithelium, and the superficial course of blood vessels in this region. The "red line" then marks the transition from the dry vermilion to the wet, intraoral lip mucosa. The mucosa consists of nonkeratinized squamous epithelium and multiple minor salivary glands in the submucosa.

The cross-sectional anatomy of the lip consists of epidermis, dermis, subcutaneous fat, orbicularis oris muscle, submucosa, and mucosa. The bulk of the lip is provided by the orbicularis oris. The orbicularis oris is composed of two divisions, superficial and deep. The superficial portion receives attachments from perioral muscles that contribute to fine movement of the lips. It consists of vertically and obliquely oriented fibers that curl outward at the free margin to form a slight protrusion of the lip.[2] The deep fibers of the orbicularis oris are oriented horizontally and provide the sphincteric action of the lips.

Sensory innervation of the upper and lower lip is supplied by the infraorbital nerve and mental nerve, respectively. The infraorbital nerve exits the infraorbital foramen 4–7 mm below the inferior orbital rim along a vertical from the medial limbus. The mental nerve exits its foramen ~ 6–10 mm inferior to the second mandibular bicuspid. These nerves may be blocked for procedures performed under local anesthesia. Motor innervation of the lips is provided by the buccal and marginal mandibular branches of the facial nerve.

The vascular supply of the lips is provided by the superior and inferior labial arteries, which divide from the facial

artery. The labial arteries course between he orbicularis oris and the mucosa along the free edge of the lip. Venous drainage typically runs with the arterial supply and has additional pathways through the ophthalmic vein and cavernous sinus.

16.3 Facial Profile/Proportions

Analysis and evaluation of the lip is performed in both frontal and profile views. On frontal view, the horizontal width may be assessed, with the commissures ideally lying between the pupils. The upper and lower lip heights are assessed by subdividing the lower face into thirds. The upper third extends from the subnasale to the stomion, while the lower two-thirds measure from the stomion to the menton.[3] Thus, the ratio of upper lip height to lower lip height should be ~ 1:2. Additionally, the lower lip vermilion is slightly greater than the upper lip vermilion.

On profile, there are a few methods that may be used to evaluate the ideal lip position. Using a reference line extending from the subnasale through the inferior vermilion border and pogonion, the upper lip should ideally lie 3.5 mm anterior to this line, while the lower lip should lie 2.2 mm anterior.[4] Similarly, a line may be drawn from the subnasale through the upper lip. The inferior lip should lie 2 mm posterior to this line with the chin just posterior to the lower lip. Another method uses a line drawn tangentially from the nasal tip to the pogonion. The upper lip should lie 4 mm posterior and the lower lip 2 mm posterior to this line.

16.4 Differential Diagnosis

Macrocheilia, a larger than normal lip, has several etiologies, congenital and acquired. Congenital causes include ethnic variations of the lip, double lip, and labial pits. Acquired causes include inflammatory processes, such as cheilitis granulomatosa and angioedema; systemic disorders, such as Crohn disease; neoplasms, such as non-Hodgkin lymphoma and benign and malignant tumors; and infections, including tuberculosis and syphilis. Reduction cheiloplasty in a pediatric patient with congenital macrocheilia may have a profoundly positive psychological benefit (**Fig. 16.1**).

Double lip is a congenital anomaly caused by hyperplasia of the labial mucosa and accessory salivary glands. Due to redundant tissues, a fold develops within the red lip, thus creating the appearance of a second lip, which is particularly apparent with smiling. This occurs either in isolation or with

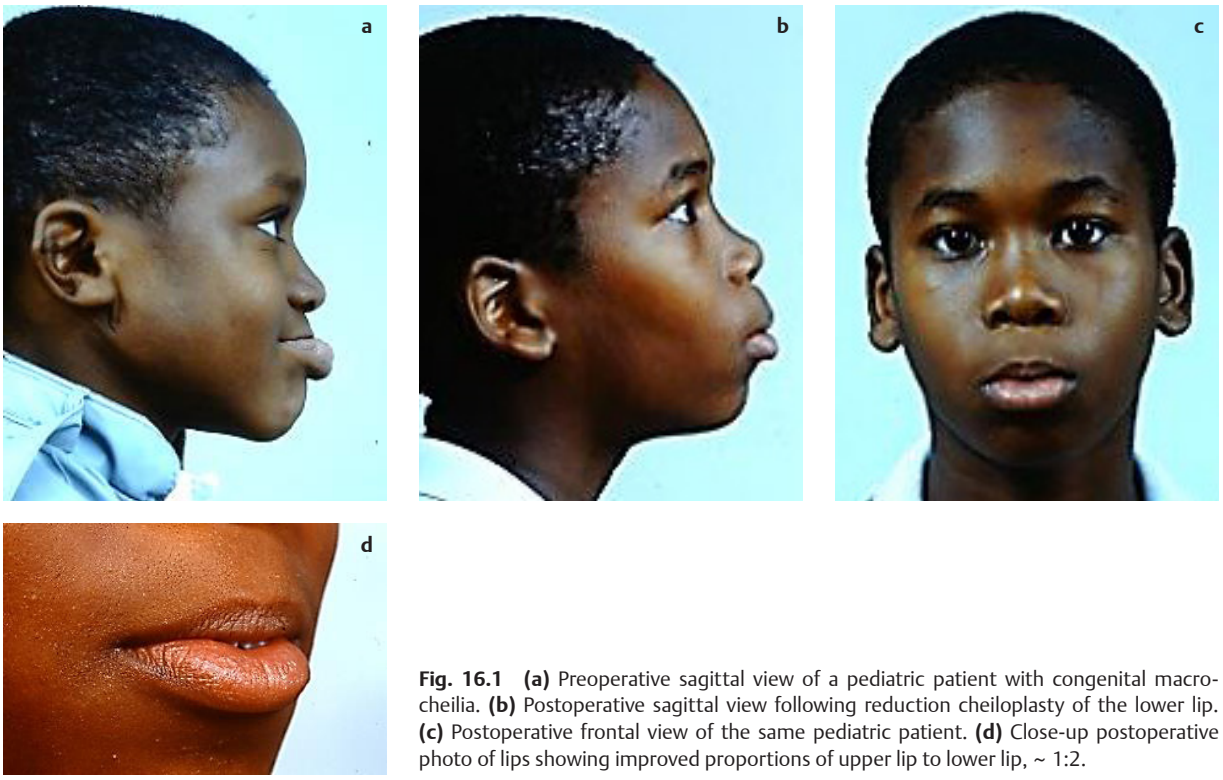

Fig. 16.1 **(a)** Preoperative sagittal view of a pediatric patient with congenital macrocheilia. **(b)** Postoperative sagittal view following reduction cheiloplasty of the lower lip. **(c)** Postoperative frontal view of the same pediatric patient. **(d)** Close-up postoperative photo of lips showing improved proportions of upper lip to lower lip, ~ 1:2.

other features, as seen in Ascher syndrome. Ascher syndrome is characterized by a double upper lip, blepharochalasis, and a nontoxic thyroid goiter.[5] Occasionally, double lip interferes with speech, mastication, and the ability to wear dentures.[6] Surgical management is considered for these cases but is more often performed for cosmetic reasons.

Labial pits are a congenital defect, often inherited in an autosomal dominant fashion, and are commonly associated with van der Woude syndrome. This syndrome presents variably with other traits, including cleft lip, cleft palate, and absent teeth. Labial pits usually present medially, on the vermilion portion of the lower lip. However, their presentation can be highly variable. They can occur singly or doubly and along the inner lip, outer lip, or margin between the inner and outer lip. Occasionally, a small mound of raised tissue is seen in place of a pit, as in the microform type.[7]

Cheilitis granulomatosa is an idiopathic, persistent swelling of the lip that is characterized histologically by a non-caseating granulomatous inflammation. It can occur in isolation or with other traits, as seen in Melkersson-Rosenthal syndrome, which also includes facial palsy and a plicated tongue.[8] Management includes dietary modifications, antibiotics, and systemic or intralesional corticosteroids for milder forms. Reduction cheiloplasty is performed when the swelling becomes cosmetically deforming and functionally debilitating.[9,10]

Pseudomacrocheilia has been used to describe the effect that underlying dento-alveolar abnormalities have on projecting lips, giving the appearance of abnormally enlarged and protuberant lips.[11] Thus, prior to any surgical intervention of macrocheilia, it is important to rule out other causes that may have other methods of management **(Fig. 16.2)**.

Lastly, macrostomia should not be mistaken for macrocheilia. The former may occur with branchial arch syndromes or in isolation. Macrostomia involves an expanded mouth and abnormal commissures displaced inferolaterally. Associated problems may include drooling, chronic skin irritation, and poor cosmesis, suggesting premature aging or neurological disorders. Repair of macrostomia typically involves reconstruction of the commissures **(Fig. 16.3)**.

Fig. 16.2 Pseudomacrocheilia due to maxillary dento-alveolar abnormality and the subsequent appearance of enlarged, overly protrusive lips.

16.5 Characteristics of the Ethnic Lip

In general, ethnic lips appear larger than Caucasian lips. The ethnic lip has been described as diffusely enlarged, with thickening of the dermis, mucosa, submucosa, glands, and muscle.[12] More apparent is the contribution of redundant mucosa and hyperplastic minor salivary glands, which can measure between 2 and 4 mm.[13,14]

Recent studies have begun to quantify and describe the differences between ethnic lips and Caucasian lips. Farkas et al measured vermilion heights in male and female African Americans and Caucasians. The African-American male was found to have an average upper lip height of 13.3 mm and an average lower lip height of 13.2 mm. The African-American female had an average upper lip height of 13.6 mm and lower lip height of 13.8 mm. Caucasian males were found to have average vermilion heights of 8.0 and 8.7 mm for upper and lower lips, respectively, while Caucasian females averaged heights for upper and lower lip of 9.3 and 9.4 mm, respectively.[15]

The ethnic lip is also more protrusive. Anthropomorphic features of the ethnic face may contribute to the significant appearance of protrusion **(Fig. 16.2)**. Sutter et al found that African Americans had greater midfacial height, which may enhance the perception of lip prominence.[16] Similarly, Chinese adults were found to have shorter midfaces and more convex facial profiles than Caucasians, which may further enhance their more protrusive upper and lower lips.[17] Cotton et al also found that African Americans often exhibited bimaxillary dental protrusion and larger anteroposterior differences between the maxilla and mandible, which may further contribute to the perception of upper lip fullness and protrusion.[18]

Several studies have shown that not only do the size and protrusion of lips vary among ethnicities, but aesthetic standards also vary across ethnic groups. Asians and Hispanic Americans prefer a more retrusive and thinner lip, while blacks prefer a more protrusive profile.[19–22] The preferred soft tissue profiles for African Americans do not fall within the normal values for whites. A more convex profile is preferred for African Americans.[23] Several studies have

Fig. 16.3 **(a)** Preoperative photo of macrostomia. Patient has to elevate lateral commissures to prevent drooling. Chronic skin irritation from saliva is seen at the commissures. **(b)** Intraoperative view of macrostomia repair with Z-plasties. Left commissure is tighter and more elevated after Z-plasty. Right commissure shows the surgical markings for Z-plasty repair. **(c)** Intraoperative view of macrostomia repair with Z-plasties. **(d)** Postoperative photo of patient following commissure Z-plasties for repair of macrostomia. Drooling and skin irritation have been eliminated and patient has a more cosmetically pleasing appearance.

attempted to describe the aesthetic standards of different ethnic groups.[15,24–27] Rather than trying to achieve a singly defined aesthetic ideal, the goals of aesthetic surgery have moved toward refining features based on patient preferences, the surgeon's aesthetic sense, and an ethnocentric balance for a more natural appearance.[22,28,29] Thus, to have a successful surgical outcome for lip reduction, not only should a thorough anatomic analysis of the lip be performed, but also detailed discussion of the individual's preference should occur.

16.6 Technique of Lip Reduction

Reduction cheiloplasty is a simple, yet effective procedure. It involves the resection of mucous membrane and underlying minor salivary glands, followed by internal rotation and repositioning of the pouty lip. Due to intraoral contamination, reduction cheiloplasty should be reserved as the last procedure if it is done in sequence with other procedures, such as rhinoplasty and mentoplasty. Reduction cheiloplasty can easily be done under local anesthesia in the clinical setting.

The mucosa is marked along the wet line and carried slightly intraorally in the region of the commissure **(Fig. 16.4a)**. The lip is then infiltrated with a minimum of 2–3 mL of 1% lidocaine with 1:100,000 epinephrine. Care should be taken not to inject in excess, which will balloon and distort the tissues. A 4 × 4 cm sponge is place in each buccal sulcus. The lip is then everted at the right and left commissure by placing a thumb and forefinger on opposite sides of the lip at the commissure and putting it under tension with lateral traction. At the junction of the wet line, a No. 15 blade is used to remove an ellipse of mucosa 1–2 cm wide, along with the underlying minor salivary glands **(Fig. 16.4b)**. The entire resection must be internal to the wet line to camouflage the scar. If the muscularis is not violated, hemostasis is easily achieved with pressure **(Fig. 16.4c)**. Electrocautery is avoided if possible, as postoperative edema and subsequent tissue trauma are directly related to thermal injury. Without undermining, the mucosa is reapproximated with a 4–0 silk suture **(Fig. 16.4d)**. Silk suture is preferred because it lies flat when wet and is less detectable by the patient. When possible, a running suture is placed, because it better coapts mucosal vessels and markedly decreases any oozing.

The upper lip is more pouty and fuller, and the lower lip is usually less bulky but more greatly everted. The pattern of surgical excision must vary to take these differences into account. A bikini-shaped excision has been described to

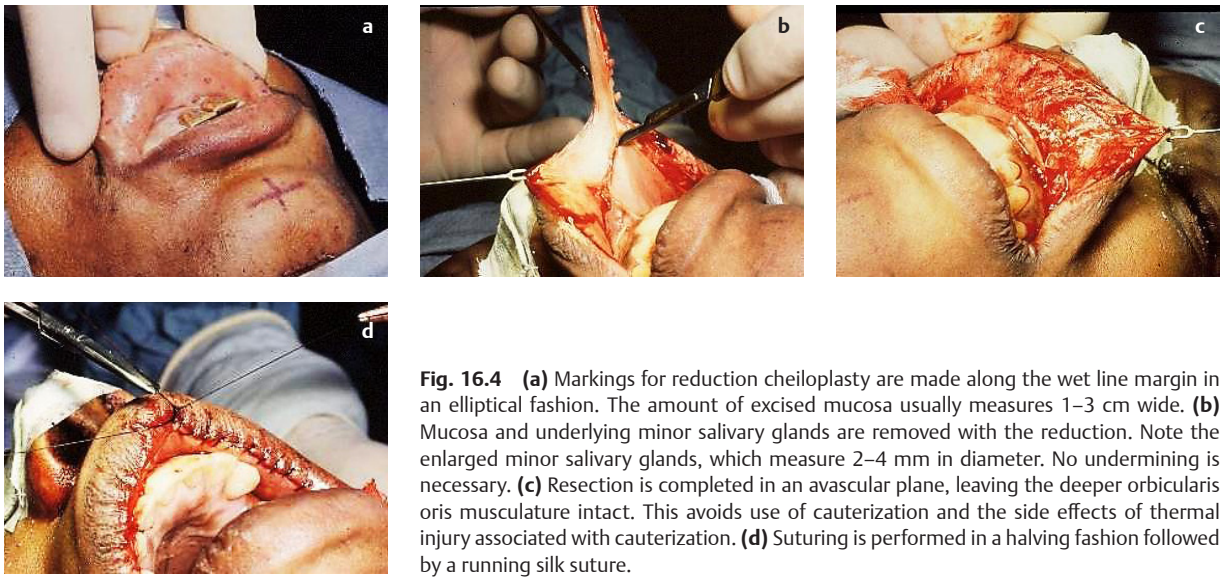

Fig. 16.4 **(a)** Markings for reduction cheiloplasty are made along the wet line margin in an elliptical fashion. The amount of excised mucosa usually measures 1–3 cm wide. **(b)** Mucosa and underlying minor salivary glands are removed with the reduction. Note the enlarged minor salivary glands, which measure 2–4 mm in diameter. No undermining is necessary. **(c)** Resection is completed in an avascular plane, leaving the deeper orbicularis oris musculature intact. This avoids use of cauterization and the side effects of thermal injury associated with cauterization. **(d)** Suturing is performed in a halving fashion followed by a running silk suture.

help preserve lip contour.[30] The excision may be interrupted at mid lip to maintain projection of the median tubercle.[12] A transverse W-plasty excision can be used to avoid dog ears and postoperative scar contracture.[31] This is usually not necessary if the halving technique is applied to close the upper and lower mucosal incisions. A vertically oriented wedge excision, typically performed for the grossly deformed lip with Melkersson-Rosenthal syndrome, may be considered to narrow the horizontal lip width.[32]

The patient is placed on a liquid to soft diet for 2–3 days and is instructed to keep oral activity to a minimum. Patients are also instructed to avoid acidic and salty food and drink for the first few postoperative days. Antibiotics are not usually prescribed for cheiloplasty but are employed if additional procedures are utilized. Some drooling and lip incompetency may be present postoperatively for up to two weeks. Application of iced saline sponges is routinely recommended to help decrease swelling. Sutures are removed on postoperative day 4 (**Fig. 16.5**).

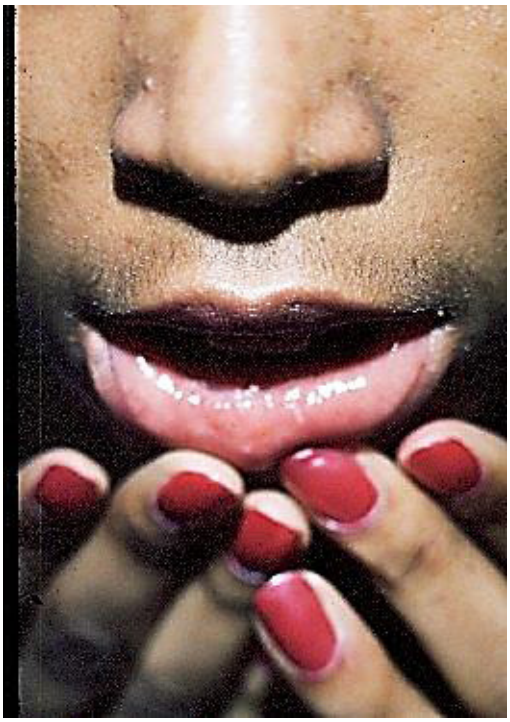

Fig. 16.5 Postoperative image of the incision after lower lip reduction cheiloplasty. The incision is barely perceptible.

16.7 Complications

Postoperative complications are rare. Hematoma may result from poor hemostasis and improperly closing dead space,[33] but hematoma is extremely unlikely if there has been no violation of the muscularis. Prolonged numbness may occur but is also very unlikely. Patients should be cautioned about smoking or eating hot foods until normal sensation returns. Granulation tissue formation occurs occasionally and can be treated with cauterization or injection of corticosteroids. Asymmetry, over-reduction, or under-reduction may result, particularly for the inexperienced surgeon.

16.8 Comment

Reduction cheiloplasty may offer a patient with ethnically full lips a more harmonious facial appearance. The procedure is simple and effective and is associated with few complications. Macrocheilia is often accompanied by other profile deformities, such as a depressed nasal dorsum or retracted chin. Reduction cheiloplasty can be conveniently performed as an adjunctive procedure alone or in conjunction with other cosmetic procedures, such as rhinoplasty and genioplasty, to achieve a more balanced profile (**Fig. 16.6, Fig. 16.7**). The technique described above may also be applied in other acquired or congenital disorders, such as chronic cheilitis (**Fig. 16.8**) or cleft lip/nasal deformity (**Fig. 16.9**). When applied in the appropriately selected patient, this simple technique can produce a cosmetically balanced, subtle, and natural-appearing lip.

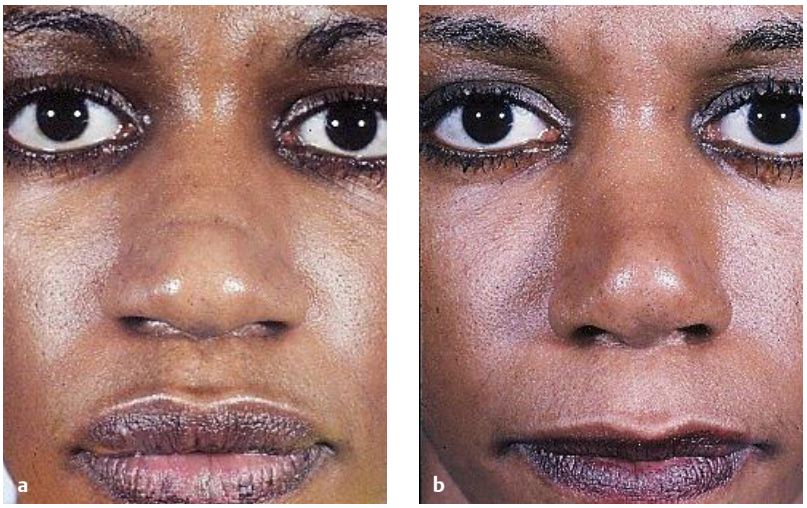

Fig. 16.6 **(a)** Preoperative frontal image of patient with ethnically enlarged lips and wide nose. **(b)** Postoperative image of the patient after rhinoplasty, alar base narrowing, and reduction cheiloplasty, which adjunctively restore harmony and femininity to her face.

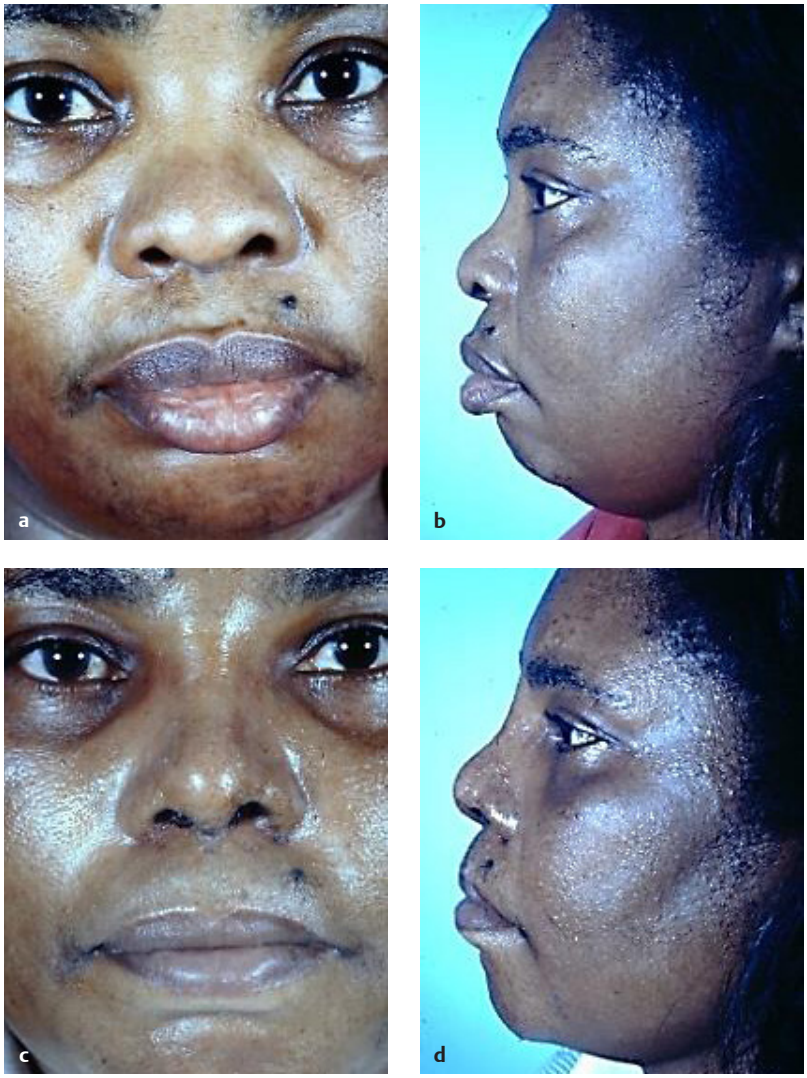

Fig. 16.7 **(a)** Preoperative photo of patient with ethnically enlarged lips and wide nose. **(b)** Preoperative sagittal view reveals a bulbous nasal tip, protrusive lips, and a retrusive chin. **(c)** Postoperative frontal frontal view of patient after rhinoplasty, reduction cheiloplasty, and chin implant. **(d)** Postoperative sagittal view reveals a more balanced profile with less protrusive lips.

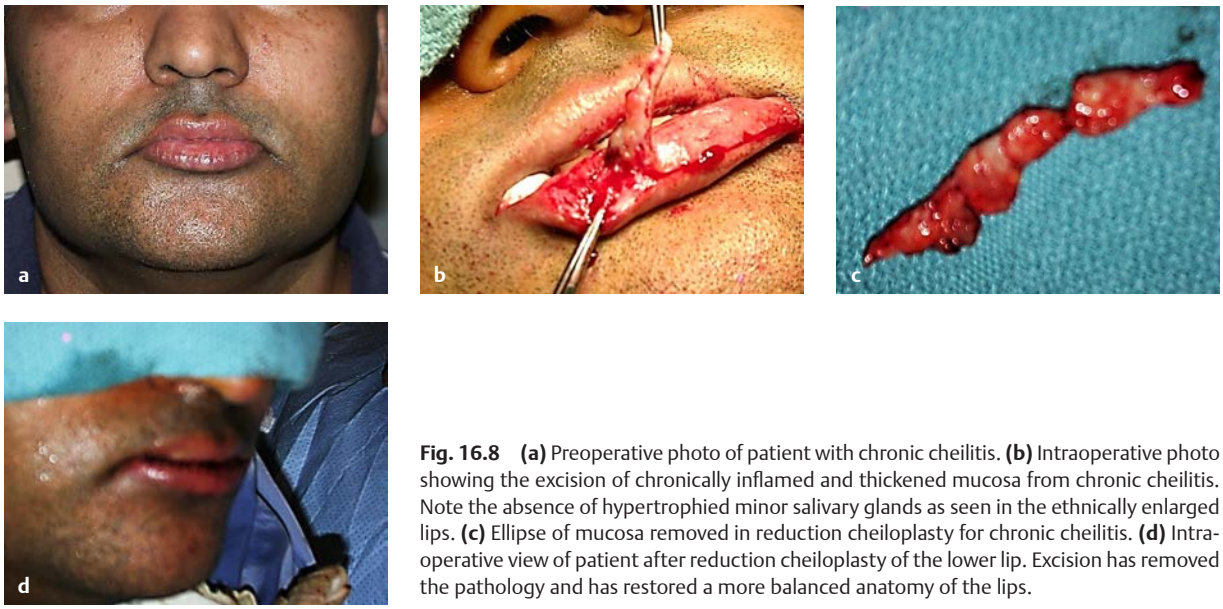

Fig. 16.8 **(a)** Preoperative photo of patient with chronic cheilitis. **(b)** Intraoperative photo showing the excision of chronically inflamed and thickened mucosa from chronic cheilitis. Note the absence of hypertrophied minor salivary glands as seen in the ethnically enlarged lips. **(c)** Ellipse of mucosa removed in reduction cheiloplasty for chronic cheilitis. **(d)** Intraoperative view of patient after reduction cheiloplasty of the lower lip. Excision has removed the pathology and has restored a more balanced anatomy of the lips.

Fig. 16.9 **(a)** Preoperative frontal view of patient with unilateral cleft lip and nasal deformity following primary repair. **(b)** Base view of cleft lip and nasal deformity. The excessive width of the dry vermilion largely contributes to upper lip protrusion. **(c)** Preoperative profile of cleft lip and nasal deformity. Excessively protrusive upper lip creates the perception of chin retrusion. **(d)** Postoperative frontal view following upper lip reduction cheiloplasty and cleft nose rhinoplasty. **(e)** Postoperative base view shows significant deprojection of the upper lip. **(f)** Postoperative sagittal view reveals a more balanced profile and elimination of the appearance of a retruded chin.

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