Treatment of the Aging Nose

Editor’s Note: My thanks to the moderator, Ronald P. Gruber, MD (board-certified plastic surgeon and ASAPS member, Oakland, CA); and to panelists Stephen E. Metzinger, MD (board-certified plastic surgeon and ASAPS member, Metairie, LA); Ira D. Papel, MD (board-certified otolaryngologist and facial plastic surgeon, Baltimore, MD); and Nicolas Tabbal, MD (board-certified plastic surgeon and ASAPS member, New York, NY), for sharing their opinions and clinical experience.

Dr. Gruber: Since this panel is about the aging or senile nose, most of the patients under discussion will be older. This topic is significant because people tend to have weaker tissues as they age. This weakness, coupled with the effect of gravity, results in patients who suffer not only from the aesthetic problems of an elongated nose, but also from problems of airway obstruction. Another factor to consider when treating these patients is that they have different expectations from surgery than younger patients.

The first patient is a 68-year-old woman who was not specific about her nasal deformity; she simply wanted an “improved appearance” of her nose (Figure 1). Dr. Tabbal, how would you approach this patient? Would you have reservations about treating her?

Dr. Tabbal: What strikes me is that if this patient is looking for ways to rejuvenate or improve her appearance, then she should consider other treatment modalities for facial rejuvenation since her nose is quite benign. She has diminished skin elasticity over the bridge, and the skin of the nasal lobule is quite thick. If she wants to improve her nasal appearance, changes would have to be conservative. Anatomically, this is not a difficult nose to improve. I would use a closed approach, performing a very conservative lowering of her dorsum, shortening the nose, and probably narrowing her nasal base. I would be cautious with the osteotomies because patients in this age group tend to have brittle nasal bones.

Dr. Gruber: Dr. Tabbal, when a patient of this age consults with you and wants the nose, and the nose only, improved, does that concern you in terms of whether or not the patient will be satisfied after you perform a rhinoplasty?

Dr. Metzinger: The emotional and psychological expectations of this patient concern me more than anatomic considerations. She is in her 60s and has never undergone cosmetic surgery. All of a sudden, she decides that she wants to change her nasal appearance. In my mind, unless she has a very specific reason, such as functional breathing problems, her sudden desire to improve her nose is a red flag.

Dr. Gruber: Dr. Papel, assuming she is a good candidate psychologically, would you do anything to change the length of her nose or her nasolabial angle?

Dr. Papel: Any changes I make would not be drastic. On the lateral view, you can see a mild hump, which is not difficult to improve. Her nasolabial angle is just a shade under 90 degrees, so it could be rotated a bit. She does have fairly thick skin, which is evident on her anterior-posterior view.

I would start with an open approach, taking care of that small hump, leaving the radix line just about where it is. Very conservative alar wedges would reduce some of the bulk laterally. My lower lateral cartilage technique would include minimal resection of cartilage. I would...
shorten the cartilaginous septum or use a “tongue-and-groove” approach to increase tip rotation. In terms of osteotomies, I would wait to see if they were necessary at the time.

**Dr. Gruber:** The next patient is a 61-year-old man who complains that the downward curve of his nose is affecting his self confidence at work (Figure 2). In his opinion, the appearance of his nose is “sinister.” Assume that he is a normal, healthy male with no unreasonable expectations. Dr. Metzinger, please analyze the problem from a psychological and physical standpoint.

**Dr. Metzinger:** I think his motivation is credible and that he wants to improve his appearance for professional reasons. He is a man who has a need to feel better about himself. On examining the nose, he appears to have a thickened skin–soft tissue envelope. His nasolabial angle is at about 90 degrees, and his nose appears to be straight. He does have a ptotic tip that may appear worse when he smiles. We do not have a
photo in which he is smiling, but it looks as if his nose tilts down, which a smile may accentuate. He does not appear to have distortion in the upper or middle third vault, and he has not complained of breathing problems.

The base of his nose is a bit wide, and the tip is somewhat broader than desired. I would use an endonasal approach and try to rotate the nose slightly cephalically. I would try to turn the tip up and increase its projection. I would not attempt any hump removal, and I would not perform osteotomies in this patient. I would use a suture technique in a very conservative fashion, with a columella strut (just to add a little strength to the tip) plus or minus a tip graft, and perform a very conservative cephalic trim to thin the supratip area a little bit. I would try, to a minimal degree, to do what has been referred to as lipoplication within the skin/soft tissue envelope.

**Dr. Gruber:** Dr. Papel, please give me your opinion about 3 things: (1) the use of a tip graft, (2) the use of a radix graft, and (3) the need for nasal tip rotation.

**Dr. Papel:** I agree with a lot of what Dr. Metzinger said. The problem is really in the lower third of the nose, where he has a lack of tip projection. Looking at his subnasal view, he has a relatively short columella in proportion to the nasal base view. He also has fairly thick skin. When I see that ptotic tip with thick skin and a full supratip area, I worry about problems with tip support. I think that a tip graft is very important in this type of nose, and a significant columella strut would provide a small amount of rotation. I would term this a “tip-only” graft, meaning on top of the domes. I also would use some transdomal sutures for additional support. My technique, therefore, would include a columella strut, transdomal sutures, and a tip graft for support and projection.

Regarding a radix graft, I think that his radix is at a reasonably good height, and it would suffice to increase tip projection and perhaps trim a bit of septum in the supratip area. I would not use a radix graft here because I think the dorsum would be well defined without it.

**Dr. Gruber:** Dr. Tabbal, it’s been mentioned twice that this is a gentlemen with very thick skin, and I agree. Does that raise a concern for you with regard to using an open approach? Many say that an open approach creates more fibrosis than a closed rhinoplasty, and therefore thick-skinned patients are not as good candidates for an open approach. Do you agree?

**Dr. Tabbal:** On the contrary, I think the open approach can definitely work to our advantage in this patient. In the presence of such thick skin, it is essential to provide stable support and projection to the nasal tip. This is best achieved with the use of a columellar strut and a shield graft using the open technique. The increased edema in the tip is a small price to pay for the predictability of the outcome.

It would be a mistake in this patient to lower the dorsum in the presence of such thick nasal tissues. I agree with Drs. Papel and Metzinger that the profile should be left unchanged with possibly some minimal lowering of the septal angle. I would be inclined instead to consider augmenting the radix with a bruised cartilage graft.

**Dr. Gruber:** Dr. Tabbal, I have 2 questions for you: (1) What do you worry about in this kind of a patient? (2) When you see a patient like this, who has fullness in the nasion region between the eyebrows, and fullness in the radix region, do you tend to overcorrect the reduction in anticipation of some filling in with fibrous tissue?

**Dr. Tabbal:** This is a pleasant looking 71-year-old woman. I would have
definite misgivings about recommending nasal surgery to patients in this age group. I would try to talk her out of this undertaking, even though one could offer her some aesthetic improvements. Anatomically, she has a slanting forehead that magnifies the lack of depth of the radix. She has a long skin envelope with an amorphous tip, and I am not sure I could achieve a whole lot with her anatomy. I would be very conservative, and would try to lower her radix as much as possible. We know that this area of the nasal anatomy is somewhat problematic since the local soft tissues tend to mask any improvement achieved by rasping the bony radix. Nevertheless, this is the kind of patient I would discourage from having nasal surgery.

Dr. Gruber: Dr. Metzinger, please give us your assessment and, in particular, address the question about the need to overcorrect in the nasion and radix region.

Dr. Metzinger: I agree, if you are going to lower the radix then you will need to overcorrect in the nasion region. If you are going to see any improvement here, I do not think a glabellar rasp alone would work. You would have to perform a formal “wedge” resection, but I think she would fibrose afterwards. The question in my mind is: if you make that sort of radical change, will you do more harm than good? You may want to take a more conservative approach. I do agree that you have to overcorrect to make any kind of change in this area.

I would like to bring up some concerns I have regarding this patient’s airway. If we work on the area of the middle vault, removing that hump, I think she will be set up for collapse. She is already weak and ptotic, and if she does not have preexisting airway conditions, you could cause them if you do too much. We have not really discussed what happens when you drop the dorsum a little bit, particularly in the middle third.

Dr. Gruber: I agree that she needs a humpectomy. However, I am unclear as to why there should be an airway problem as a result. The standard treatment after a humpectomy would be to use spreader grafts or spreader flaps to restore integrity of the internal nasal valves. Then we are unlikely to have an airway problem as a result of the humpectomy.

The next patient is a 74-year-old woman who complains of a residual hump in her nose (Figure 4). The nose is turned down and crooked. She did have a prior rhinoplasty a year ago and is simply not satisfied with the results. Dr. Tabbal, please review her anatomy and your concerns about the kind of surgical problems that might result with this kind of anatomy.

Dr. Tabbal: What strikes me about this patient is the apparent poor quality of her nasal soft tissues. There seems to be evidence of previous basal cell carcinoma excisions over her nasal bridge. I am referring to the
areas of hypopigmentation. Severe telangiectasias are scattered over the nose and cheeks. The skin appears brittle and thin. Considering the poor quality of these tissues, I would in principle be concerned about operating on this nose. However, her deformity is quite significant, and it would be unfair to deny her a correction purely on such grounds.

There is a significant residual dorsal hump with some deviation of the bony pyramid to the left. I would improve the dorsum using the closed approach. I would be as delicate as possible in dealing with the soft tissue envelope. I would probably perform osteotomies because the bony pyramid is so asymmetrical. It is impossible for me to tell, without palpating the nose, whether the tip can be improved or not. What makes surgery appropriate here, in my opinion, is the severity of the problem in spite of the poor quality of the soft tissue.

Dr. Gruber: Dr. Metzinger, I would like you to address the tissue quality in this patient. Do you feel that in each and every rhinoplasty, whether the patient is old or young, telangiectasia can be expected to worsen? And, if so, do the problems of telangiectasia and erythema influence whether you would do an open versus closed rhinoplasty?

Dr. Metzinger: A closed approach will work better in this patient. Either an open or closed approach can make telangiectasia worse. I am wondering if she has had radiation therapy for basal cell carcinoma; that is how poor the quality of the skin appears. I do think you have to tell the patient in the preoperative consultation that the telangiectasia can be made worse and that she may require specific postoperative treatment to deal with it, whether it be skin resurfacing or intense pulsed light (IPL) treatment. I also agree with Dr. Tabbal that she would probably need an osteotomy, and I would try to put some sort of camouflage on top of that dorsum, whether it be temporalis fascia or Alloderm (LifeCell Corp., Branchburg, NJ). I would try to make that skin/soft tissue envelope a little thicker, and I think I would add that to any sort of framework reconstruction that I might do.

Dr. Gruber: Dr. Papel, could you expand on the surgical plan?

Dr. Papel: I agree that the soft tissue envelope is a major problem. She has had prior surgery, and she appears to have had a basal cell treatment, either with cryosurgery, Mohs surgery, or excision; it is difficult to know from these photos.

Dr. Gruber: She has not had any prior radiation. These are the telangiectatic and scarring effects of prior rhinoplasties.

Dr. Papel: If the telangiectasia is a result of prior rhinoplasty, then most likely the level of dissection was not correct, and the subcutaneous tissue was damaged and thinned during the prior surgery. Regarding the best approach, I do
not think it makes a big difference whether you approach it internally or externally. What is important here is the protection of whatever soft tissue envelope she has, as well as straightening the skeleton and improving the dorsal line. I also would like to give her more rotation, and that can be done either through a caudal septal resection or possibly a lateral crural overlay technique. Then I would also try to thicken the soft tissue envelope, as Dr. Metzinger stated, by using either a dermal graft, temporalis fascia, or homograft Alloderm. I would follow that up after a couple of months of healing with some kind of vascular laser or light therapy. Perhaps an IPL would help some of these telangiectasias, at least temporarily. But, I would expect that they would recur over time.

**Dr. Gruber:** The last patient is a 55-year-old man who complains of breathing difficulty and also does not like the fact that his nose has a very “turned-down” appearance, practically touching his upper lip (Figure 5). Dr. Metzinger, how would you analyze this nose? What might you anticipate surgically?

**Dr. Metzinger:** I am wondering, does this patient wear false teeth?

**Dr. Gruber:** He does not wear false teeth, but he does have an overbite. Otherwise, there is nothing unusual about his maxilla. The lip is obviously very prominent. I believe that is related to the direction of his teeth, but also some of it is related to the soft tissue.

**Dr. Metzinger:** Judging from the anterior-posterior view, his nose is wide and, once again, the skin soft tissue envelope appears to be thick. The tip appears to be asymmetric, with ptosis and columellar retraction. The lip is very, very large from the lateral view, and the nasolabial angle appears to be less than 60 degrees and is creating some external airway obstruction with his upper lip. Looking at the base view, he does have some nostril asymmetry and, probably, caudal septal deflection. Once again, he has a very short columella and what I would call an “infantile-type tip,” which is an amorphous tip with tiny splayed columella alar cartilages, rotated caudally and subluxed from their normal anatomic position. In terms of a surgical plan, I would start with the framework, and I believe he would benefit from some premaxillary augmentation. I think the nose needs to be rotated to about 90 degrees to defeminize it. In this particular patient, to truly lift the nose would require not only a strut and rotation with trimming of the caudal septum, but also actual suturing of the lower lateral cartilages to the upper lateral cartilages and dorsal septum. He might require a little trimming in the area of the septum superiorly at the superior septal angle, but I would be very conservative with that. I would also like to see what happens to the dorsum in terms of the increased projection with tip rotation.

**Figure 5. A-C.** This 55-year-old man complains of difficulty breathing and is unhappy with the turned-down appearance of his nose onto his upper lip.
In terms of the middle vault and nasal valve areas, if he does have an airway problem, he would probably need placement of spreader grafts, as well as flaring sutures. He appears to have heavy tissues, and I am not sure that doing all that would achieve all the rotation that I want.

In terms of the alar base, it does look a little bit wide. However, I probably would not do any alar base modification on this nose.

**Dr. Gruber:** Dr. Papel, could you focus on the nasolabial angle and the potential danger of overrotating the angle in someone whose angle is so abnormal? What would happen if you rotated this man’s nose even 15 degrees considering that his actual columella is almost horizontal now?

**Dr. Papel:** As I look at the lateral view of his nose, both at rest and smiling, what strikes me is not so much the nasolabial angle, which is probably close to 45 degrees, but the backward slant of his upper lip. He has a very retrusive maxilla, which creates a problem if you use a very stout cartilage graft. I would suspect that if I palpated this nose, I would find that the caudal septum has minimal strength. It looks like he has had trauma in the past, which may or may not have been recorded. If you just lift that tip with a strut, you will increase his columella show. He has 2 to 3, maybe 4, mm of show right now, and you will increase that, maybe by double. That certainly is a problem. With regard to reconstructing this, we are not going to find much septal cartilage to work with, and I doubt that auricular cartilage is going to have the strength that we need. So I would think about harvesting rib cartilage for premaxillary augmentation to bring that upper lip into a more favorable position.

I would very carefully place a columellar strut between the medial crura, not caudal to the medial crura but between the medial crura back toward where the septum should be. I think that the septum is probably absent here. This is an attempt to get rotation without excessive columellar show. Columellar show may also be the result of alar retraction, possibly due to old surgery or old trauma, and if that is the case, then either a rim graft or composite graft could be used to reduce the columellar show even further.

**Dr. Gruber:** Dr. Tabbal, would you please expand a bit on the critical issue of supporting his tip? Tell us 2 things: (1) how would you go about increasing the strength, assuming the use of a columellar strut; and (2) do you agree that the little bump on the dorsum is probably where the caudal end of his septum is, and that is why his tip is literally falling off the end of his nose?

**Dr. Tabbal:** I think it would be a major mistake to assume that by lowering this dorsum, one could improve this nasal profile. The main issues start at the septal angle, as you just mentioned. The long skin sleeve is literally falling off the end of his nose. The focus should be on providing a stable tip projection. I would be concerned that a columellar strut alone might not achieve enough tip derotation in this case. I would consider suturing the medial-crura to the dorsal septum using nonabsorbable sutures. This permanent fixation is the most secure means of achieving a stable and significant cephalic rotation of the severely plunging tip.

As far as the columellar strut is concerned, I would tend to use one that is wide at the base, so that narrow nasolabial angle is opened up. I would not consider a rib graft for this patient. I would, however, get his consent for the use of a conchal graft, in case his septum turns out to be a poor donor site.

**Dr. Gruber:** Dr. Metzinger, this is a very large, heavy nose that almost touches his upper lip, causing significant airway obstruction. Almost anything you do is going to be appreciated by him. If you have any further thoughts, would you share them with us?

**Dr. Metzinger:** In this patient, particularly if he is cartilage-depleted in the septum, I would try to use a resorbable mini-plate as a columellar strut rather than going to the rib. It is strong and rigid, and its use, both for spreader grafts and for lower lateral cartilage support, has been reported in the peer-reviewed literature. I think it is well tolerated and would allow more projection and rotation, rather than depending on weak ear cartilage or the depleted septum.

Reprint requests: Ronald P. Gruber, MD, 3318 Elm Street, Oakland, CA 94609.
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