

## Discussion: Use of Auricular Composite Graft in Rib Cartilage–Based Rhinoplasty for Contracted Nose Correction

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In their article, “Use of Auricular Composite Graft in Rib Cartilage–Based Rhinoplasty for Contracted Nose Correction,” Kim and Choi clearly describe their method to correct contracted noses.<sup>1</sup> The authors correctly point out that often not only are contracted noses short and underprojected, but the ala is contracted as well and needs to be addressed. The authors used an auricular composite graft to add to the deficient internal nasal/mucosal lining.

There are 3 fundamental steps required for successful correction of a contracted nose: skin envelope expansion; internal structural support with cartilage; and internal/mucosal nasal lining support. There are important preoperative preparation and intraoperative maneuvers that are worth discussing. For preoperative preparation, sufficient expansion of the skin envelope before surgery will greatly aid the desired outcome of surgery (amount of augmentation) and the ability to close the incision without tension. Skin expansion can be done by having the patient pull on the nose until the skin stretches. For severely contracted noses, manual skin stretches are often not sufficient. In these cases, injections of adipose-derived stromal cells are very helpful. Both methods are described in an article that my colleagues and I published in 2016 in *Plastic and Reconstructive Surgery* titled “Correction of Severely Contracted Nose.”<sup>2</sup> Videos demonstrating nasal skin expansion are included in that article. One advantage of our technique is that both the skin and the internal nasal lining are expanded, thus avoiding the need for an auricular composite graft consisting of skin and cartilage.

For intraoperative maneuvers, it is important to perform a dual-plane dissection. First, release

the skin and subcutaneous tissue from the capsule, and then dissect under the capsule. The capsule may be excised if it is too bulky, or it can be left in place to provide extra padding to the skin, as often the skin is thin and the skin quality is poor. Complete release of lower lateral cartilages from the upper lateral cartilage (scroll area), the hinge, and the septum is also paramount. This will allow the lower lateral cartilage to project to a more favorable tip position. My other colleagues and I have also published on this technique, in a 2014 *Plastic and Reconstructive Surgery Global Open* article titled “Effective Use of a Silicone-Induced Capsular Flap in Secondary Asian Rhinoplasty.”<sup>3</sup> As we discussed in that article, strong tip support via a septal extension graft or columellar graft is needed to support the dome of the lower lateral cartilage in position from the postoperative contractile force of the soft tissue that will occur.

Of the many great ideas from Kim and Choi’s article, the use of topical oxygen therapy was intriguing. I have noticed that the key to composite graft survival, as with any other graft survival, is preventing seroma or blood collection and immobility. I typically apply pullout sutures on a bolster to secure the graft. This type of composite graft is also useful for treating vestibular stenosis.

I would also recommend informing the patient of the potential donor-site ear deformity and showing pictures of potential changes in ear shape. Taking a composite graft is different from removing only the cartilage, as harvest of an auricular composite graft can leave a noticeable change in ear shape. In this article, there is only 1 set of patient photographs. It would have been worthwhile to see more patient photographs. Readers should note that not all contracted nose correction requires internal/mucosal lining support from the auricular composite graft, as some cases do not have this deficiency. Many Asian people have various forms of short noses. My colleague

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and I have categorized them based on short nasal tip, alar retraction, and columellar retraction, and studied their subtype occurrences based on 295 cases of short noses.<sup>4</sup>

Lastly, Kim and Choi point out that “autologous costal cartilage has one of the highest infection rates,” and this is attributed to a “high volume of graft material.” Many Asian rhinoplasty complications occur as a result of the use of silicone. In Asia, an overwhelming majority of augmentation rhinoplasty cases involve the use of silicone. Perhaps if the trend changes in Asia and autologous costal cartilages are used for rhinoplasty, the infection rates may increase, but we do not know that at this point. Based on surgical principles and an understanding of the implant–host response, foreign material would induce a more inflammatory response than autologous cartilage. It has been my experience that infection is more related to clinical or subclinical hematoma formation and/or prolonged seroma formation.

I would like to congratulate Kim and Choi on their study and their thoughtful research and approach to this complex and difficult condition. As more patients are receiving rhinoplasty with

silicone and revision rhinoplasty with, again, silicone implants, especially in Asia, more of these contracted rhinoplasty cases will challenge plastic surgeons.

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