Upper Lateral Cartilage Spreader Flaps in Rhinoplasty

During primary reduction rhinoplasty, when cartilaginous vault lowering is done, the excess height of the upper lateral cartilages is usually discarded. If lateral osteotomies are then necessary to close an open dorsum, overnarrowing of the osteocartilaginous vault may result. To prevent unwanted narrowing, prophylactic spreader grafts can help establish the normal horizontal 4 to 6 mm width of the mid dorsal skeletal lines.

An alternative to spreader grafts (particularly when there is no indication to enter the septum) is to preserve the excess height of the upper lateral cartilages and convert it to horizontal flaps to restore the normal T shape of the upper portion of the mid cartilaginous vault at the lower dorsal height.1 The obvious indications for this technique are either primary or secondary cases requiring enough dorsal cartilaginous septal reduction to allow conversion of the excess upper lateral cartilage vertical height to horizontal width.

**Technique**

Our technique includes the following steps (Figure 1).

1. Estimate the anticipated ideal width of the osteocartilaginous junction and cartilaginous vault.

2. Create subperichondrial tunnels with minimal dissection under the upper lateral cartilage.

3. Use a rasp to lower bony dorsum.

4. Separate carefully the upper lateral cartilages from the septum with a sharp knife from inside the submucosal tunnels, cutting very close to the septum, and protect the upper lateral cartilages while lowering the septum the prescribed amount.

5. Trim any excess upper lateral cartilage. The final dorsal width equals the sum of the two retained upper lateral cartilages plus the width of the septum.

6. Score the upper lateral cartilage along the proposed new lateral dorsal lines. The retained mucoperichondrial attachments on the undersurface as described above provide maximum support and stability. Although scoring is usually necessary, it may not be required if the upper lateral cartilages are flexible enough.

7. Before lateral osteotomy, suture each upper lateral cartilage to the cartilaginous septum with buried permanent sutures in two places on each side.

The advantages of this technique are the following:

1. It makes use of existing structures that might otherwise be discarded.

2. It avoids resecting the septum if not otherwise necessary or preserves limited septal cartilage for other necessary grafts such as a columellar strut, tip grafts, or alar struts.
3. It is relatively simple and provides the potential for variable and quite accurate dorsal width reconstruction.

The disadvantages of this technique include the following:

1. Open rhinoplasty considerably facilitates this procedure. However, it can be done in endonasal cases as easily as the use of conventional spreader grafts that must be sutured in place.

2. The end result may not create quite as stable a mid-vault as reconstruction with spreader grafts, which are used to provide support of the dorsal septal strut if it requires straightening and stabilization.

3. It is only applicable in cases of excess dorsal height of the cartilaginous vault or in the rare instance of increased width when the horizontal portion of the upper lateral cartilages can be retained and sutured to the septum.

We have used this technique almost exclusively for the past 2 years in primary rhinoplasties that required varying degrees of dorsal reduction. A high percentage of these cases were open rhinoplasties (Figure 2). However, we have also used this technique in endonasal cases (Figure 3).

To date, we have not had any complications such as cartilage edge palpability or postoperative airway problems. We believe we have significantly enhanced our ability to maintain or create adequate dorsal aesthetic lines. The technique seems reliable, as well as reproducible, and appeals to our instincts to achieve maximum tissue conservation in rhinoplasty.

Reference


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