Chapter 18. Radix Augmentation

- Hollowing in the area of the radix is not an uncommon concern. Radix grafts are used to augment a deficient nasofrontal angle or move the radix breakpoint superiorly (Figure 18-1). A low radix may contribute to the appearance of a short nose, and improvement is achieved by augmentation of the radix.
- On a lateral photograph of the patient, the surgeon should make an estimate of the amount of correction needed. No specific markings are required; however, the area planned for the subcutaneous pocket of the graft may be outlined on the skin. The eventual height of the radix will need to be determined on the table.
- Creation of a pocket in the region of the radix is via dissection over the dorsum. The dorsum may be approached by an endonasal or open nasal approach. Via the open approach, the radix is accessed via a columellar skin incision and standard dissection over the lower lateral cartilages and dorsum. Using the closed technique, an intranasal intercartilaginous incision extended along the caudal aspect of the cartilaginous septum may be used to expose the dorsum. A scissors is used to take the soft tissue off the underlying dorsum. At the level of the radix, a Freer elevator is used to complete the dissection in a subperiosteal plane. The soft tissue pocket should be irrigated with sterile saline prior to placement of a graft to remove any loose fragments.
- Augmentation of the radix may be performed with autogenous or alloplastic material. Autogenous material is recommended and can be obtained from one of several sources including the septum, rib, or ear. Septal cartilage serves as an ideal graft material if it is available. The cartilage should be gently crushed so that it is more malleable and less likely to be visible through the thinner skin overlying the radix. Two or more pieces of graft may be stacked and sutured together to increase height. The graft should be "fixed" into place to minimize postoperative malposition. This may be accomplished with a transcutaneous suture tied over a bolster and removed after 1 to 2 weeks. The suture is started through the skin just superior to the pocket for the graft and passed out through the access incision. It is passed through the graft outside the nose and then subcutaneously back up the dorsum and out of the skin just lateral to the other the end of the suture (Figure 18-2). A stiffer wire may also be placed through the skin and graft as alternate means of fixation. A simple dressing may suffice if tape is applied over the dorsal skin. The bolster an/or wire is frequently left in place for an average of 1 week to allow fixation of the graft but avoid a suture scar[1] (Figure 18-3).
- Radix augmentation at the superior portion of the nose will make the nose look shorter. In contrast, a low nasion that is augmented with a radix graft will increase nasal length.[2]
- *Pitfalls*:
  - Creation of too large a subcutaneous pocket for the graft without anchoring in place for a period of time by excessively wide dissection is likely to result in migration and ultimate malposition of the graft.
  - Radix augmentation may accentuate a narrow intercanthal distance, compromising facial aesthetics.
- *Tips*:
  - Dissection of the pocket should be limited and some means of holding the graft in place should be performed. Following ideal graft placement, the graft should be fixed in placed as indicated above.

REFERENCES

1. Becker D, Pastornek NJ. The radix graft in cosmetic rhinoplasty. *Arch Facial Plast Surg*. 2001;3:115.
2. Guyuron B. Dynamics in rhinoplasty. *Plast Reconstr Surg*. 2000;105:2257.

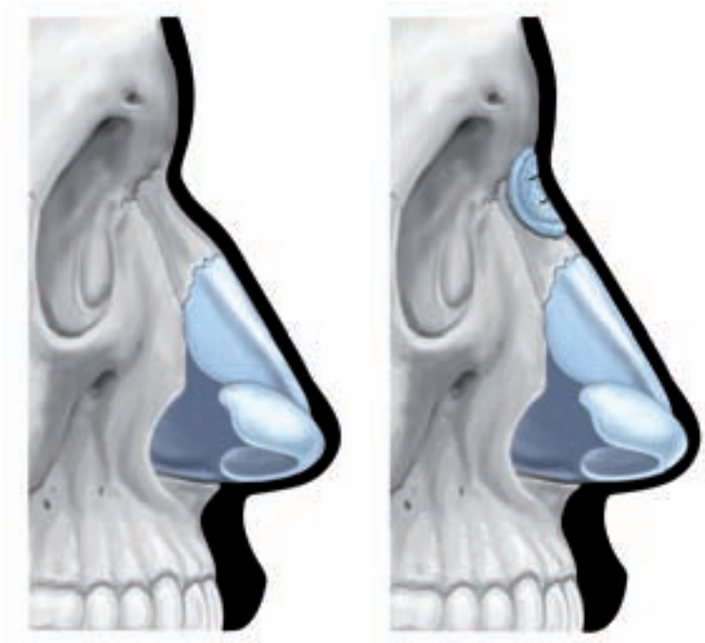

Figure 18-1. Deficit in the region of the radix with correction using a cartilage graft.

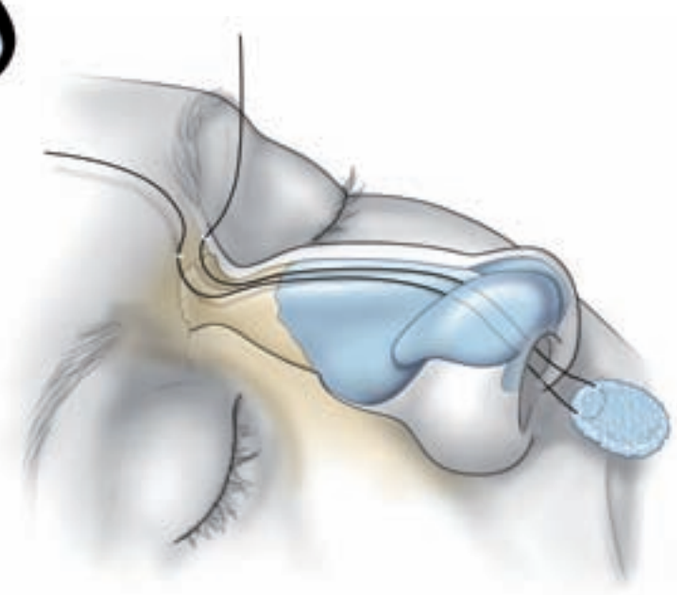

Figure 18-2. Placement of a radix graft with sutures through the skin and down the dorsum.

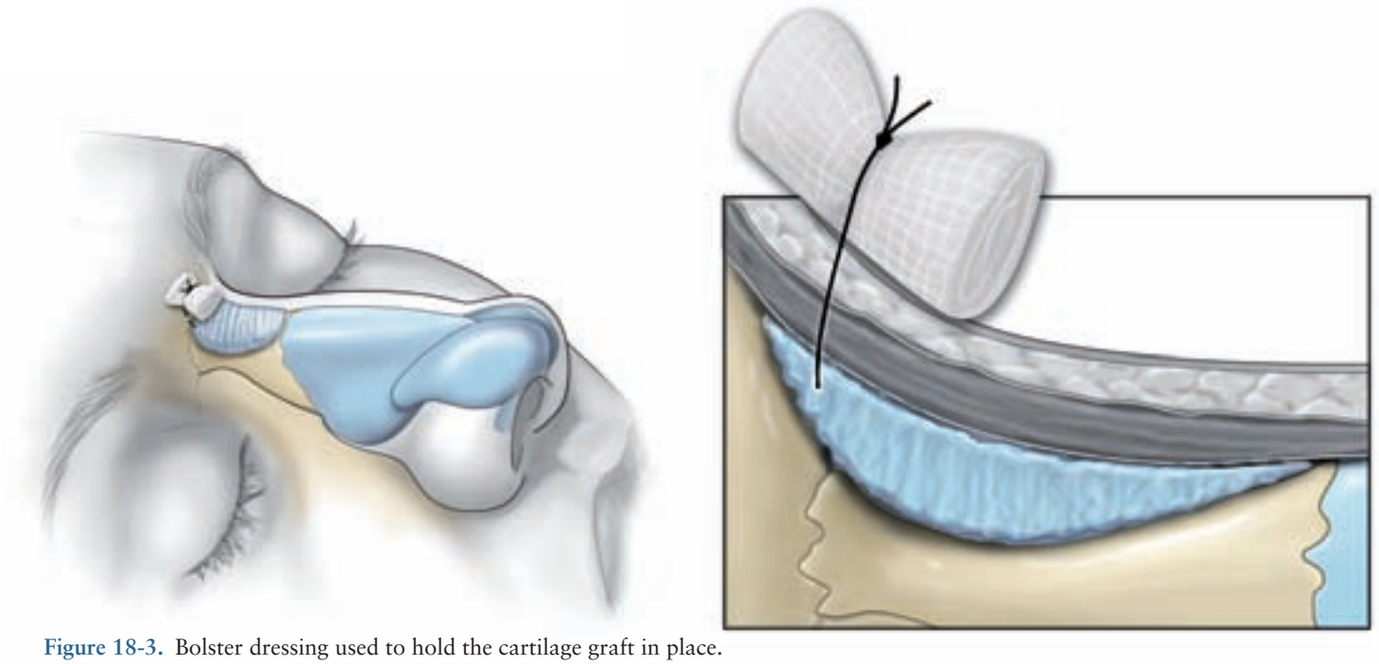

Figure 18-3. Bolster dressing used to hold the cartilage graft in place.