Chapter 17. Radix Reduction

- Patients with excessive anterior protrusion of the nasal bones in the area of the nasion are candidates for reduction of the radix (Figure 17-1).
- *Markings*: No specific markings are required; however, a rough estimate of the amount of reduction required should be decided.
- *Approach*: A variety of incisions may be used to approach the radix. Via an open approach, the radix may be accessed via a columellar incision and standard dissection over the lower lateral cartilages and dorsum. Using a closed technique, an intranasal intercartilaginous incision extended along the caudal aspect of the cartilaginous septum may be used to expose the dorsum.
- *Technique*: Dissection proceeds along the dorsal midline with a scissors. At the level of the nasal bones, a Freer or key elevator may be used to dissect in a subperiosteal plane. The bony prominence at the nasofrontal angle may then be reduced using a variety of rasps or, if available, a guarded burr, which is exposed only at its inferior, cutting aspect[1] (Figure 17-2). Often, a curved rasp mirrors the natural anatomy of the radix and provides the most controlled, efficacious reduction (Figure 17-3). Bone may also be removed with a Lempert rongeur to address the most superior aspects of the radix. At the conclusion of the reduction, the soft tissue pocket should be irrigated with sterile saline to remove any loose bone or soft tissue and then combined with other procedures on the nose if indicated. Closure is performed in the standard fashion.
- Radix reduction at the superior (cephalad) portion of the nose will increase nasal length because it moves the nasion superiorly.
- Postoperatively, a tape dressing beneath a molded plastic or plaster splint over the entire dorsum may be used to minimize edema over the area of resection and maintain contour.
- *Pitfalls*:
  - Because several muscles run through the region of the radix, bleeding in an area difficult to directly visualize may occur with vigorous dissection.
  - If additional lateral osteotomies of the nasal bones are planned, care should be taken to preserve some lateral attachments of soft tissue to the nasal bones so that the osteotomies do not leave free-floating fragments of bone.
  - Conservative reduction of the radix, which is safe, often does not achieve noticeable diminution in the anterior projection of the overlying soft tissue. More aggressive reduction, however, may lead to violation of the frontal sinus, injury to the underlying mucosa, or over-reduction.
  - Radix reduction may give the illusion of increased intercanthal distance and may increase nasal length.
- *Tips*:
  - Adequate infiltration of the radix with local anesthetic with epinephrine and allowing sufficient time to elapse between injection and manipulation will minimize bleeding during dissection.
  - The patient should also be aware that the amount of soft tissue reduction does not follow the bone in an equal amount and that the amount of reduction is ultimately limited.

REFERENCE

1. Guyuron B. Guarded burr for deepening of the nasofrontal junction. *Plast Reconstr Surg.* 1989;84:513.

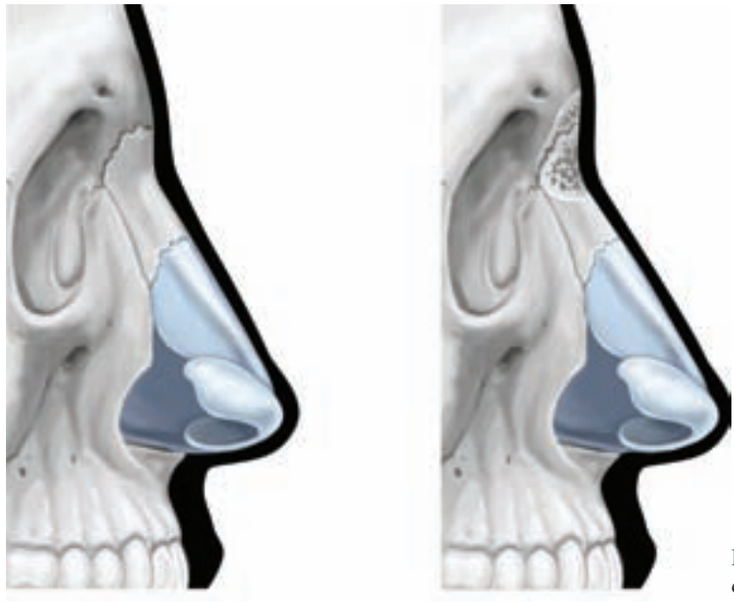

Figure 17-1. Uncorrected and corrected high radix.

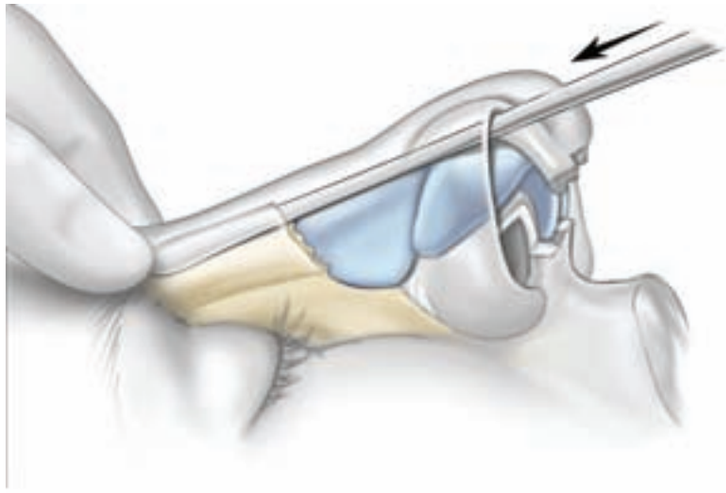

Figure 17-2. Reduction of the radix with a straight push rasp.

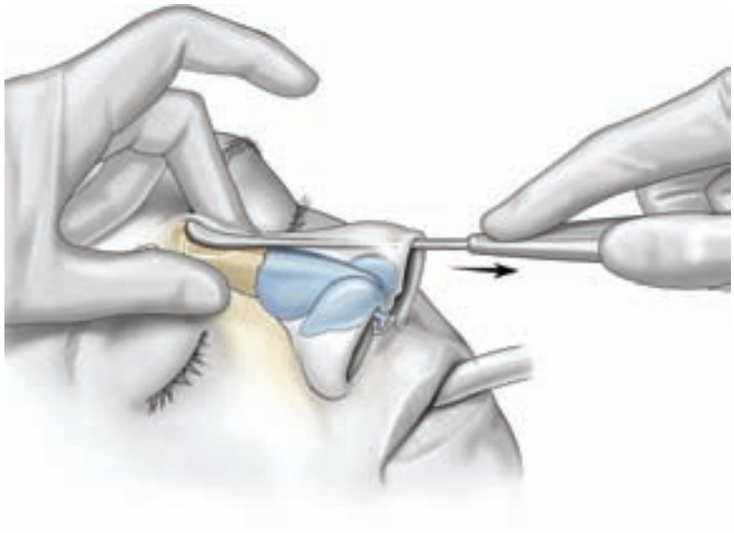

Figure 17-3. Schematic drawing depicting reduction of the radix with a curved pull rasp.