

# Lateral Crural Tensioning for Refinement of the Wide and Underprojected Nasal Tip: Rethinking the Lateral Crural Steal



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## KEYWORDS

- Wide nasal tip • Lateral crural steal • Caudal septal extension graft • Tongue-in-groove setback
- Alar rim graft

## KEY POINTS

- Excisional rhinoplasty techniques, such as the cephalic trim maneuver, often alter nasal tip size at the expense of structural stability.
- Effective refinement of the wide nasal tip does not mandate aggressive excision of the cephalic margin.
- The septal extension graft (SEG) creates a sturdy and stationary platform to allow precise positioning and suspension of the tip cartilage complex.
- The lateral crural steal (LCS) borrows from the overly long lateral crura to elongate the foreshortened medial crura to correct the alar cartilage length imbalance typical of the wide and underprojected nasal tip.
- In addition to cosmetic benefits of the traditional LCS, lateral crural tensioning (LCT) improves lower nasal sidewall tone and increases the threshold for dynamic nasal valve collapse by preserving the lateral crus and the nasal scroll and by stretching and tensioning the lateral crus.

## BACKGROUND

Refining the overly wide nasal tip is among the most common, yet also among the most difficult, challenges in cosmetic rhinoplasty. Until recently, surgical strategies to reduce tip width have been largely dependent on cartilage excision for alterations in lobular size and shape. Despite the immediate and discernable reduction in nasal tip size, aggressive cartilage excision often fails to enhance tip contour in a controlled and predictable manner. As a consequence, aggressive excision-based

techniques are increasingly recognized as haphazard, unpredictable, and disproportionately prone to undesirable postoperative contour deformities.<sup>1–11</sup> The outcome is frequently a nasal tip that is both unattractive and dysfunctional and one that usually deteriorates significantly over time (**Fig. 1**).

In response to the unacceptably high morbidity of aggressive excisional rhinoplasty techniques, most accomplished rhinoplasty surgeons have adopted strategies that preserve tip cartilage and/or augment skeletal tip support, thereby improving

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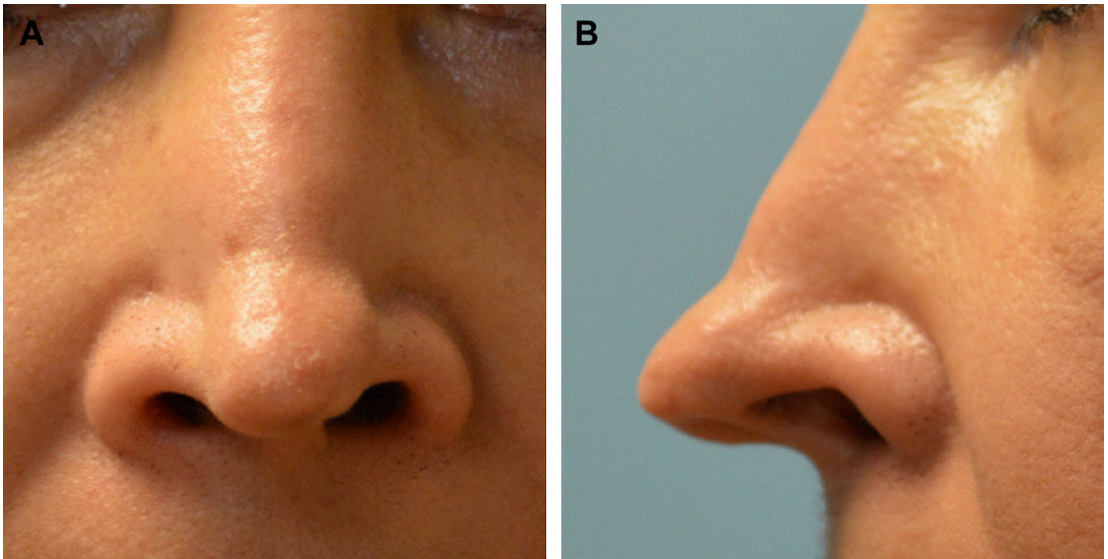
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**Fig. 1.** Nasal tip deformity from lateral crural over-resection. Frontal (A) and left profile (B) views of a severely over-resected nasal tip with compromised skeletal support. Note lobular pinching, tip bossae, supra-alar pinching, alar retraction, and tip asymmetry.

long-term contour stability and airway patency.<sup>1–15</sup> Although this trend is rapidly spreading among rhinoplasty enthusiasts, the number of failed rhinoplasty outcomes stemming from cartilage over-resection seems to be growing rapidly, suggesting that aggressive excisional techniques are still practiced widely even today.<sup>1</sup> Nonetheless, there are now safe and effective alternatives to excisional rhinoplasty in which little if any tip cartilage excision is required. These techniques seek to preserve the existing tip cartilage and to alter tip contour via suture techniques, cartilage repositioning, and/or augmentation grafting to achieve an elegant and stable tip contour. And because the overly wide nasal tip is perhaps the most common morphology prompting cosmetic tip surgery, mastery of nonexcisional/structurally based rhinoplasty techniques is essential for the contemporary rhinoplasty surgeon.

The lateral crural steal (LSC) is the pejorative name given to an effective and tissue-conservative technique of nasal tip refinement. Resurrected in the contemporary rhinoplasty literature by Kridel and colleagues in 1989,<sup>16</sup> the traditional LCS achieves several cosmetic improvements with one comparatively simple surgical maneuver: relocation of the domal apices. Moreover, unlike excisional rhinoplasty techniques, the traditional LCS is not contingent on aggressive cartilage excision to achieve tip refinement. Instead, the LCS uses redistribution and/or repositioning of the existing skeletal elements to derive a more attractive,

stable, and functional tip configuration. Although a modest amount of cartilage must be excised from the nasal dome when performing an aggressive LCS, cartilage removal is confined to the medial-most aspect of the lateral crus in an area of comparatively minimal structural consequence,<sup>11</sup> thereby preserving virtually all of the naturally derived skeletal support. And, when the traditional LCS is used in combination with a SEG, the LCS/SEG combination—herein referred to as LCT—becomes a far more potent and versatile surgical workhorse for tip refinement.<sup>1–3</sup> With skillful execution, LCT not only achieves contour elegance with reliable long-term contour stability but also serves to protect or improve nasal valve patency.

The overly wide nasal tip is perhaps the most common tip malformation encountered in cosmetic nasal surgery. Although excess tip width may occur in isolation, it more commonly occurs in combination with inadequate tip projection and/or tip ptosis (ie, inadequate tip rotation). Historically, treatment of the wide, underprojected, and ptotic nasal tip—herein referred to as the compound tip deformity (CTD)—has been directed at volume reduction of the nasal tip cartilages. However, the CTD stems from more than just oversized tip cartilages, and volumetric reduction alone seldom achieves a satisfactory tip contour. Optimal refinement of the CTD necessitates correction of each anatomic malformation contributing to the unsightly tip morphology, not just volume reduction. For the CTD, excessive rounding of the nasal

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