Improving the Supraalar Groove Aesthetic Subunit and Lateral Crura Convex-Concave Deformity

Ruben Guilarte, MD, PhD; and Baris Çakir, MD

Aesthetic Surgery Journal
2025, Vol 45(2) 141–147
Editorial Decision date: October 2, 2024; online publish-ahead-of-print October 14, 2024.
© The Author(s) 2024. Published by Oxford University Press on behalf of The Aesthetic Society. All rights reserved. For commercial re-use, please contact reprints@oup.com for reprints and translation rights for reprints. All other permissions can be obtained through our RightsLink service via the Permissions link on the article page on our site—for further information please contact journals.permissions@oup.com.
https://doi.org/10.1093/asj/sjae210
www.aestheticsurgeryjournal.com
OXFORD UNIVERSITY PRESS

Abstract

Background: Lateral crura surface problems are one of the most difficult challenges in nose tip surgery. Closed preservation rhinoplasty (CPR) is a revolutionary concept that keeps nose tip flexibility and elasticity. By solving lateral crura surface problems and keeping tip flexibility the surgeon will accomplish a sharper supraalar groove transition between the dorsum and the tip.

Objectives: The convex-concave lateral crura deformity (CCLCD) or S-shaped lateral crura is one of the biggest constraints to accomplishing a beautiful tip and dorsum-tip transition (DTT). This deformity is the reason for the commonly called parenthesis deformity of cephalic malposition. This LLC convex-concave shape creates a C-shaped shadow. This DTT is one of the key areas for accomplishing natural results, and it depends on different nose structures, not just the lower lateral cartilages (LLC).

Methods: A total of 560 rhinoplasty cases were studied retrospectively between September and December 2023. Three hundred and twenty patients had at least 1 year of follow-up. Patients had follow-up at 2 weeks, 1 month, 3 months, 6 months, and 1 year after surgery. No secondary rhinoplasty was included. Only 2 secondary septoplasty cases were included, without any nose skin undermining in the previous surgery. Surgical details were documented, including the 6 fundamental steps of this technique: (1) mucosal lower lateral incision, (2) dorsum subperichondral dissection and vertical scroll release, (3) lateral crura tail caudal release, lateral crura steal and slide-under flap lateralization, (4) upper lateral caudal resection, (5) vertical scroll reconstruction, and (6) turning point extension graft.

Results: Three hundred and twenty patients had at least 1 year of follow-up. In total, 516 patients underwent a closed approach and 47 patients an open approach. All patients had subperichondral dissection of the hump envelope. All patients who underwent a closed approach had a low-strip letdown dorsal preservation technique. All patients who underwent an open approach had a structural technique with spreader flaps or grafts at the keystone area. All the patients underwent osteotomies with a piezoelectric device. Twenty-three revisional surgeries were necessary.

Conclusions: CPR taught us how important ligament and soft tissue preservation are. We learned that the less damage you do to the nose soft tissues and scaffold, the less support you need for it. Surgeons have been overgrafting the lateral crura to solve postoperative problems mainly because of dissection problems and lack of lateral crura support. This paper describes how to solve lateral crura surface problems, keeping the tip flexible and elastic, and also creating a nice and natural supraalar groove transition, by applying 6 surgical maneuvers.

Level of Evidence: 4 (Therapeutic)

The convex-concave lateral crura deformity (CCLCD) or S-shaped lateral crura is one of the biggest constraints to accomplishing a beautiful tip and dorsum-tip transition (DTT). This deformity is the reason of the commonly called parenthesis deformity of cephalic malposition. The lower lateral cartilage (LLC) convexity-concavity shape creates a C-shaped shadow. The DTT is one of the key areas for accomplishing natural results and depends on different nose structures, not just the LLC. Solving CLLCD is mandatory to accomplishing a beautiful DTT and probably the starting point for this goal.

The transition between the dorsum and the tip is one of the most important details in rhinoplasty. It is one of the most relevant areas for achieving the most natural result. To accomplish a natural result in this area one needs to properly deal with the soft tissues situated in this area, it is not only a matter of the scaffold (cartilages). For years we have been focusing only on the lower lateral cartilages (LLCs), but in this transition the upper lateral cartilages (ULCs) and soft tissues have a role too.

In most of the rhinoplasties the nose size decreases and at the same time the nose length is shortened. For years we have been

Dr Guilarte is a plastic surgeon in private practice, Madrid, Spain. Dr Çakir is a plastic surgeon in private practice, Istanbul, Turkey.

Corresponding Author:
Dr Ruben Guilarte, Calle Don Ramón de la Cruz, 36 Bajo A. 28001 Madrid, Spain.
E-mail: drguilarte@clinicaguilarte.com; Instagram: @dr.guilarte

Downloaded from academic.oup.com/asj/article/45/2/141/7820624 by guest on 30 September 2026

resecting the scaffold excess, its convexity at the keystone area, but not doing anything about the length of the ULCs and the relation between them and the LLC.

Techniques have evolved in part due to the lack of anatomical knowledge; we have developed techniques defending ourselves against the consequences of not being more anatomical in our surgeries. Over the years, various techniques have been described to minimize isolation of the tip and to help achieve the ideal tip configuration.[1] The best example of this is tip fixation to the septum with a septal extension graft. By fixing the tip to the septum, the lack of mobility primarily protects against tip drooping and, to some extent, against alar retraction, by limiting LLC movement due to this fixation. However, this fixation gives the rim a rigidity, resulting in a somewhat "frozen" appearance, which can compromise the natural quality of the final results.

Nasal tip surgery can influence nasal function based on how the techniques can alter lateral wall integrity.[2] Management of external valve problems is possible with various methods. It is not easy to decide which techniques will work best in every case, but preservation rhinoplasty gave us new knowledge about what nose reshaping is.[3,4] It is understanding the nose as an articulation or a hinge. As you keep practicing, you learn about new volume conflicts that may appear after modifying a nose shape. Therefore, we started doing the things differently, improving and respecting the nose transitions, the key in every rhinoplasty, and accomplishing flexible and elastic results because the nose is a dynamic part of our face. Our mimic also depends on it.

Obtaining this homogeneity and softness in the supraalar area is a balance between different nose structures. The different structures must relate to each other without being forced; everything should be easily done and related. It is about achieving a spontaneous balance between the structures.

This paper will share how to improve the supraalar groove shadow with preservation and reconstruction of soft tissues from this area and also improved support to the lateral crura, solving its surface problems without the need for fixed grafts.[5]

METHODS

A total of 560 rhinoplasty cases performed by the same surgeon were studied retrospectively between September and December 2023. The rhinoplasties were performed by the same surgeon over 2 years and 6 months before these dates. The follow-up range was from 6 months to 1 year. Three hundred and twenty patients had at least 1 year of follow-up. The rest of the patients had a minimum follow-up time of 6 months. The average follow-up time was 9.64 months. No secondary rhinoplasty was included. Only 2 secondary septoplasty cases were included that did not have any nose skin undermining in the previous surgery. All the patients included had continuous follow-up.

Patients had follow-up at 2 weeks, 1 month, 3 months, 6 months, and 1 year after surgery. Surgical details were documented, including the 6 fundamental steps of this technique: (1) mucosal lower lateral incision, (2) dorsum subperichondral dissection and vertical scroll release, (3) lateral crura steal creating a new lower lateral resting angle, (4) upper lateral caudal resections, (5) vertical scroll reconstruction, and (6) turning point extension graft.

Diverse anatomical variations in the shape of the lateral crura are included, but the CCLCD (minor and major) and alar divergence (cephalic malposition) are mandatory. These deformities can exist simultaneously or separately but in most of the noses with CCLCD they coexist. Simultaneous CCLCD and alar divergence (cephalic malposition) are necessary.

This study was conducted in accordance with the principles of the Declaration of Helsinki. Written informed consent was acquired from all patients.

Involved Structures and Surgical Steps

The following structures and surgical maneuvers sum up the authors' current technique.

The structures involved were (1) the mucosa, (2) LLC, (3) ULC, (4) W-anterior septal angle (WASA) septal segment, (5) scroll ligament, and (6) Pitanguy ligament.

The surgical maneuvers were the following:

1. Mucosal lower lateral incision
2. Dorsum subperichondral dissection and vertical scroll release
3. Lateral crura tail caudal release, lateral crura steal and slide-under flap lateralization
4. ULC caudal resection
5. Vertical scroll reconstruction
6. Turning point extension graft

All of them are summed up under the hashtag #the6preservationssteps.

Additional actions were taken on the LLC if necessary, such as intermediate crura overlap, medial crural caudal electroshaving, or the use of diced cartilage for camouflaging. Although these steps were essential for achieving a good result, they are not the focus of this study.

Mucosal Lower Lateral Incision

A single infracartilaginous incision was done to perform the closed preservation rhinoplasty. This infracartilaginous closed incision was not the regular one. Lateral to the lateral crura turning point, we located the incision 2 to 3 mm inferior to the lower edge of the LLC.

Most of the noses we addressed needed more support lateral to this turning point. This was necessary due to both the previous LLC situation and the deficit created after performing the lateral crura steal. Every time one performs a lateral crura steal one is moving the turning point anteriorly, making the cartilage defect in this area bigger.

Then, we extended the incision horizontally from this turning point, doing it 2 to 3 mm inferior to the caudal edge of the LLC, creating a mucosal pocket optimal for posterior grafting (Figure 1).

Very frequently bulbosity (convexity) anterior to the lateral crura turning point means a caudal excess. In these cases, a rim flap as Baris Çakir has described is performed, keeping this mucosal incision also horizontal close to the tip.[6] With this incision, in the case of a large cephalic malposition or large alar lobule the mucosal resection described by Baris Çakir would be easily performed.

Dorsum Subperichondral Dissection and Vertical Scroll Release

It is known that the vertical scroll is a continuation of ULC perichondrium with the transversalis muscle as described in Jong paper.[7-9] Appropriate anatomical repositioning of the transversalis muscle and the undermined skin flap is mandatory. Undermining the bridge in a subperichondral plane allows the surgeon to properly reattach the perichondrium to its original position. Once the dissection in a

Downloaded from academic.oup.com/asj/article/45/2/141/7820624 by guest on 30 September 2026



Figure 1. Supramucosal pocket below the lateral crura tail.

subperichondral plane was performed, the perichondrium would easily be reattached to the ULC with 2 or 3 stitches.

On the other side, tip dissection was done either subperichondrally or supraperichondrally, or more concretely subareolar as Jose Carlos Neves described.[10] No supra–superficial musculoaponeurotic system (SMAS) dissection was done in our primary surgeries. It depended on how strong the cartilages were, how thin and aged the skin was, and how large the slide-under flap was.

Lateral Crura Tail Caudal Release, Lateral Crura Steal and Slide-Under Flap Lateralization

For lateral crura tail caudal release a subperichondral plane needs to be created as Shah Nazari communicated in a meeting (Nayak-Çakir Massterclass, September 14–16, 2023; not published). Finding this subperichondral plane behind the LLCs was not easy. To facilitate this, the lateral crura should be trimmed obliquely, leaving approximately 10% of the patient's thickness intact. This remaining cartilage segment serves as a useful landmark, allowing the surgeon to easily identify the subperichondral plane by breaking through it.

The reshaping of the LLCs was mostly done by modifying the position and angle of the domes. We shaped them with hemitransdomal sutures following the polygon concept described by Baris Çakir.[11] Nevertheless, it was not just a lateral crura steal, it was applying the new resting angle while the surgeon was creating the new domes.

Pinching the LLCs in their new position with Adson forceps gave us a reference for the new tip shape pursued, creating a new resting angle and lateral crura tensioning. The lateral crura steal would give you the tension needed at the lateral crura, and the new resting angle would give you the proper disposition at the external valve and domes.

Apart from the dome shapes we needed to allow this folding and make space for the lateral crura. The surgeons did not perform any cephalic trimming. They slid down the cephalic cartilage excess not as Ozmen described; they lateralized this cephalic cartilage flap, 2 to 4 mm, depending on the size of it, when the slide-down was performed.[12] This lateralization was first communicated in a meeting by Baris Çakir (Nayak-Çakir Massterclass, September 14-16, 2023; not published) with the purpose of giving more resistance to the lateral crura laterally. By performing this lateralization, there was almost no need to resect any cartilage from this flap at the domes (Figure 2).

Summing up all this, we applied tension to the lateral crura as Rick Davis suggested years ago,[13] by lateral steal, and at the same time we created a sandwich of cartilage by lateralizing and sliding down part of it. All of these lateral crura maneuvers solved the concave-convex surface problems creating a straight and tense lateral crura (Figures 3, 4).

Upper Lateral Cartilage Caudal Resection

Shortening the ULC can be controversial if you do not see the nose as a hinge. In preservation rhinoplasty you address the nose by impacting the nasal hump down and articulating the nasal bones and ULC. You realize that the length of the ULCs plays an important role.

If the primary goal of a rhinoplasty is nasal reduction, both dorsal convexity elimination and length reduction are necessary. While septal reduction addresses internal shortening, external reduction of the upper lateral cartilages is also crucial. Without resecting the caudal border of these cartilages, lateral wall tension can prevent spontaneous tip rotation upward.

In most large noses there is an excessive ULC length, and a few millimeters of caudal resection is needed. Then the LLCs will rotate and rest comfortably in their new position.

Vertical Scroll Reconstruction

The perichondrium is a strong, elastic structure that offers more resistance than the skin or any nasal muscle. By creating a subperichondral dissection plane, the envelope tissues can be redraped appropriately, as the perichondrium's strength allows it to hold the tissues in their original position when sutured. Applying traction to the perichondrium transmits tension throughout the entire structure, ensuring a continuous and uniform appearance. When we applied traction to the perichondrium, this tension was transmitted throughout the entire perichondrium, creating a continuous look. There were other options such as transcutaneous sutures, but there would not be the same homogeneity, and there was a risk of skin complications.

By performing in a subperichondral plane the scroll ligament and the piriform ligament could be reconstructed by reattaching them to their original positions. Any dead space was avoided, and apart from repositioning every structure in its original anatomical situation a more natural and defined look was accomplished.

Lateral Turning Point rim Extension Graft

After performing a lateral crura steal the lateral crura were shorter and more anteriorly situated. Lateral crura steal pulled the lateral crura turning point anteriorly, creating a lack of cartilage and support at the lateral one-third of the lateral crura. Grafting this area was important to give more support and shape to the lateral crura as Eran Tastan suggested in a conference (Nayak-Çakir Massterclass, September 14–16, 2023; not published).

It was easily done with a floating graft hosted in the pocket initially dissected. This graft did not need to be sutured to the lateral crura as a lateral strut or articulated rim graft, it was just positioned below the tail of the lateral crura.[14]

These grafts were 1 to 1.5 cm in length and 2 to 3 mm wide. With this size and by avoiding fixing them to the lateral crura we gained support and kept nose flexibility and elasticity.

Downloaded from academic.oup.com/asj/article/45/2/141/7820624 by guest on 30 September 2026

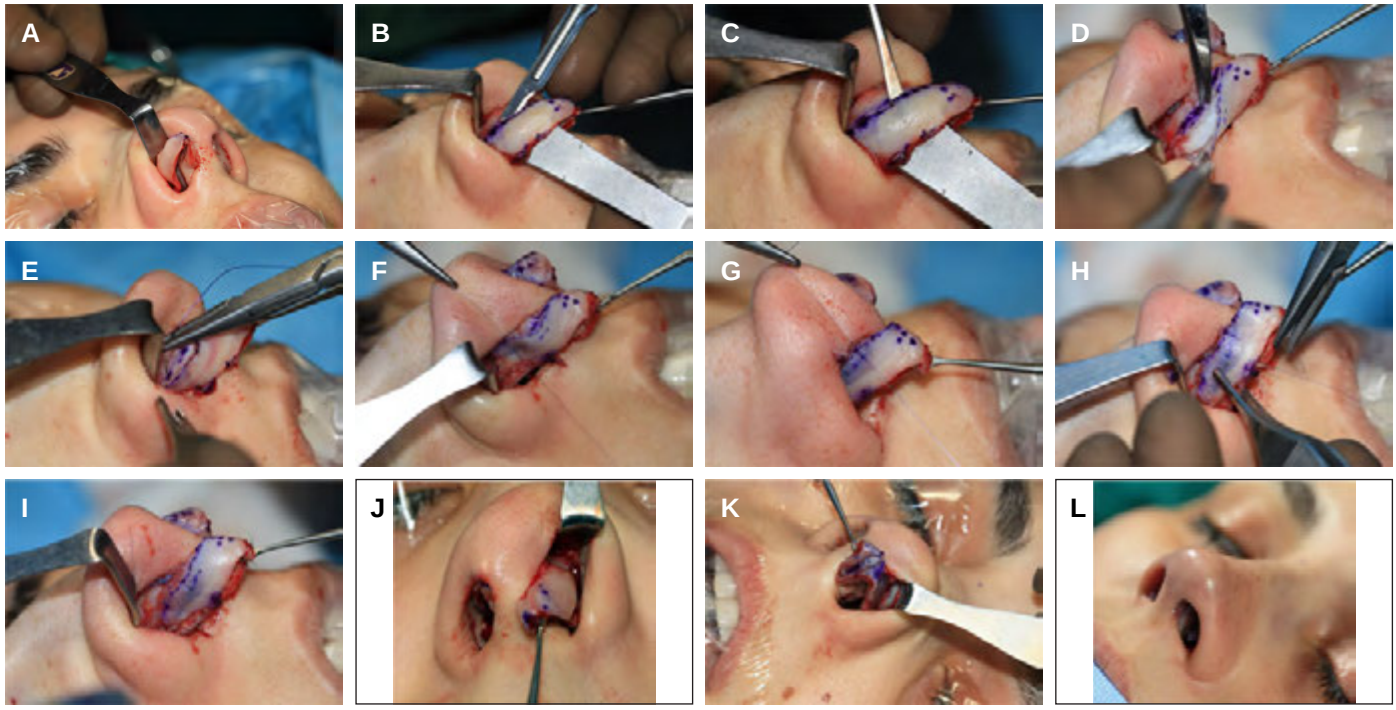


Figure 2. Intraoperative photographs from surgery on a 27-year-old female. (A) S-shaped lateral crus deformity. (B) Lateral crura oblique cut. (C) Subperichondral undermining with Daniel-Çakir elevator. (D) Subperichondral plane. (E) Slide-under lateralization. (F) Slide-under lateralization suturing. (G) Three stitches with 6/0 PDS. (H) Transmucosal stitch. (I) Lateral crura flattening. (J) Contralateral side S-shape. (K) Polygon tip conclusion. (L) Final tip shaping.

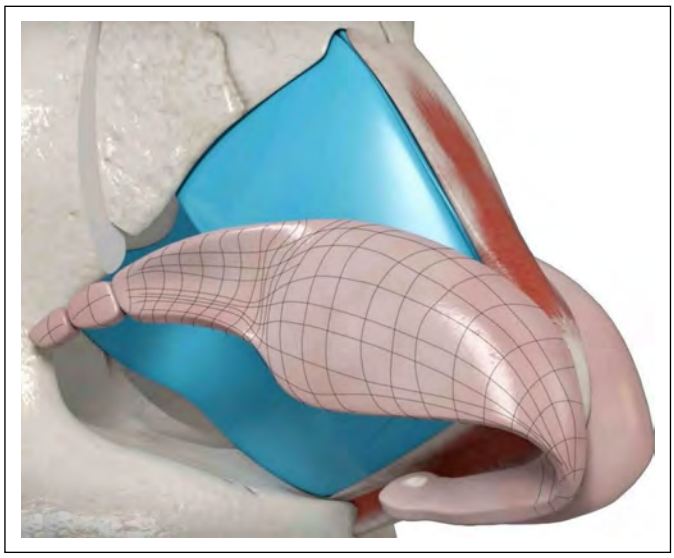


Figure 3. Drawing of a convex-concave deformity at the lateral crura.

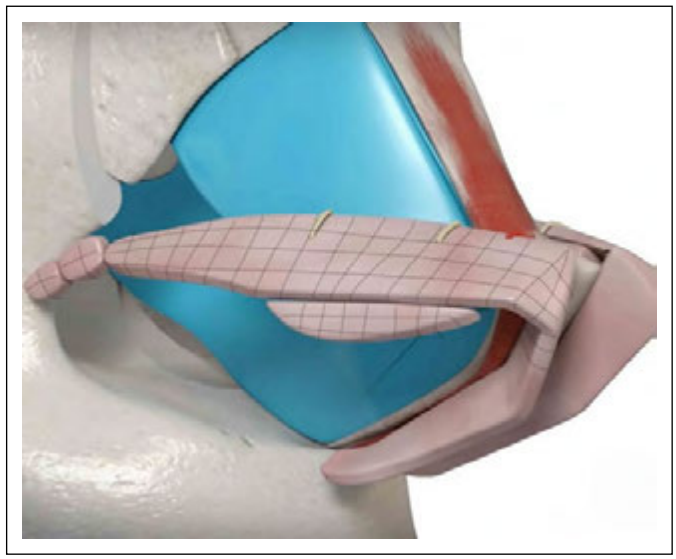


Figure 4. Straight lower lateral crura drawing, after performing the surgery.

RESULTS

All the 560 patients from the study period had at least 6 months of follow-up, including 320 patients with at least 1 year of follow-up. Five hundred and fourteen patients were female and 46 were male. The average age was 34 years (range 11-64). All patients underwent a primary rhinoplasty. Just 2 patients underwent a previous septoplasty without any nose skin management.

Forty-seven patients underwent an open approach and 516 a closed approach. All cases were dissected in a subperichondral plane at their bridge (ULC and nasal bones). Four hundred thirty-nine patients with a closed approach underwent low-strip dorsal preservation (DP) with or without any additional surface technique; 68 cases needed a cartilaginous-only low-strip DP; and 9 cases needed a dorsal Y low-strip DP. All the impactions were accomplished by a piezosurgery-assisted letdown. The choice of the approach was dependent on the middle vault shape, although the authors' preference was to perform a closed approach when a good result could be obtained by this approach.

Twenty-three revisional surgeries were necessary (4%). All the patients were reviewed at least at their 6-month follow-up. Twelve patients had a revision due to hump recurrence (4 minihumps and 8

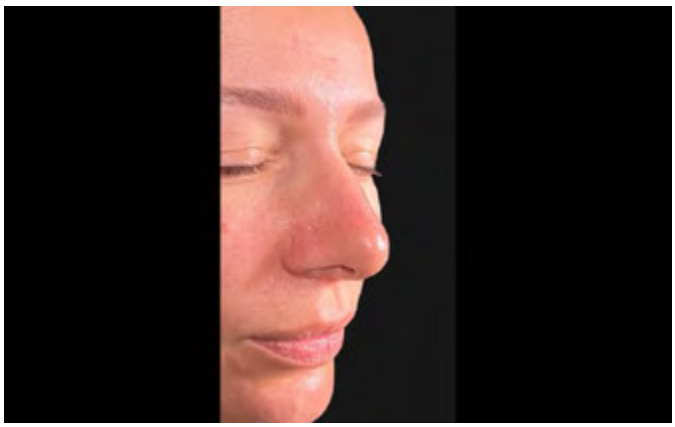
Downloaded from academic.oup.com/asj/article/45/2/141/7820624 by guest on 30 September 2026



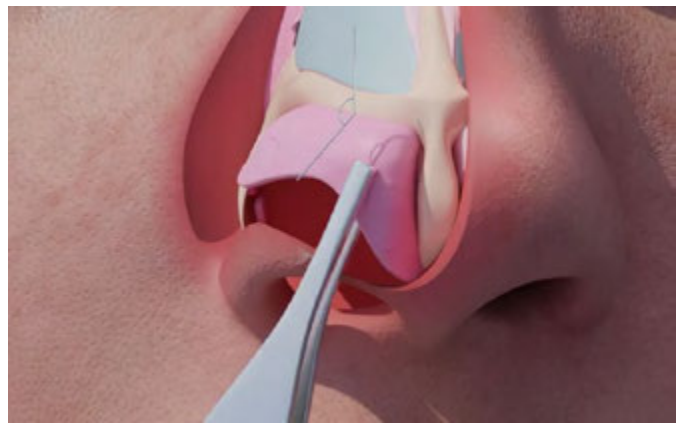
Video 1. Watch now at http://academic.oup.com/asj/article-lookup/doi/10.1093/asj/sjae210



Video 2. Watch now at http://academic.oup.com/asj/article-lookup/doi/10.1093/asj/sjae210



Video 3. Watch now at http://academic.oup.com/asj/article-lookup/doi/10.1093/asj/sjae210



Video 4. Watch now at http://academic.oup.com/asj/article-lookup/doi/10.1093/asj/sjae210

ULC edge convexities). Five revisions were for bridge narrowing, 3 for tip symmetrization, and 2 for increasing tip projection support. Eleven hump recurrence revisions were resolved with an intercartilaginous incision and dorsum surface techniques. In 1 case, the quadrangular flap was redone and pushed forward. For bridge narrowing, external lateral osteotomies were performed. For tip revisions, an infracartilaginous closed dissection was conducted, with new tip sutures and cap grafts applied in 4 of the cases.

Case Studies

Case Study 1

Closed approach, low-strip letdown technique (Supplemental Figure 1, located online at https://doi.org/10.1093/asj/sjae210). This 46-year-old female presented with a small dorsal hump, a hyperprojected tip, and a large CCLCD deformity. Shown are her preoperative (A, C, E, G, I, K, and M) and 1-year postoperative (B, D F, H J, L, and N) views. The skin pinch revealed normal-thickness skin and weak alar cartilages. A supraperichondral dissection was conducted of her tip, and a subperichondral-subperiosteal dissection of her nasal dorsum. A low-strip dorsal preservation of the cartilaginous vault was performed. A columellar strut was utilized for tip support, and tip suturing was performed with cranial tip sutures, a lateral steal procedure of 4 mm and an overlap of 5 mm. Apart from this we performed the 6 surgical steps. Postoperatively, the nasal profile was straight with good tip projection and definition, the tip resting angle was incredibly improved, and the lateral crura S-shape was solved even intraoperatively (Videos 1-4).

Case Study 2

Closed approach, low-strip letdown technique + surface technique (Supplemental Figure 2, located online at https://doi.org/10.1093/asj/sjae210). A 26-year-old female presented with an S-shaped dorsal hump, a drooped tip, and external valve collapse. Shown are her preoperative (A, C, E, G, I, K, and M) and 12-month postoperative (B, D F, H J, L, and N) views. On analysis, the patient had bad dorsal aesthetic lines with slightly more convexity at the keystone due to ULC shoulder hypertrophy. The tip was supraperichondrally dissected, finding an intermediate crura hypogenesia, and the dorsum was subperichondrally dissected. A low septal strip letdown procedure was done with rasping of the bones by piezosurgery and electroshaving of the ULC. The 6 steps were performed at her bridge-tip junction. Postoperatively, the nasal hump was eliminated, the dorsal aesthetic lines were narrow and symmetric, and the nasal tip was kept flexible, restoring the external valve collapse with a nice subtle supratip break for her age.

Case Study 3

Closed approach, cartilage-only low-strip technique (Supplemental Figure 3, located online at https://doi.org/10.1093/asj/sjae210). A 26-year-old female presented with a dorsal hump and wide dorsum, a normal to low radix, and a plunging tip on smiling. Shown are her

Downloaded from academic.oup.com/asj/article/45/2/141/7820624 by guest on 30 September 2026

preoperative (A, C, E, G, I, K, and M) and 1-year postoperative (B, D F, H J, L, and N) views. Her skin thickness was normal with relatively strong alar cartilage. A subperichondral dissection was done both of her tip and of her nasal dorsum. Tip suturing was done with hemitransdomal sutures, a columellar strut and membranous tongue in groove were employed for tip support and shaping, and we continued completing the 6 surgical steps. Postoperatively, the bridge was thinner and nasal profile was straight with good tip projection and definition, the plunging tip illusion was eliminated, and the supraalar groove was shaped in the most natural way, avoiding alar retraction and keeping it flexible and elastic.

Case Study 4

Closed approach, asymmetric low-strip letdown + surface technique (Supplemental Figure 4, located online at https://doi.org/10.1093/asj/sjae210). A 31-year-old female presented with a large left axis deviation, a dorsal hump, a bulbous tip, and nostril height asymmetry. Shown are her preoperative (A, C, E, G, I, K, and M) and 1-year postoperative (B, D F, H J, L, and N) views. The skin and cartilages were normal. A subperichondral dissection of her nasal tip and dorsum was conducted. The dorsal aesthetic lines were wide at the keystone area, and the dorsum required dorsal modification. An asymmetric letdown procedure utilizing a low septal strip was performed, removing more bone from the left maxilla. The 6 surgical steps were performed. Postoperatively, the nasal axis was straight, the dorsal aesthetic lines were symmetric, narrower, and more aesthetically correct. The tip contour was improved with a nice supraalar groove and all its original mobility.

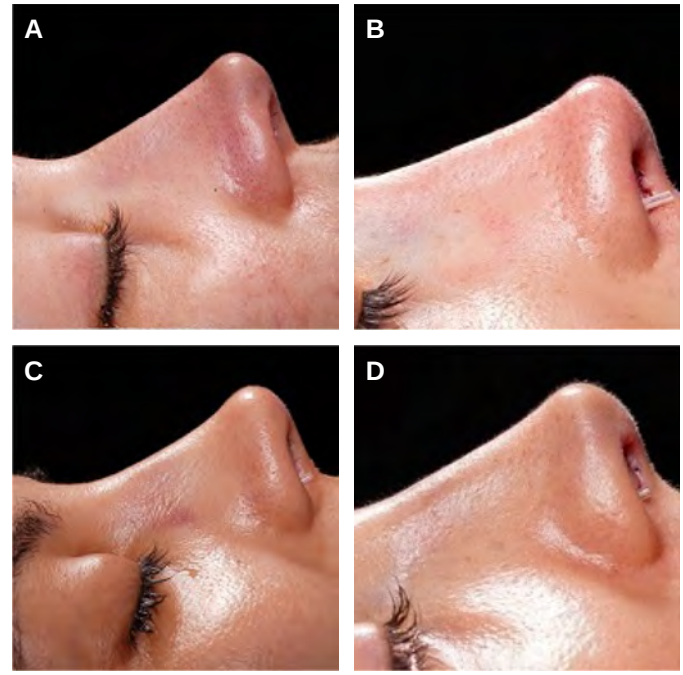


Figure 5. Four patient results demonstrating the beautiful postoperative shape achieved in both the supraalar groove and the lateral crura. (A) 34-year-old female patient, (B) 39-year-old female patient, (C) 31-year-old female patient, (D) 34-year-old female patient.

DISCUSSION

The position of the LLCs is closely related to the function of the external nasal valve.[15] Breathing problems may accompany pinching or CCLCD.[16] Rollin Daniel was the first to call this entity CCLCD.[17] It is more commonly called a bulbous tip, but with that term the deformity at the lateral crura is not properly described. Some others have called this situation S-shaped lateral crura.

Diagnosis of this entity is mandatory (Figure 4). There is a different level of CCLCD but it is almost always present in nonaesthetic tips. Very frequently this entity is joined to an alar divergence, or probably alar divergence is part of this due to the thinner lateral thirds of the lateral cruras. It means a convexity of the lateral crura close to the tip, bulbosity, and a concavity of the lateral crura at its tail, with collapse.

This study does not include a nuanced analysis of the diversity in the shape, position, and consistency of the lateral crura. One of the potential limitations of this study is that we did not take any measurements of the lateral crura. This is a drawback, but at the same time, it benefits us because all severities—minor, moderate, and major CCLCD—are included and can benefit from it. The authors focused mainly on the aesthetic benefits, and the patients shared the breathing benefits. Another limitation was that the breathing benefits were not measured.

For years it was supposed that the lateral crura should be grafted with large grafts, mainly articulated rim grafts and lateral crura struts.[18-20] Some studies reported that the larger the graft, the better the lateral crura support.[18] On the other hand, some surgeons have focused on reducing the size of grafts, such as the miniature lateral crura strut graft.[21] Although some surgeons are still in favor of this overgrafting, many surgeons have realized that this large grafting was not free of complications, and above all increased the tip stiffness. Baris Çakir taught us how important it was to preserve the nose ligament complex system, Pitanguy, and scroll, doing an appropriate dissection. Once you have integrated this in your practice you realize that overgrafting is not needed anymore, with the benefit of respecting tip mobility.[22]

A lot of surgeons have moved to a closed approach, applying this approach in a larger percentage of their patients. The closed approach rhinoplasty evolution is very fast, and surgeons are discovering they can accomplish very elegant and natural results apart from avoiding the transcolumellar scar. Avoiding a transcolumellar cut means faster healing because the columellar vessels are not cut. In the long term the nose ages very naturally and predictably with time. Preservation rhinoplasty modifies the nose shape in a different way. There is no resection at the middle vault, the hump impacts down by opening a hinge at the bone-ULC junction. This hinge opens as the ULC rotates down and elongates horizontally. We have been making noses smaller and shorter by just working on the septum and not at the ULC.

In 2022 the authors decided to apply this 6 steps concept in all their rhinoplasties. These steps were (1) mucosal lower lateral incision, (2) dorsum subperichondral dissection and vertical scroll release, (3) lateral crura tail caudal release, lateral crura steal and slide-under flap lateralization, (4) upper lateral cartilage caudal resections, (5) vertical scroll reconstruction, and (6) lateral turning point rim extension graft.

Applying these steps means the following:

1. More control of dead space
2. Lateral crura surface straightening and support increase
3. Tip mobility preservation
4. Very natural and predictable aging with time

Treating the LLCs properly is not enough; their relationship with the ULCs needs to be improved due to changes in shape. Therefore, ULC caudal excision is crucial. Without it, there will be competing spatial demands between them. By applying these concepts and understanding these relationships, the transition between the dorsum

Downloaded from academic.oup.com/asj/article/45/2/141/7820624 by guest on 30 September 2026

and the tip, including the supraalar groove aesthetic subunit, will look more relaxed and, subsequently, more beautiful (Figure 5).

CONCLUSIONS

In our time there are 2 rhinoplasty concepts, the newly accepted surgical look (Barbie nose) and the elegant natural look. Both noses are beautiful in shape, with the difference between them the surgical stigma.

The authors believe that for beauty, naturalness is necessary. Accomplishing naturalness means accomplishing flexibility, elasticity, and transitions. Obtaining curved and not straight lights and shadows makes a natural appearance. All of them need to be seen specifically in the supraalar groove.

With the premise that the less damage the less support is needed, emphasis is placed on 6 critical steps that will help the surgeon accomplish more natural results in practice. After dealing appropriately with nose soft tissues, the lateral crura surface problems are corrected by different maneuvers, and then attention is turned to floating and smaller lateral crura grafts.

Both the open and closed approaches are sustainable in this surgical evolution that gives more natural and better aging results. The adoption of these 6 steps occurred because the results were outstanding and the downside minimal. This paper explains how to solve lateral crura surface problems, keep the tip flexible and elastic, and also create a nice and natural supraalar groove transition by applying 6 surgical maneuvers.

Supplemental Material

This article contains supplemental material located online at https://doi.org/10.1093/asj/sjae210.

Disclosures

The authors declared no potential conflicts of interest with respect to the research, authorship, and publication of this article.

Funding

The authors received no financial support for the research, authorship, and publication of this article.

REFERENCES

1. Cochran CS, Sieber DA. Extended alar contour grafts: an evolution of the lateral crural strut graft technique in rhinoplasty. *Plast Reconstr Surg*. 2017;140:559e-567e. doi: 10.1097/PRS.0000000000003719
2. Toriumi DM, Cristel RT. Lateral crural repositioning: implications on nasal function. *Facial Plast Surg*. 2023;39:547-555. doi: 10.1055/s-0043-1771499
3. Apaydin F. Nasal valve surgery. *Facial Plast Surg*. 2011;27:179-191. doi: 10.1055/s-0030-1271298
4. Gruber RP, Zang A, Mohebali K. Preventing alar retraction by preservation of the lateral crus. *Plast Reconstr Surg*. 2010;126:581-588. doi: 10.1097/PRS.0b013e3181de22d1
5. Palesy T, Pratt E, Mrad N, Marcells GN, Harvey RJ. Airflow and patient-perceived improvement following rhinoplastic correction of external nasal valve dysfunction. *JAMA Facial Plast Surg*. 2015;17:131-136. doi: 10.1001/jamafacial.2014.1456
6. Çakır B, Küçüker İ, Aksakal İA, Sağır HÖ. Auto-rim flap technique for lateral crura caudal excess treatment. *Aesthet Surg J*. 2017;37:24-32. doi: 10.1093/asj/sjw145
7. Kim TK, Jeong JY. Surgical anatomy for Asian rhinoplasty. *Arch Craniofac Surg*. 2019;20:147-157. doi: 10.7181/acfs.2019.00290
8. Kim TK, Jeong JY. Surgical anatomy for Asian rhinoplasty: part II. *Arch Craniofac Surg*. 2020;21:143-155. doi: 10.7181/acfs.2020.00234
9. Kim TK, Jeong JY. Surgical anatomy for Asian rhinoplasty: part III. *Arch Craniofac Surg*. 2023;24:1-9. doi: 10.7181/acfs.2022.01123
10. Neves JC, Zholtikov V, Cakir B, Coşkun E, Arancibia-Tagle D. Rhinoplasty dissection planes (subcutaneous, sub-SMAS, supra-perichondral, and subperichondral) and soft tissues management. *Facial Plast Surg*. 2021;37:2-11. doi: 10.1055/s-0041-1723825
11. Çakır B, Öreroğlu AR, Daniel RK. Surface aesthetics and analysis. *Clin Plast Surg*. 2016;43:1-15. doi: 10.1016/j.cps.2015.09.004
12. Ozmen S, Eryilmaz T, Sencan A, et al. Sliding alar cartilage (SAC) flap: a new technique for nasal tip surgery. *Ann Plast Surg*. 2009;63:480-485. doi: 10.1097/SAP.0b013e31819538a8
13. Davis RE. Lateral crural tensioning for refinement of the wide and underprojected nasal tip: rethinking the lateral crural steal. *Facial Plast Surg Clin North Am*. 2015;23:23-53. doi: 10.1016/j.fsc.2014.09.003
14. Gunter JP, Friedman RM. Lateral crural strut graft: technique and clinical applications in rhinoplasty. *Plast Reconstr Surg*. 1997;99:943-952; discussion 953-5. doi: 10.1097/00006534-199704000-00001
15. Silva EN. The relation between the lower lateral cartilages and the function of the external nasal valve. *Aesthetic Plast Surg*. 2019;43:175-183. doi: 10.1007/s00266-018-1195-x
16. Hyman AJ, Khayat S, Toriumi DM. Correction of nasal pinching. *Facial Plast Surg Clin North Am*. 2019;27:477-489. doi: 10.1016/j.fsc.2019.07.004
17. Rollin RK, Regnault R, Goldwyn RM. *Aesthetic Plastic Surgery: Rhinoplasty*. 1st ed. Little Brown & Co; 1993.
18. Kuran I, Oreroğlu AR. The sandwiched lateral crural reinforcement graft: a novel technique for lateral crus reinforcement in rhinoplasty. *Aesthet Surg J*. 2014;34:383-393. doi: 10.1177/1090820X14523021
19. Wagner W. Stabilisierende KKnorpeltransplantate bei der funktionell-ästhetischen Rhinoplastik1 [stabilizing cartilage grafts in functional-aesthetic rhinoplasty]. *Laryngorhinootologie*. 2008;87:697-702. doi: 10.1055/s-2007-995781
20. Abdelwahab M, Patel P, Kandathil CK, Wadhwa H, Most SP. Effect of lateral crural procedures on nasal wall stability and tip aesthetics in rhinoplasty. *Laryngoscope*. 2021;131:E1830-E1837. doi: 10.1002/lary.29389
21. Abdelwahab M, Most SP. The miniature lateral crural strut graft: efficacy of a novel technique in tip plasty. *Laryngoscope*. 2020;130:2581-2588. doi: 10.1002/lary.28530
22. Cakir B, Dogan T, Oreroglu AR, et al. Rhinoplasty: sur- face aesthetics and surgical techniques. *Aesthet Surg J*. 2013;33:363-375. doi: 10.1177/1090820X13478968

Downloaded from academic.oup.com/asj/article/45/2/141/7820624 by guest on 30 September 2026