



## Some Less Usual, or Never Used, Technical Resources in Rhinoplasty for Nasal Base Improvement

Salvador Rodríguez-Camps\*

Department of Aesthetic and Plastic Surgery, University Hospital Casa de Salud, Spain

### Abstract

To achieve an equilateral and stable nasal base, many technical resources have been traditionally used that transform this vital pyramidal nasal structure into a beautiful, equilateral and stable triangle that resists pressure on the nasal tip. Here we stress less usual resources, one of which has not yet been published: Z-plasty in naso-labial sulcus. We stress: Columella Trunk, Soft Triangles, filling the Nasolabial Angle, en-bloc excision of Alar and Vestibular Wedges, excision of longitudinal Alar Bands, in the Total Resection of Alar Cartilages and Temporal Fascia, and in Z-plasty of naso-labial sulcus. All this is done to achieve a Beautiful, Equilateral and Stable Nasal Base.

**Keywords:** Rhinoplasty; Nasal base; Resources in rhinoplasty; Equilateral nasal base; Z-plasty in naso-labial sulcus

### Patients and Methods

When the nasal base structure is far from ideal because it is too flat or prominent, we normally resort to a series of technical resources to accomplish an Equilateral and Stable Nasal Base. These resources are traditionally known, but others have hardly, or never, been used. This work focuses on resorting to these unusual technical resources to transform an Anodyne Nasal Base into a Beautiful one.

We commence with an important casuistry in Rhinoplasty and employ all types of technical resources in many cases, as our Doctoral Dissertation shows: *“Una Nueva Técnica de Remodelación de la Punta Nasal en Rinoplastia, para Casos Extremadamente Dificiles, Mediante la Resección Total de los Cartílagos Alares y Fascia Temporal”* (Excellent Cum Laude).

We now provide details of the surgical sequence of some infrequently used technical resources.

Let’s go on to see what kind of technical resources have been used traditionally in Rhinoplasty in order to improve and beautify the nasal base to transform it into an Equilateral, Beautiful and Stable one [1-6].

- Reducing Converse Soft Triangles
- Resecting the trunk of the Septum’s Depressor Muscle
- Converse point on the columellar base
- Releasing the Columella
- Alar Wedges
- Vestibular Wedges
- Amputating Crus Medialis Feet
- Approaching Crus Medialis Feet
- Inter Crus Mediales Tutor Graft
- Killian-type septoplasty [7]
- Luxation or Cauterization of Conchas
- Filling the Naso-Labial Angle with remains of Resected Cartilages wrapped in temporal fascia

Now the time has come to talk about our personal technique to treat a difficult nasal tip by

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#### \*Correspondence:

Salvador Rodríguez-Camps,

Department of the Aesthetic and Plastic Surgery, University Hospital Casa de Salud, Manuel Candela, 41. 46021

Valencia, Spain,

E-mail: [cirugia-plastica@rodriguez-camps.com](mailto:cirurgia-plastica@rodriguez-camps.com)

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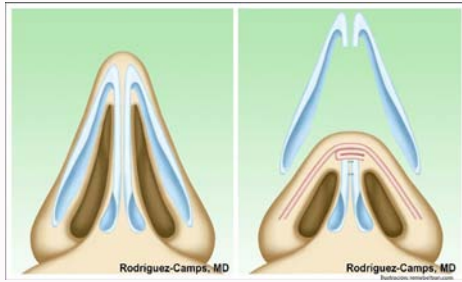


Figure 1: Illustration of Resection-Reconstruction Type I.

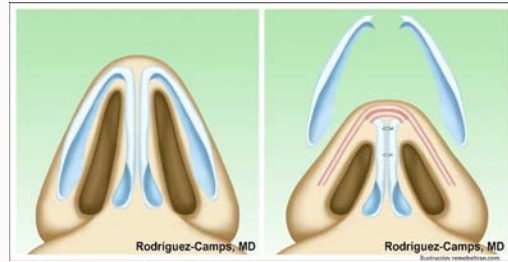


Figure 3: Illustration of Resection-Reconstruction Type II.



Figure 2a: Type I. Secondary Rhinoplasty. A 51-year-old patient previously operated twice in other centers. Detail of the frontal view and the mid-profile 1 year after the operation.



Figure 4a: Type II. Secondary Rhinoplasty. A 45-year-old patient, operated 3 times in other centers. Detail of the frontal view and mid-profile 1 year after the operation.



Figure 2b: Detail of the profile and nasal base 1 year after the operation.



Figure 4b: Detail of the profile and nasal base 1 year after the operation.

improving the nasal base at the same time and transforming it into an Equilateral and Stable one [8-31]: Total Resection of Alar Cartilages and Temporal Fascia, where we establish five groups which we call Types.

- **Resection type I:**

Indicated for overprojecting noses with a long columella and large and elongated nostrils.

This consists in totally amputating the alar cartilages, including the domes and the intermedial crus trunk. Crus ends are covered with a 2-layered temporal fascia seal and a temporal fascia layer on top.

The technical resources employed to support this technique

include: alar wedges, amputating crus medialis feet and a medial suture of their distal ends (Figures 1,2A and 2B).

- **Resection type II:**

Indicated for noses with a slightly elongated base.

This operation mode is defined by completely amputating alar cartilages, including domes, and covering them totally with a temporal fascia seal and layer (Figures 3,4A and 4B).

- **Resection type III:**

Indicated for nose heights that come very close to the ideal equilateral nasal base objective.

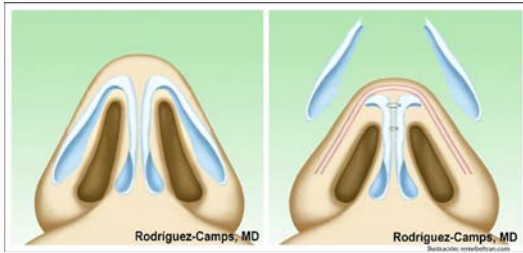


Figure 5: Illustration of Resection-Reconstruction Type III.

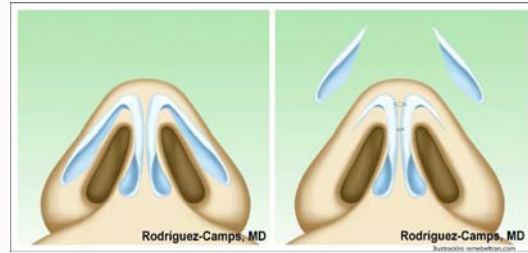


Figure 7: Illustration of Resection-Reconstruction Type IV.



Figure 6a: Type III. Primary Rhinoplasty. A 27-year-old patient. Detail of frontal view and mid-profile 1 year after the operation.



Figure 8a: Type IV. Primary Rhinoplasty. A 17-year-old patient. Detail of the frontal view and mid-profile 1 year after the operation.



Figure 6b: Detail of the profile and nasal base 1 year after the operation.



Figure 8b: Detail of the profile and nasal base 1 year after the operation.

The technical foundations are summarized as completely amputating alar cartilages, but respecting domes and covering them with a layer of temporal fascia (Figures 5,6A and 6B).

- **Resection type IV:**

Indicated for patients with an adequate nasal base height, but who require tip remodeling due to possible anatomical alterations, such as: bulbous tip, squared tip, irregular dome, asymmetries, caudal rotation, etc.

Technically speaking, it consists in completely amputating alar cartilages, but respecting domes. In these cases, two small latero-

caudal 6-8-mm-long alar cartilage wedges that are arrow head-shaped. Using a temporal fascia seal is not indicated for this type (Figures 7,8A and 8B).

- **Resection type V:**

This last type is indicated for extreme cases of flattened or negroid noses, for short columellas, widely separated alae and wide nostrils.

Patients undergo complete amputation of alar cartilages, but domes are respected and are brought together as distally as possible using a suture to project. The vast majority of cases require placing a



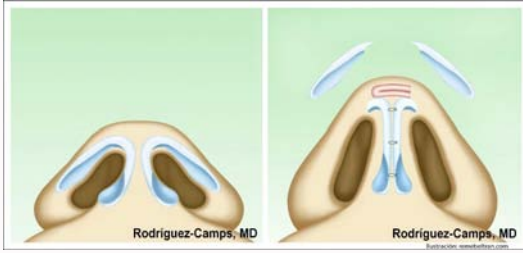


Figure 9: Illustration of Resection-Reconstruction Type V.



Figure 10: Columella trunk on an overprojecting nose. a. Portion calculated to be resected is marked. b. Detail of the resected columellar part, including the portion that corresponds to the crus medialis.



Figure 11: Low pre-operation view of a nasal base in a negroid nose that presents: flattened base, very short columella, separated alae, very wide nostrils and highly developed soft Converse triangles.



Figure 12: Detail of the resectioning of the sutured alar vestibular wedge, and the right-hand Soft Triangle marking. Detail of the drawing on the left-hand side.

temporal fascia seal on the tip, used to increase projection.

It is generally necessary to resort to certain technical support procedures, such as approaching crus medialis feet by a couple of suture stitches, resecting vestibular wedges, Converse point, resecting soft triangles, releasing the columella from its base and resecting the trunk of the septum's depressor muscle. It is also necessary to always place an intercrus mediales tutor graft taken from the nasal septum



Figure 13: What the new nostril looks like after resectioning the Alar Wedges and the Soft Triangle on the right-hand side. Marking on the left-hand side.



Figure 14: Detail of the newly reconstructed nostril, and the resectioning of the left-hand alar and vestibular wedge.



Figure 15: How the new reconstructed nasal base finally looks. Note the equilateral triangular shape after the transformation.



Figure 16: How the new nasal base looks, and also the resecting and suturing of Longitudinal Alar Bands. Drawing of our personal contribution of Z-Plasty in Naso-Labial Sulcus, for the purpose of opening the angle and softening the profile view.

nasal to elongate and strengthen the columella by projecting the tip (Figures 9-22).

### Results

Given our ample experience in Plastic Surgery (36 years), we have been fortunate to resort to such resources in many cases in Rhinoplasty with over 5000 operated cases. These technical resources have always proved useful to meet our objective: a Beautiful, Stable and Equilateral Nasal Base.

These technical procedures entail neither complications nor sequelae, so they are highly recommendable to complement more



**Figure 17:** Detail of Z-Plasty. We place emphasis at this point because this is our new personal contribution which has not yet been published.



**Figure 18:** Filling in the Naso-Labial Angle with remains of Alar Cartilages and Fibroadipose tissue, introduced by means of Z-Plasty incisions.



**Figure 19:** Lower view of the new reconstructed nasal base.



**Figure 20:** Lateral view. Note the descending columella, the high alae, and the open and soft Naso-Labial Angle.

complex Rhinoplasties. They esthetically improve nasal bases without altering the respiratory function (Figures 23A, 23B, 24A and 24B).

**Discussion**

The patients who attend consultations for Rhinoplasty are usually normal subjects who wish to improve the way they look and who attribute their lack of facial harmony to their nose, save some extreme dysmorphophobia cases that we have to decline. This seems reasonable bearing in mind the hegemony that the nasal pyramid has on the face as a whole [32-37]. Most of the patients in our series have been women (81.9%). Their mean age lies between 25 and 30 years, which coincides with those reported by other authors.

As regards races, logically in our particular setting the Caucasian race clearly predominates although we have had the chance to treat



**Figure 21:** Detail of the new reconstructed nasal base in the mid-profile.



**Figure 22:** Final lateral view of the new nasal base.

two black race cases. Almost 82% of the patients in our series have been female. This finding is highly consistent with what other authors have communicated. Thus by respecting the proportional variability communicated in each study, rhinoplasty is an operation more widely requested by females than by males.

Patient requirements vary vastly when they enquire about plastic surgery. The fascination they feel for acquiring an agreeable physical look has been currently generalized; indeed seeking a solution to correctable dysmorphies is increasingly prevalent. The reasons that lead them to consult plastic surgeons mainly include combinations of psychological and emotional factors, which are often conditioned by their social setting. Not only one's body image and self-esteem lead them to enquire about plastic surgery, but their education and culture also play a considerable part in making this major decision.

Several studies conducted in Northern countries have analyzed the psychic and sociological factors that are associated with populations who request some esthetic correction types. They have concluded that these factors are related with self-esteem in childhood and adolescence, and that educational factors and personal relations of different kinds also play a key role in decision making to seek surgical solutions in the Esthetics domain [38-41].

Among our patients, the medium social range predominates the high one (85.5% for the former vs. 13.7% for the latter), while low social-range patients who have made enquiries is merely a token. Regarding their level of education, we observe that individuals who have completed Secondary Education (46.8%) predominate in our patient series, followed by the Higher Education group (29.4%). The patients who have completed Primary Education form a smaller group, but is not far behind the Higher Education group (23.8%). When we analyze the occupational situation of those patients who wish to undergo rhinoplasty for esthetical reasons, our experience indicates that most pertain to the working group (61.4%), followed by students (24.3%) and finally by patients in a passive occupational situation (14.3%). Regarding marital status, single persons predominate (61.3%) married individuals (37.2%).

A Rhinoplasty patient tends to prefer general anesthetic to local

anesthetic, but the difference is minimum. Although plastic surgeons also prefer general anesthetic, well-controlled local anesthetic and minimum sedation (reflexes are maintained) is always desirable, provided the patient requests it and their psychological conditions allow it. In our series, 72.6% of patients were operated under general anesthetic, while the remaining 27.4% underwent local anesthetic. A recent meta-analysis has demonstrated that using general anesthetic in closed reductions of nasal bone fractures provides better functional and esthetic results, greater patient satisfaction and results in fewer sequelae than local anesthetic.

Most of the patients in our series underwent rhinoplasty for esthetic reasons (92.8%). In 6.25% of the cases, the reason was post-traumatic deformity, and a tumor or malformation etiology was the reason in less than 1% of our series. On most occasions, indication for rhinoplasty agrees with the findings obtained in our series.

From the technical viewpoint, Rhinoplasty can be performed in three different forms: endonasal or closed rhinoplasty, open rhinoplasty and transcutaneous rhinoplasty [42-49].

Endonasal or closed Rhinoplasty is done by means of a transfixante retro-columellar incision, and another intercartilaginous incision between alar cartilages, and lateral or triangular ones. The first technical guidelines of this approach are attributed to Roe (1887), although Joseph (1904) developed these concepts, and is considered by the vast majority as the father of modern closed Rhinoplasty.

Open Rhinoplasty was described by Rethi in 1934 by adding the incision that bears his name, and which allowed to lift the whole flap of soft tip cover to better view and treat cartilages. This incision is transcolumellar cutaneous and ascends by both columellar edges by caudally surrounding the alar cartilages. Guerrerosantos [50] (1990) also provided an interesting contribution to open Rhinoplasty by his paramarginal columellar technical approach that avoids transcolumellar cutaneous incisions.

Transcutaneous Rhinoplasty is much older and is attributed to Tagliacozzi (1597), who treated noses by making an incision on the dorsum to eliminate the gibbus. Dieffenbach (1845) published his technique for the first time to deal with the dorsum and tip by external incisions. This technique is still used today, but only for extreme Rhinomegalia cases with an extremely descending and hanging nasal tip, which very rarely occurs.

If the nose is the most important anatomical element of the face given its situation and projection in the center of the face, then the nasal tip is the most outstanding facial structure as it defines and distinguishes it, and contributes to or eliminates facial beauty. No anatomically attractive face exists if the nose is deformed, and no pretty nose exists if it has an ugly tip [52-54]. The nasal tip has historically been, and still is, the most complicated part of Rhinoplasty given its surgical difficulty and its multiple forms: pointed, flattened, bulbous, squared, wide, elongated, bifid, asymmetric, cephalically or caudally rotated, diverted, with fine skin or thick skin, luxated at a septal angle, etc., and all these anatomical variations implicitly involve at least one different technique.

Given the nasal tip's complex anatomy, especially its quite singular cartilaginous structure on the nasal pyramid, and because the most minimum defect can be seen by being transparent or by touch, surgery in most cases at this level is most complicated when skin is not too thick to disguise it. Even when taking great care in the

diagnosis, treatment plan and execution, we sometimes face adverse results that are apparently difficult to explain. A tip that slightly descends or, conversely, over projects, slight asymmetry, a peak, a sharp edge, excessive alar retraction, a hanging columella, a bulging supratip area, an alteration to the internal valve, especially twisting, deviation, etc. Some of these post-surgical sequelae can appear quite incomprehensively in any Rhinoplasty conducted on a tip, and even in one that entails a low degree of difficulty.

All this makes nasal tip surgery the most complicated phase of Rhinoplasty. Remodeling the nasal tip's cartilaginous structure is an extremely difficult maneuver; a millimeter gap can lead to a poorly acceptable, barely natural result, and can leave a surgical mark that means having to perform a second operation. The difficulty lies in the function, esthetics, statics and dynamics.

Temporal fascia was already employed in Rhinoplasty by Guerrerosantos [50] in 1984, but not for the nasal tip. This author began to use it to increase the dorsum and to fill in the naso-frontal angle. Autologous fascia is a material that is highly recommended as a graft in nose surgery when modeled soft tissue filling is required. Baker and Courtiss [54] demonstrated in 1994 that temporal fascia is progressively revascularized and is included as a living structure in the remodeled area.

## Conclusion

We conclude that as Rhinoplasty is the most difficult Plastic Surgery operation, it is worthwhile having all the available Technical Resources to resort to in really difficult nose cases.

From a clear perspective after 36 years experience in Rhinoplasty, we can certainly state that: No nose is easy and no Technical Resource is useless.

## References

- Rodríguez-Camps S. Una Nueva Técnica de Remodelación de la Punta Nasal en Rinoplastia, para Casos Extremadamente Difíciles, Mediante la Resección Total de los Cartílagos Alares. y Fascia Temporal. Departamento de Cirugía. Universidad de Valencia, España. 2016.
- Meyer RP. History. In: Meyer RP, editor. Secondary and Functional Rhinoplasty. The Difficult Nose. Orlando, Florida: Grune & Stratton Inc. 1988;1-12.
- Tardy E, Brown R. Topographic Anatomy and Landmarks. In: Tardy E, Brown R, editors. Surgical Anatomy of the Nose. Chicago, Illinois: Raven Press. 1990;1-3.
- Gunter J, Rohrich R, Adams W. Advanced Rhinoplasty Anatomy. In: Gunter J, Rohrich R, Adams W, editors, Dallas Rhinoplasty. Nasal Surgery by the Masters. 2<sup>nd</sup> Edition. St. Louis, Missouri: Quality Medical Publishing, Inc. 2007;1:15-17.
- Converse J. Corrective Rhinoplasty. In: Converse J, editor. Reconstructive Plastic Surgery. Philadelphia, London, Toronto: W.B. Saunders Company. 1977;2:1040-1281.
- Tardy ME, Walter MA, Patt BS. The over projecting nose: anatomic component analysis and repair. Facial Plast Surg. 1993;9:306-16.
- Rodríguez-Camps S. Rinoplastia Secundaria en Nariz Leporina. [Videocinta]. XX Congreso Nacional de la Sociedad Española de Cirugía Plástica, Reparadora y Estética (SECPRE). León. 1989.
- Rodríguez-Camps S. Rinoplastia. La Unidad Vértice-Columela-Labio. XV Congreso de la Federación Ibero-latinoamericana de Cirugía Plástica (FILACP) y XXXIX Congreso Nacional de la Sociedad Española de Cirugía Plástica, Reparadora y Estética (SECPRE). Sevilla. 2004.



9. Rodríguez-Camps S. Rinoplastia Secundaria, Nuestro Proceder: Resección Total de los Cartilagos Alares, Incluyendo las Cúpulas, con un Sello de Fascia Temporal en el Vértice. XLI Congreso Nacional de la Sociedad Española de Cirugía Plástica, Reparadora y Estética (SECPRE). Pamplona. 2006.
10. Rodríguez-Camps S. Rhinoplasty. The Difficult Nasal Tip: Total Resection of the Alar Cartilages. *Aesthetic Plast Surg.* 2009;33(1):72-80.
11. Rodríguez-Camps S. Rhinoplasty. The Difficult Nasal Tip: Total Resection of the Alar Cartilages. *Aesth Plast Surg.* 2009;33:72-83.
12. Rodríguez-Camps S. Una Nueva Técnica para el Tratamiento de la Punta Nasal Difícil. Experiencia Personal de 22 Años (1987-2009). *Cir Plast Iberolatinoam.* 2010;36:3-12.
13. Rodríguez-Camps S. Una Nueva Técnica para el Tratamiento de la Punta Nasal Muy Difícil. Resección Total de los Cartilagos Alares y Cobertura con Fascia Temporal. XLV Congreso Nacional de la Sociedad Española de Cirugía Plástica, Reparadora y Estética (SECPRE). Gerona. 2010.
14. Rodríguez-Camps S. Demostración en Cadáver de la Técnica de Resección Total de los Cartilagos Alares y Fascia Temporal. VI Curso Teórico-Práctico en Disección Anatómica de la Asociación Española de Cirugía Estética Plástica (AECEP), y I Curso de Rinoplastia e Implantes Faciales. Departamento de Anatomía Humana y Embriología II. Facultad de Medicina de la Universidad Complutense. Madrid. 2010.
15. Rodríguez-Camps S. Un Paso Adelante en Rinoplastia: Técnica de Resección Total de los Cartilagos Alares y Fascia Temporal. *Revista de la Asociación Española de Cirugía Estética Plástica (AECEP).* 2010;12:13-24.
16. Rodríguez-Camps S. Rhinoplasty. The Difficult Nasal Tip. Total Resection of the Alar Cartilages and Temporal Fascia Technique. A 24 Year Experience. In: Brenner MJ, editor. *Rhinoplasty.* Rijeka, Croatia: Intech. 2011;97-114.
17. Rodríguez-Camps S. Total Resection of the Alar Cartilages and Temporal Fascia Technique in Rhinoplasty. In: Di Giuseppe A, Shiffman M, editors. *New Frontiers in Plastic and Cosmetic Surgery.* New Delhi, India: Jaypee; 2015:77-94.
18. Rodríguez-Camps S. Rinoplastia: La Base Nasal. V Congreso de la Sociedad de Cirugía Plástica, Reconstructiva y Estética de la Comunidad Valenciana (SCPRECV). Alicante. 2004.
19. Rodríguez-Camps S. Tratamiento personal de las Alteraciones de la Proyección: Punta muy proyectada y poco proyectada. XLVIII Congreso Nacional de la Sociedad Española de Cirugía Plástica, Reparadora y Estética (SECPRE). Tenerife. 2013.
20. Rodríguez-Camps S. Reconstrucción Nasal después de Cirugía Micrográfica de Mohs. [Póster]. Congreso Nacional de la Sociedad Española de Cirugía Plástica, Reparadora y Estética (SECPRE). Valladolid, 1994.
21. Rodríguez-Camps S. Reconstrucción Nasal tras Cirugía Micrográfica de Mohs. *Cir Plast Iberolatinoam.* 1995; 21:215-223.
22. Rodríguez-Camps S. Rinoplastia Reconstructiva Total con Colgajo Mediofrontal. [Videocinta]. VIII Congreso Nacional de la Sociedad Española de Cirugía Plástica, Reparadora y Estética (SECPRE). Santiago de Compostela. 1995.
23. Rodríguez-Camps S. Nose Reconstruction with Medial Forehead Flap after Mohs Surgery. *International Video-Journal of Plastic and Aesthetic Surgery.* 1995;2:3.
24. Rodríguez-Camps S. Nasal Reconstruction after Epithelioma. *Aesth Plast Surg.* 2001;25:273-277.
25. Rodríguez-Camps S. Reconstrucción Estética Nasal. In: González Sarasua J, Sainz Arregui J, editor. *Rinoplastia.* Oviedo: Editorial MIC. 2002;111-119.
26. Rodríguez-Camps S. Reconstrucción Nasal. VII Congreso de la Sociedad de Cirugía Plástica, Reparadora y Estética de la Comunidad Valenciana (SCPRECV). Valencia. 2006.
27. Rodríguez-Camps S. Rinoplastia: Primaria, Secundaria y Reconstructiva. II Congreso de la Sociedad de Cirugía Plástica, Reparadora y Estética de la Comunidad Valenciana. (SCPRECV). Alicante. 2000.
28. Anderson JR. A reasoned approach to nasal base surgery. *Arch Otolaryngol.* 1984;110:349-58.
29. Juri J, Juri C, Grilli D, Zeaiter MC, Belmont J. Correction of the Secondary Nasal Tip. *Ann Plast Surg.* 1986;16:322-32.
30. Gubisch W, Jacqueline Eichhorn-Sens. Overresection of the Lower Lateral Cartilages: A Common Conceptual Mistake with Functional and Aesthetic Consequences. *Aesth Plast Surg.* 2009;33:6-13.
31. Rodríguez-Camps S. Rinoplastia Cerrada. Curso Docente en Cirugía Plástica, Estética y Reconstructiva. Facultad de Medicina, Hospital Clínico, Universidad de Barcelona. Noviembre. 2005.
32. Rodríguez-Camps S. Rinoplastia Miscelánea: Primaria y Secundaria. XXXIV Congreso Nacional de la Sociedad Española de Cirugía Plástica, Reparadora y Estética (SECPRE). Marbella. 1999.
33. Rodríguez-Camps S. Rinoplastia Estética bajo Anestesia Local sin Sedación. [Videocinta]. XXXI Congreso Nacional de la Sociedad Española de Cirugía Plástica, Reparadora y Estética (SECPRE). Madrid. 1996.
34. Rodríguez-Camps S. Augmentative Rhinoplasty with an Auricular Gibbus. *Aesth Plast Surg.* 1998;22:196-205.
35. Rodríguez-Camps S. Rinoplastia Aumentativa con Cartilago Auricular. XXXII Congreso Nacional de la Sociedad Española de Cirugía Plástica, Reparadora y Estética (SECPRE). Barcelona. 1997.
36. Sheen JH. *Aesthetic Rhinoplasty.* Saint Louis, Missouri: The C.V. Mosby Company. 1978.
37. Haas CF, Champion A, Secor D. Motivating factors for seeking cosmetic surgery: a synthesis of the literature. *Plast Surg Nurs.* 2008;28:177-82.
38. Castle DJ, Honigman RJ, Phillips KA. Does cosmetic surgery improve psychosocial wellbeing? *Med J Aust.* 2002;176:601-4.
39. Javo IM, Sørli T. Psychosocial predictors of an interest in cosmetic surgery among young Norwegian women: a population-based study. *Plast Surg Nurs.* 2010;30:180-6.
40. Hellings PW, Nolst Trenité GJ. Long-term patient satisfaction after revision rhinoplasty. *Laryngoscope.* 2007;117:985-9.
41. Fredericks S. Tripod Resection for the "Pinocchio" Nose Deformity. *Plast Reconstr Surg.* 1974;53:531-33.
42. McKinney P, Stalneck M. Surgery for the Bulbous Nasal Tip. *Ann Plast Surg.* 1983;11:106-13.
43. Webster RC, White MF, Courtiss EH. Nasal tip correction in rhinoplasty. *Plast Reconstr Surg.* 1973;51:384-96.
44. Peck GC. The difficult nasal tip. *Clin Plast Surg.* 1977;4:103-10.
45. Rich JS, Friedman WH, Pearlman SJ. The effects of lower lateral cartilage excision on nasal tip projection. *Arch Otolaryngol Head Neck Surg.* 1991;117:56-9.
46. Gunter J, Hackney F. Decreasing Tip Projection: An Algorithm. In: Gunter J, Rohrich R, Adams W, editors. *Dallas Rhinoplasty. Nasal Surgery by the Masters.* 2nd Edition. St. Louis, Missouri: Quality Medical Publishing, Inc. 2007;1:329-338.
47. McKinney P, Stalneck ML. The hanging ala. *Plast Reconstr Surg.* 1984;73:427-30.
48. Ellenbogen R, Blome DW. Alar rim raising. *Plast Reconstr Surg.* 1992;90:28-37.
49. Guerrerosantos J. Temporoparietal Free Fascia Grafts in Rhinoplasty. *Plast Reconstr Surg.* 1984;74:465-74.

50. Baker TM, Courtiss EH. Temporalis Fascia Grafts in Open Secondary Rhinoplasty. *Plast Reconstr Surg.* 1994;93:802.
51. Killian G, Edwin Foster E. The Submucous Window Resection of the Nasal Septum. *Ann Otol Rhinol Laryngol.* 1905;14:363.
52. Zojaji R, Keshavarzmanesh M, Arshadi HR, Mazloun Farsi Baf M, Esmaelzadeh S. Quality of life in patients who underwent rhinoplasty. *Facial Plast Surg.* 2014;30:593-6.
53. Guyuron B, Bokhari F. Patient satisfaction following rhinoplasty. *Aesthetic Plast Surg.* 1996;20:153-7.
54. Vuyk HD, Watts SJ, Vindayak B. Revision rhinoplasty:review of deformities, aetiology and treatment strategies. *Clin Otolaryngol Allied Sc.* 2000;25:476-81.