唇顎裂患者的唇鼻整形手術
Secondary Lip and Nose Revision Surgeries

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The deformities of the lip and nose in a cleft patient are often rather obvious, affecting their psychological and social development. Some of these patients may even have very poor relationship with their parents and other siblings. Early correction helps alleviate the patients' psychological burden and boost their self-image and self-confidence, and also improve their social relationship particularly their relationship with their parents and siblings. Cleft lip and nose deformities can be corrected at the time of alveolar bone graft or early teens before the patients reach skeletal maturities.

Combining correction of lip nose deformities with alveolar bone grafting have the following benefits: less hospital admissions, less general anaesthesia sessions, less sick leaves from school studies, and less medication (the dosage of antibiotics and analgesics are the same for combined or separate single operation). The following patients illustrate different methods of lip nose revision and important points of consideration.

PATIENT A is a secondary school student. She has left cleft lip and cleft palate, with previous lip and palate repaired, alveolar bone graft and rhinoplasty done. During her first visit to our cleft clinic, she was very unhappy with her appearance (Figures 1 & 2): flattened and widened left nostril, sunken nasal sill, left philtrum column was short with tenting of left Peak of Cupid's bow, deficiency of the vermilion at the suture line, thin vermilion on the left side, and a lot of acne on the entire face. The relation with her mother is not good.

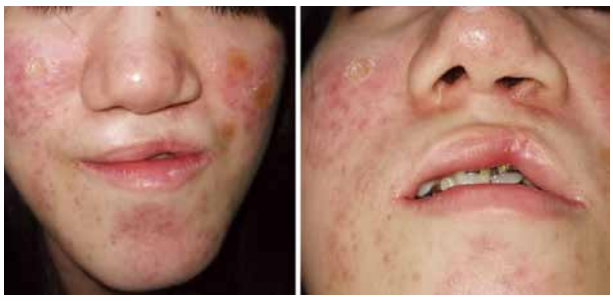

Figure 1 (left) and Figure 2 (right)
圖 1 (左), 圖 2 (右)

We started treating her acne with topical medication. Lip nose revision was done (Figures 3 & 4): Tajima rhinoplasty, narrowing of left nostril, re-align the lip muscle, correct the deviated columella, Tennison triangular flap design to correct the tenting of Peak of Cupid's bow, augmentation of the vermilion on the left side using tissues excised from the old lip scar. The left nostril height and width was purposely overcorrected (the left nostril was made higher and narrower than the normal side).

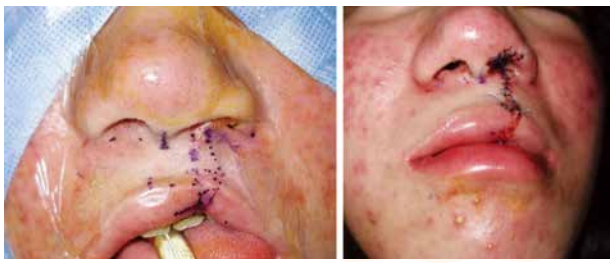

Figure 3 (left) and Figure 4 (right)
圖 3 (左), 圖 4 (右)

Her acne was much better. The shape of the nose and the lip was much improved.

Unfortunately she did not follow our instruction to wear the nasal splint 24 hours a day, there is some loss of nostril height (Figures 5 & 6). Overall, she is much happier than before the lip nose revision.

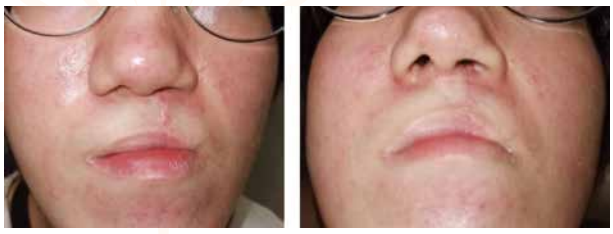

Figure 5 (left) and Figure 6 (right)
圖 5 (左), 圖 6 (右)

PATIENT B was just over 30 years of age. She had unilateral cleft lip without cleft alveolus or cleft palate. The lip was repaired in China when she was 2 or 3 years of age. When B got married few years ago, her sister-in-law disliked her and asked her husband “why do you marry a woman with cleft lip?” This question was like a dagger stabbed into her heart.

She has depressed left ala, sunken nasal sill, excessive vermilion on the cleft side, and slightly longer philtrum column on the cleft side. (Figures 7 & 8)

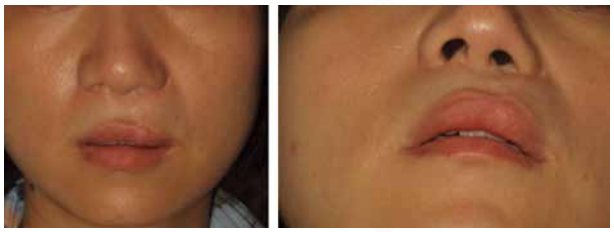

Figure 7 (left) and Figure 8 (right)
圖 7 (左), 圖 8 (右)

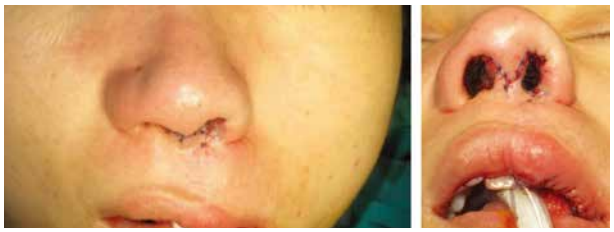

Figure 9 (left) and Figure 10 (right)
圖 9 (左), 圖 10 (右)

Her husband is a very kind and loving husband and was invited to attend the second consultation. He was explained that “no matter how good the results are it would still be difficult to change her sister-in-law’s opinion on her.”

Open rhinoplasty was done in October 2013 (Figures 9 & 10), left alar cartilage was anchored to a higher position, left alar dome was augmented with excised tissues from the alar rim, sunken nasal sill was corrected with de-epithelialised skin, redundant vermilion was also reduced. The nostril height was purposely made taller than non-cleft side, while the nostril width was made narrower to prepare for some loss of correction. Follow-up at two months after operation showed good symmetry of the nose. (Figures 11 & 12) .

However, there was some loss of nostril height and widening of the nostril 2 years after operation (Figures 13 & 14). She requested for another revision surgery. Another operation was done in January 2016: strip of skin was excised from the nasal sill to narrow the left nostril (Figure 15) and to shorten the left philtrum column. Further reduction of the vermilion was done (Figures 16 & 17). During follow-up 18 months after operation, she was quite happy with the result (Figures 18).

Figure 11 (left) and Figure 12 (right)
圖 11 (左), 圖 12 (右)

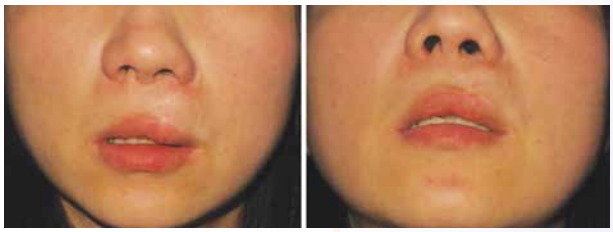

Figure 13 (left) and Figure 14 (right)
圖 13 (左), 圖 14 (右)

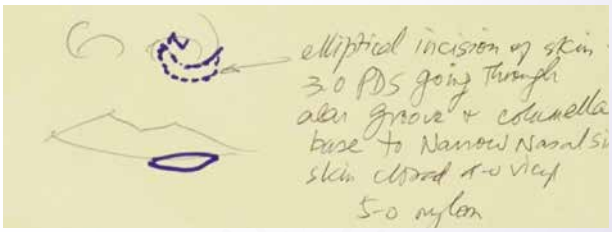

Figure 15 Operation details
圖 15 手術細節

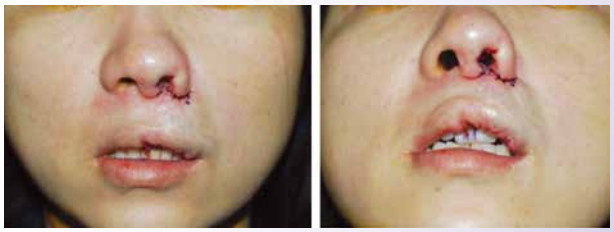

Figure 16 (left) and Figure 17 (right)
圖 16 (左), 圖 17 (右)

Figure 18 (left)
圖 18 (左)

Figure 19 (right)
圖 19 (右)

She came back last year complaining that the philtrum column was too flat, the nasal tip was too large, the muscle on the left side of the upper lip was too bulky (Figure 19). We feel that we can hardly satisfy her requests and decide not to perform any further lip nose revision for her.

PATIENT C had right unilateral cleft lip and palate. When she came to see us at 10 years of age. She had tenting of the right peak of Cupid's bow, the right philtrum column was shorter than the left side by 4mm, the vermilion at the repair site was markedly depressed, the columella was not in the midline. There was severe drooping of the right lower lateral cartilage. She has Class III malocclusion. She was due for alveolar bone graft (Figure 20- 22) .

Simultaneous lip nose revision and alveolar bone graft were done in the same operation. The previous Millard repair of cleft lip was re-done, lengthening the right philtrum column. Z-plasty was done to correct the marked depression at the vermilion scar. Tajima rhinoplasty was done to correct the drooping of the lower lateral cartilage. The nostril height was purposely over-corrected to allow some loss of correction, so is the nostril width. Alveolar bone graft was done, cancellous graft was harvested from the right iliac crest. Much bone graft was also placed under the right alar base to correct the alar base depression (Figure 23- 24) .

Her lip symmetry and the contour of the vermilion were very much improved. She is still having orthodontics treatment to expand her dental arch and to realign her teeth (Figure 25- 26) .

Figure 20- 22 before lip nose revision
圖 20-22 唇鼻整形前

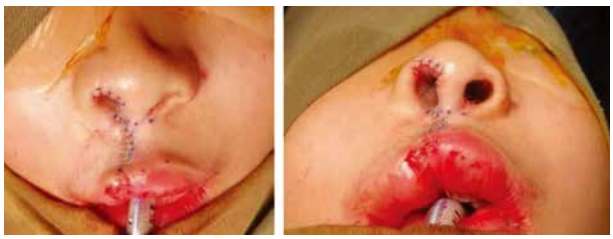

Figure 23- 24 immediately after lip nose revision
圖 23-24 剛完成唇鼻整形後

Figure 25- 26 2 years after lip nose revision
圖 25-26 唇鼻整形手術後 2 年

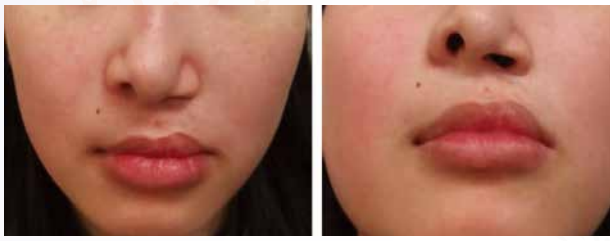

Figure 27- 28 immediately after lip nose revision
圖 27-28 剛完成唇鼻整形後

Figure 29- 30 21 months after lip nose revision
圖 29-30 唇鼻整形後 21 個月

PATIENT D had left unilateral cleft lip and cleft alveolus, no cleft palate. She had Millard repair at 4 months and alveolar bone graft at 9 years of age. She came to see us when she was 15. Her left philtrum column is short, the lower end of the philtrum dimple is too wide, the peak of Cupid's bow is too far lateral, the nasal septum is convex to the left and the tip of the nose is deviated to the right. The columella is shifted to the right. The left ala is collapsed and flares out. The left alar base is sunken (Figure 27- 28) .

Open septorhinoplasty and re-do Millard were done. The septum was relocated and anchored to the midline. The septal cartilage was harvested and used as columella strut to support the nasal tip. The left lower lateral cartilage was anchored to the left and right upper lateral cartilages to correct the depressed alar dome. Lip revision was done by re-doing the Millard rotation-advancement flap.

Photos (Figure 29- 30) showing twenty-one months after lip nose revision, her nasal bridge is straight, her nasal septum is in the midline. The collapsed left alar dome is well corrected. The left peak of Cupid's bow is almost symmetrical as the right side. The left nostril flare out relapses. Minor touch up operation can be done to further improve the appearance of the nose.

PATIENT E had previous lip and palate repaired before 12 months of age, and alveolar bone graft at around 10 years of age. When he came to see us at 15 years of age, he has inaccurate approximation of the white roll, tenting of left Peak of Cupid's bow, marked depression at vermilion, deviation of nasal septum, columella deviated to non-cleft side, and very flat philtrum column on the cleft side (Figure 31- 32) .

Open septorhinoplasty plus lip revision were done. Septal cartilage was harvested and was used to augment the left alar dome. The cephalic rim of the left lower cartilage was trimmed, the lower lateral cartilage was anchored to the left and right upper lateral cartilage, the medial crura of the left lower lateral cartilage was approximated to the right lower lateral cartilage to strengthen the columella, a new genu was created for the left lower lateral cartilage thus strengthening the tip of the nose. The old lip scar was excised, the orbicularis oris muscle was exposed. A new philtrum column was created by horizontal mattress sutures in the orbicularis oris muscle. The depressed vermilion was corrected by approximating the orbicularis oris muscle (Figure 33).

Redundant skin at the left alar rim was also excised. The pictures show two months after operation. The left nostril height is symmetrical with the non-cleft side. The left philtrum column has been reconstructed. The depressed vermilion is corrected. He still needs to put on the nasal splint 24 hours a day for another 4-10 months (Figure 34-35) .

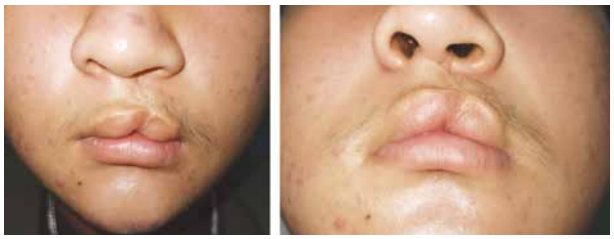

Figure 31- 32 15 years old boy before lip nose revision
圖 31-32 15 歲男孩唇鼻整形前

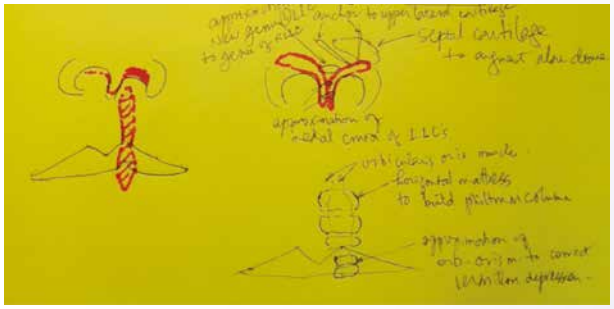

Figure 33 operation details
圖 33 唇鼻整形手術細節

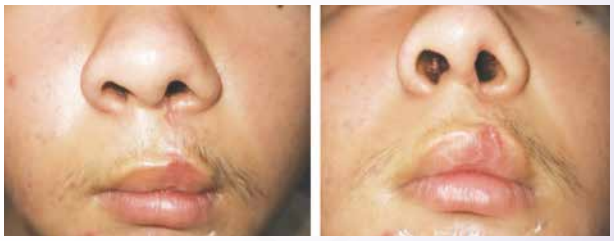

Figure 34-35 2 months after operation
圖 34-35 唇鼻整形手術後兩個月

PATIENT F has bilateral cleft lip. She came to see us when she was in her mid-twenties. She had her jaw surgery done a couple of years before seeing us. She complained of short prolabium, absent vermilion tubercle with severe whistling deformity, short columella and short nasal tip (Figure 36- 39) .

Abbe flap and open rhinoplasty were done. Skin, lip muscle and vermilion were taken as a flap from the lower lip and swung 180 degrees up to the upper lip. The pedicle which contains the blood supply to the flap comes from and is still attached to the lower lip. She could not open her mouth until the pedicle is divided under local anesthesia two to three weeks later. Open rhinoplasty was done. Columella strut was inserted. Bilateral reduction of the ala was done, the incisions were hidden in the alar groove.

Figure 36-39 bilateral cleft lip, short philtrum dimple, absent vermilion tubercle
圖 36-39 雙側唇裂，人中過短，欠缺紅唇結節

She was put on nasal splint around ten days after rhinoplasty. The pedicle of the Abbe flap was divided on Day 16 (Figure 40- 41) .

One and a half year after Abbe flap and rhinoplasty. Note the improved length of the philtrum dimple, good volume of the vermilion tubercle, the lower lip has become normal, is much less everted as before operation. The columella is longer, the nose tip is taller. Overall appearance is much improved (Figure 42- 45).

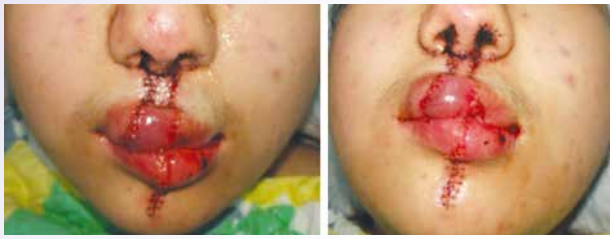

Figure 40- 41 immediately after Abbe flap
圖 40-41 剛完成阿貝皮瓣和鼻整形術後

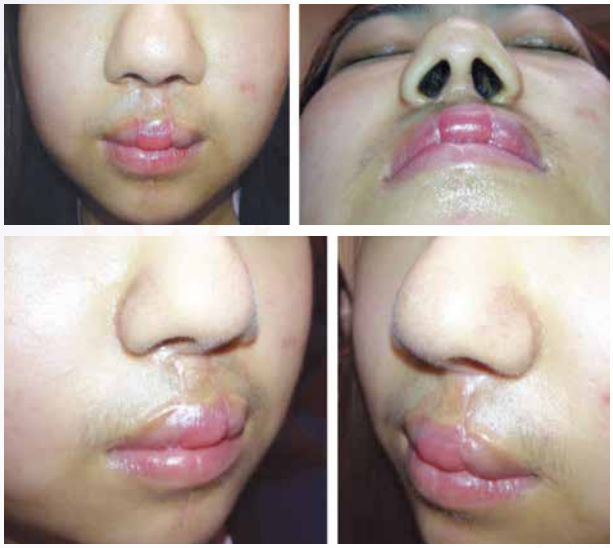

Figure 42- 45 1.5 years after Abbe flap and rhinoplasty
圖 42-45 阿貝皮瓣和鼻整形術後 1.5 年

Summary

Lip and nose deformities are common and obvious in many cleft lip patients after primary lip repair during infancy. Lip and nose revision are often done in the same operation. Alveolar bone graft can be done at the same time to save the patient from another operation. Lip nose revision can be done in the early teens before skeletal maturity and before maxillary advancement for class III malocclusion to improve the appearance and alleviate the psychological burden of the patient and their family.

唇顎裂患者的唇鼻畸形往往都是頗為明顯，影響了他們的心理和社交發展。其中一些患者甚至可能與他們的父母和兄弟姊妹的關係很差。及早接受唇鼻二期整形手術有助減輕患者的負面心理，增強他們的自我形象和自信心，並可改善他們的人際關係，特別是與父母和兄弟姊妹的關係。唇鼻畸形可以在牙槽植骨手術時或患者還未到骨骼成熟的少年階段進行。

唇鼻二期整形手術與牙槽植骨手術同時進行有以下好處：減少全身麻醉、住院和學校請假的次數，減少用藥 (合併手術和單次手術所需的抗生素和鎮痛藥用量相同)。以下幾位患者的唇鼻整形說明了不同的手術方法和注意事項。

患者 A 是一名中學生。她患有左側唇裂和顎裂，小時候接受了唇顎裂修復，約 10 歲接受了牙槽植骨和鼻修復手術。她第一次來我們唇顎裂診所時，她對自己的外表非常不滿意 (圖 1 和圖 2)：左鼻孔扁平寬闊，鼻孔坎下陷，上唇疤痕收縮以至左唇峰翹起，紅唇疤痕下陷及紅唇薄，臉上有很多暗瘡。另，她與母親關係不佳。

我們首先用藥物治療她的暗瘡。接著進行唇鼻整形手術 (圖 3 和圖 4)：1) Tajima 鼻整形；2) 修窄左鼻孔；3) 3D 重新調整上唇肌；4) 矯正偏斜的鼻小柱；5) Tennison 三角形皮瓣改善唇峰及唇弓；及 6) 以上唇舊疤痕組織填補左側紅唇不足的問題。左鼻孔高度和寬度被故意過度矯正 (左鼻孔比正常側高和窄)。

她面上的暗瘡消失了。她的鼻和上唇外觀得到了很大的改善。

可惜，她沒有按照我們的指示一天 24 小時佩戴鼻托，鼻孔的高度降低了些 (圖 5 和圖 6)。整體來說，現在她比唇鼻整形手術前開心多了。

患者 B 剛過 30 歲。她患有左側唇裂，但牙槽和上顎正常。她兩、三歲時在國內接受補唇手術。B 幾年前結婚時，她丈夫的姊姊不喜歡她，問她丈夫為什麼要娶一個兔唇的女人，這個問題就像是一把匕首刺傷她的心。

她的患側鼻翼扁塌，鼻孔坎下陷，患側紅唇過多，患側人中脊過長 (圖 7 及 8)。

我們邀請她的丈夫出席第二次手術諮詢，她的丈夫是一個非常善良和有愛心的丈夫。我們向他解釋說：即使手術效果再好也不能改變你姊姊對她的看法。

她的鼻整形手術於 2013 年 10 月進行 (圖 9 和 10)： 1. 患側鼻翼軟骨被提高，2. 用鼻孔邊緣切除的組織豐滿了鼻翼，3. 用修削出來的表皮改善凹陷鼻孔底部、4. 縮減左邊多餘的紅唇。左鼻孔高度和寬度被故意過度矯正 (左鼻孔比正常側高和窄) 以預防整形後傷口癒合耗損，術後兩個月覆檢時顯示術後鼻子對稱 (圖 11 和圖 12)。

然而，手術後 2 年覆檢時，她的鼻孔高度有些下降，鼻孔亦有點變寬 (圖 13 和 14)。她再次要求矯形手術。2016 年 1 月為她進行了另一次手術：1. 從患側鼻孔底部切除一些組織以縮窄左鼻孔 (圖 15)； 2. 縮短左側人中脊，3. 進一步減少了左側紅唇 (圖 16 和 17)。在術後 18 個月的覆檢中，她表示對手術效果非常滿意 (圖 18)。

去年，她再約見，抱怨人中脊太扁平，鼻頭太大，上唇左側肌肉太厚 (圖 19)。我們覺得很難滿足她的要求，決定不再為她進行唇鼻矯正手術。

患者 C 當時年 10 歲，患有右側唇顎裂。她的唇疤痕收縮以至右側唇峰翹起，右側人中脊比左側短了 4mm，紅唇疤痕明顯凹陷，鼻小柱不在中線位置，患側鼻翼嚴重下塌，第 III 類牙齒不咬合 (倒岌牙)。她正需要接受牙槽植骨手術 (圖 20-22)。

在同一手術中同時進行唇鼻整形和牙槽植骨手術：1. 重做 Millard 唇裂修復，延長了右側人中脊；2. Z 形成術改善紅唇疤痕處的明顯凹陷；3. Tajima 鼻整形以糾正患側鼻翼嚴重下塌 (鼻孔高度和鼻底寬度被故意過度矯正以預備一些手術校正後的損失); 4. 牙槽植骨，從右邊盆骨獲取鬆質骨移植至牙槽裂隙；5. 患側鼻翼底部同時植入骨質，以矯正鼻底下陷 (圖 23-24)。

她的唇弓的對稱程度和左右兩側紅唇的厚薄度得到了很大改善。她仍在接受牙齒矯正以擴闊上牙弓，並把牙齒排列整齊 (圖 25-26)。

患者 D 有左側唇裂和牙槽裂，沒有顎裂。她在 4 個月大時進行了 Millard 修復，並在 9 歲時進行了牙槽植骨。她 15 歲時來見我們。她的左人中脊較短，人中底部過寬，左唇峰至唇角太寬，鼻中隔向左邊凸起，鼻尖傾向右側，鼻小柱偏右，左鼻翼塌陷並向外張開，左側鼻孔底部下陷 (圖 27-28)。

手術包括揭開式鼻整形及重做 Millard： 1. 鼻中隔被矯正及固定到中線位置；2. 移植鼻中隔軟骨至鼻小柱頂部以支撐鼻尖；3. 左側下方軟骨被固定在左邊及右側上方軟骨來糾正下陷的左鼻翼圓拱；4. 重做 Millard 以修復上唇。

以上照片 (圖 29-30) 顯示她唇鼻矯形後二十一個月的外貌，她的鼻樑垂直，鼻中隔在中線。塌陷的左鼻翼圓拱得到了很好的矯正。左右唇峰近乎對稱。左側鼻孔再現彈張情況。可以進行小手術以進一步改善鼻部外觀。

患者 E 在 1 歲前接受了補唇和補顎，並在 10 歲左右接受了牙槽植骨手術。他年 15 歲時來見我們，他的上唇紅白線不對，左唇峰翹起，紅唇疤痕有明顯凹陷，鼻中隔偏斜，鼻小柱偏向正常一邊，患側人中脊非常扁平 (圖 31-32)。

手術包括揭開式鼻整形和唇部矯正：1. 移植鼻中隔軟骨以改善塌陷的左鼻翼圓拱；2. 左側鼻翼邊緣軟骨稍為削減；3. 左下側軟骨被固定在左邊及右邊上側軟骨以糾正下陷的左邊鼻翼圓拱；4. 左鼻翼軟骨的內側腳被固定在右鼻翼，使左右兩邊垂直軟骨對齊和綁定以鞏固鼻小柱；5. 左邊鼻翼橫向軟骨上加厚以強化鼻尖形態；6. 切除唇疤痕，在口輪匝肌上加垂直褥式縫線以塑造左側人中脊；7. 調整口輪匝肌以改善紅唇凹陷部份；8. 左側鼻翼邊緣的多餘皮膚也被切除 (圖 33)。

上圖顯示術後兩個月唇鼻狀態。左鼻孔高度與健側對稱。左側人中脊已重建。凹陷紅唇得到改善。手術後，他需要每天 24 小時戴上鼻托，並持續 4-10 個月 (圖 34-35)。

患者 F 患有雙側唇裂，二十多歲時來見我們。在見我們前幾年，她接受了正顎手術。她上唇的中間部份過短，欠缺紅唇結節，嘴唇不能合上且牙齒外露嚴重，鼻小柱過短，鼻尖不明顯 (圖 36-39)。

進行了阿貝瓣和揭開式鼻整形手術，從下唇切出包含皮膚、唇肌和紅唇的皮瓣以 180 度翻向上方，分離上唇並把皮瓣縫合一起。仍然附在下唇的阿貝瓣蒂部為縫在上唇的皮瓣提供血液供應。直至術後兩、三週，在局部麻醉下阿貝瓣蒂部分離後，患者才能張開嘴巴。同時進行了揭開式鼻整形，植入鼻小柱支柱。另外亦做了雙側鼻翼削減，手術切口隱藏在翼溝內。

鼻整形術後十天左右，她開始戴鼻托。阿貝瓣蒂部在第 16 天被分開 (圖 40-41)。

阿貝瓣和鼻整形手術術後一年半。患者人中的長度有所改善，紅唇豐滿程度很好。而下唇亦已變得正常，較之手術前下唇太贅和外翻情況已得到很大改善。鼻小柱加長，鼻尖加高。整體面貌改善不少 (圖 42-45)。

總結

唇顎裂患者在嬰兒期接受了補唇和補顎手術後，隨著他們成長，很多患者的唇鼻畸形會變得明顯。唇和鼻的二期整形通常在同一個手術中完成，而牙槽植骨手術亦可以同時進行，這樣患者可避免接受多一次手術。在青年骨骼發育成熟前，與及改善第三類牙齒不咬合 (倒岌牙) 的正顎手術前，可以進行唇鼻整形手術，以改善患者的外觀，減輕唇鼻畸形為患者及家人帶來的心理壓力。