

# 13. Secondary Cleft Lip Surgery

Alex Campbell, MD and Carolina Restrepo, MD

## SECONDARY SURGERY FOR UNILATERAL CLEFT LIP

- Secondary deformities are the rule rather than the exception, and in many aspects are more difficult to repair than primary deformities.
- It is easier to avoid a secondary deformity than it is to correct it.
- Timing of Secondary Revision
- Preschool years (age 4-5)
- Early adolescence
- Cessation of facial growth
- Emotional maturity

## RELEVANT ANATOMY

### **Vertical Excess (Long Lip)**

- Various degrees of elliptical skin excisions
- Only seen in unilateral cleft lip

Surgical correction:

1. Crescenteric excision at alar base
2. Re-advancement of repair

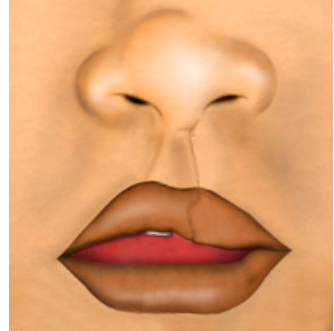


Figure 13-1. Vertical excess after Lip Repair.  
© 2017 A Campbell, C Restrepo



Figure 13-2. Crescenteric excision at alar base for surgical repair of vertical excess. © 2017 A Campbell, C Restrepo

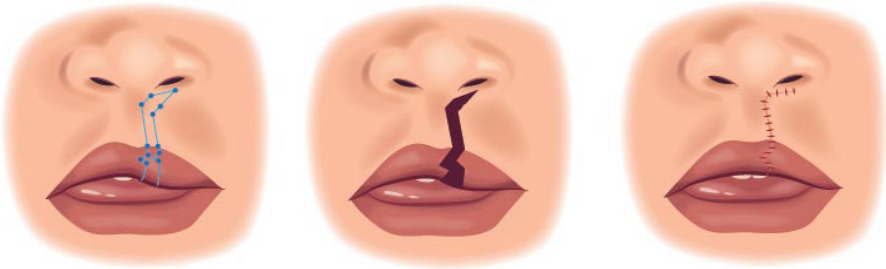


Figure 13-3. Re-advancement of repair for surgical repair of vertical excess. © 2017 A Campbell, C Restrepo

### Vertical Deficiency (Short Lip)

- Caused by under rotation of medial lip element and / or scar contracture of corrected lip. Generally requires re-do repair with re-rotation of medial segment and / or inferior lateral triangle.

Surgical correction:

1. Re do repair with rerotation medial segment and inferior triangle.

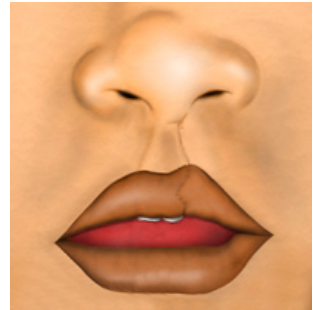


Figure 13-4. Vertical deficiency after UCL repair causing a short lip. © 2017 A Campbell, C Restrepo

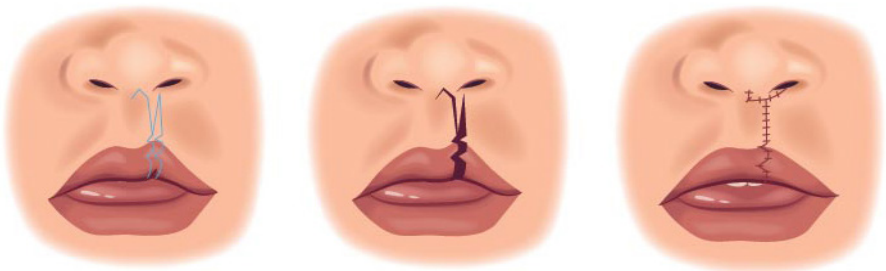


Figure 13-5. Re-advancement of repair for surgical repair of vertical excess. © 2017 A Campbell, C Restrepo

### Vermillion Deficiency (Whistle Deformity)

- Caused by deficiency of muscle and mucosa
- Mild cases may be treated with augmentation through fat grafting.
- Moderate cases may require z-plasties, lateral vermilion "v" flap, repair of orbicularis oris, and / or dermal grafting.
- More severe cases require re-do repair with re-advancement of lateral segment and repair of orbicularis oris, and / or dermal grafting.

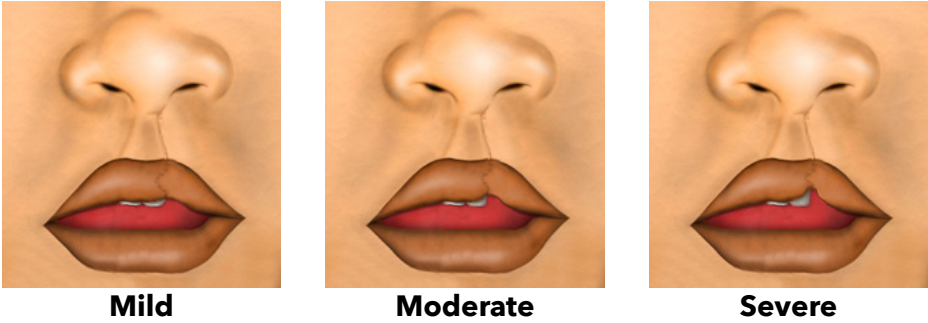


Figure 13-6. Mild , moderate, and severe degrees of vertical deficiency after UCL repair causing a short lip. © 2017 A Campbell, C Restrepo

Surgical correction:

- 1. Fat grafting (mild cases)
- 2. Z plasty (mild cases)
- 3. Lateral vermilion "V" flap with muscle repair (moderate cases)
- 4. Re do repair with readvancement lateral lip



Figure 13-7. Fat grafting for treatment mild vermilion deficiency (Whistle deformity). © 2017 A Campbell, C Restrepo



Figure 13-8. Z plasty for treatment mild vermilion deficiency (Whistle deformity). © 2017 A Campbell, C Restrepo

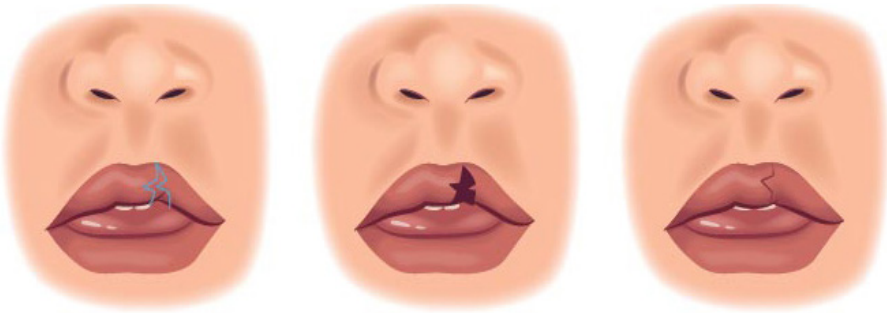


Figure 13-9. Lateral "V" flap with muscle repair for moderate vermilion deficiency (Whistle deformity). © 2017 A Campbell, C Restrepo

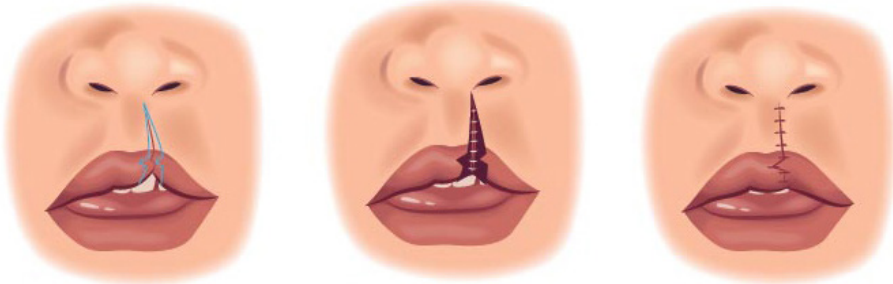


Figure 13-10. Lateral "V" flap with muscle repair for moderate vermilion deficiency (Whistle deformity). © 2017 A Campbell, C Restrepo

### Vermilion Excess (Excessive Fullness)

- Excess vermilion lateral segment

Surgical correction:

1. Lenticular excision with scar at red line

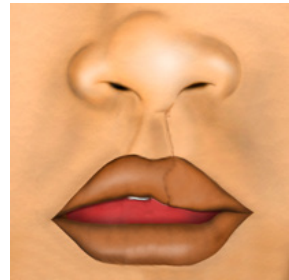


Figure 13-11. Vermilion excess causing a full lip.  
© 2017 A Campbell, C Restrepo



Figure 13-12. Lenticular vermilion excision centered at red line for treatment of excessive vermilion fullness. © 2017 A Campbell, C Restrepo

### White Roll Mismatch

- Malalignment of white roll.

Surgical correction:

1. Z plasty
2. Redo repair

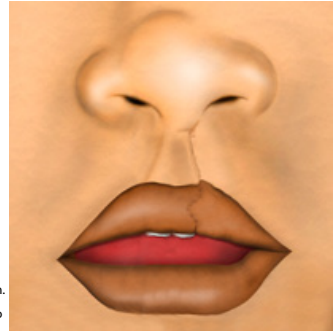


Figure 13-13. White roll mismatch.  
© 2017 A Campbell, C Restrepo

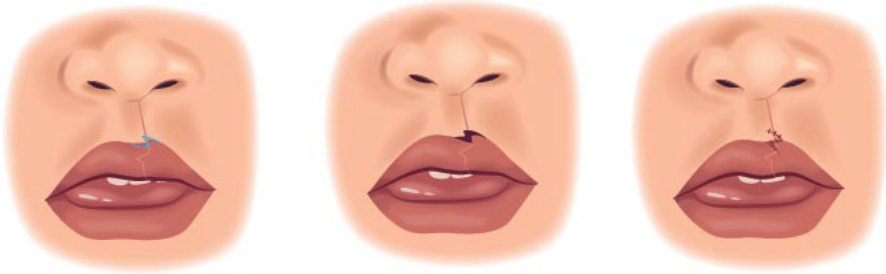


Figure 13-14. Z plasty for correction white roll mismatch. © 2017 A Campbell, C Restrepo

### Scars

- Most noticeable and striking stigmata
- Contributing factors
  - Genetics
  - Skin closure technique / sutures
  - Muscle diastasis
  - Protrusive premaxilla
  - Excessive tension
  - Post operative care
- Early Treatment
  - Massage, silicone, steroid injections

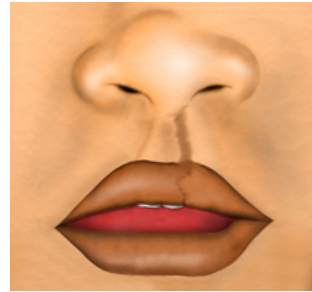


Figure 13-15. Wide scar after UCL repair.  
© 2017 A Campbell, C Restrepo

Surgical correction:

1. Scar revision
2. Redo repair

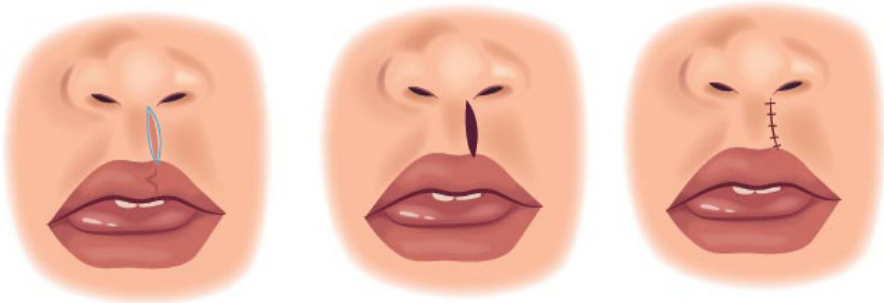


Figure 13-16. Scar revision for poor scarring after UCL repair. © 2017 A Campbell, C Restrepo



Figure 13-17. Redo of full repair for poor scarring after UCL repair. © 2017 A Campbell, C Restrepo

### Wide Philtrum (Bilateral Cleft Lip)

- Philtrum may become progressively wide due to lack of muscle integrity and tension.
- Treatment includes excision of excess tissue on one or both sides and reapproximation of orbicularis muscle when needed.



Figure 13-18. Wide philtrum after BCL repair.  
© 2017 A Campbell, C Restrepo

Surgical correction:

1. Narrowing of philtrum



Figure 13-19. Narrowing of philtrum with advancement lateral segments. © 2017 A Campbell, C Restrepo

### Horizontal Deficiency (Bilateral Cleft Lip)

- Requires additional tissue.

Surgical correction:

1. Abbe Flap (Lip Switch)
  - Lower lip transfer to deficient upper lip
  - Highly versatile
  - Balances upper and lower lips

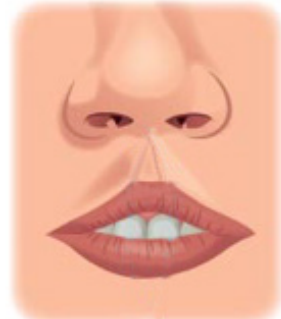


Figure 13-20. Narrow philtrum after BCL repair. © 2017 A Campbell, C Restrepo

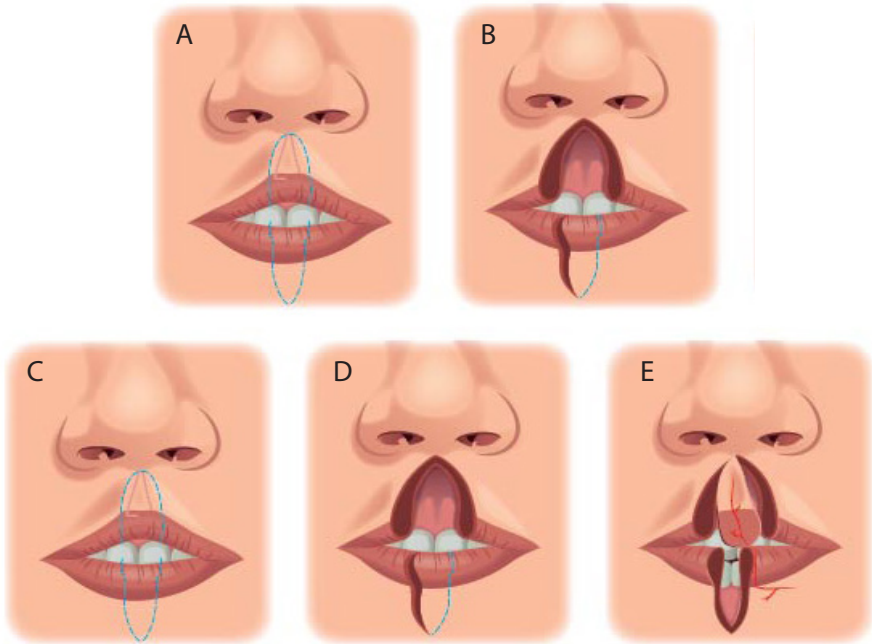


Figure 13-21. Abbe flap design (A), excision of upper lip defect (B), dissection of Abbe flap its pedicle (inferior labial artery) with a small amount of muscle and mucosa (C), inset of flap into defect (D), and division of pedicle after two weeks with final inset (E). © 2017 A Campbell, C Restrepo

## KEY READING

1. Reinisch J, Li W. (2009) Complications of Cleft Lip and Palate Surgery. In: Losse J, Kirschner R: Comprehensive Cleft Care (pp. 465-473). McGraw-Hill Companies.
2. Byrd S, El-Musa K, Yazdani A. (2009) Correction of Unilateral Cleft Lip and Nose Deformity. In: Losse J, Kirschner R: Comprehensive Cleft Care (pp. 473-486). McGraw-Hill Companies.

3. Bruner T, Boyd V, Stal S, Hollier L. (2009) Correction of Bilateral Cleft Lip and Nose Deformities. In: Losee J, Kirschner R: *Comprehensive Cleft Care* (pp. 487-498). McGraw-Hill Companies.
4. Stal S, Hollier L. Correction of secondary cleft lip deformities. *Plast Reconstr Surg.* 2002 Apr 15;109(5):1672-81; quiz 1682.
5. Schulte D, Sherris D, Kasperbauer J. The anatomical basis of the Abbé flap. *Laryngoscope.* 2001 Mar;111(3):382-6.
6. Lo L, Kane A, Chen Y. Simultaneous reconstruction of the secondary bilateral cleft lip and nasal deformity: Abbé flap revisited. *Plast Reconstr Surg.* 2003 Oct;112(5):1219-27.
7. Bagatin M, Most S. The Abbe flap in secondary cleft lip repair. *Arch Facial Plast Surg.* 2002 Jul-Sep;4(3):194