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유리피판 재건술 후 이차 윤곽 교정을 위한 Subunit 기반 피판 내 Debulking 기법

(Subunit-Based Intraflap Debulking Technique for Secondary Contouring After Free Flap Reconstruction)



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INTRODUCTION :

- Despite advances in surgical technique for flap thinning, secondary debulking is often needed in areas with thin soft tissue coverage.
- Flaps spanning multiple anatomical subunits present a unique challenge, as central bulkiness—often near subunit junctions—is difficult to address with conventional margin-based approaches and may obscure natural contours.
- We introduced a subunit-based intraflap debulking technique, placing incisions across the flap along anatomical subunit borders, and evaluated its safety and effectiveness.

METHODS :

- Patients who underwent free flap reconstruction (2021–2025) and subsequent secondary debulking using this technique were retrospectively reviewed.
- The technique consists of intraflap incisions along subunit borders, cone-shaped excision of central redundancy, and flap re-approximation to restore natural contours.
- Postoperative outcomes (wound dehiscence, seroma, delayed wound healing, hematoma, infection, etc.) were assessed.

RESULTS :

- A total of 22 cases were treated, most commonly involving lower extremity reconstruction, particularly of the foot, with the superficial circumflex iliac artery perforator flap most frequently used.

- Debulking was performed at a median of 10 months after the initial reconstruction. No postoperative complications were observed.
- The median time to complete healing was 14 days, and all patients reported satisfaction with the aesthetic outcomes.



Fig. 1. Subunit-based intraflap debulking technique. An incision was placed along the dorsum–ankle junction, followed by cone-shaped excision of central bulkiness and flap reapproximation to restore natural contour. Uneventful healing with improved contour and function was achieved.



Fig. 2. A 72-year-old man underwent ALT free flap reconstruction for melanoma of the forefoot. At 12 months, secondary debulking was performed using a midline intraflap incision between the fourth and fifth toes. Uneventful healing with resolution of bulkiness and no need for further procedures was observed at 7 months.

CONCLUSION :

- The subunit-based intraflap debulking technique appears to be a safe approach for secondary contouring after free flap reconstruction in selected cases, allowing effective central debulking and restoration of natural subunit borders.