

Immediate Nasal Reconstruction Using Avulsed Native Nasal Skin After Trauma

Vanessa Zi-Ying McLoughlin, BM,
BCh*†
Rei Ogawa, MD, PhD, FACS *

Summary: Reconstruction of nasal skin poses significant challenges due to its thickness, sebaceous nature, and high bacterial colonization. Full-thickness nasal skin grafting is extremely rare, as native nasal skin is not commonly used as a donor site. This report describes a unique case of successful reconstruction using avulsed native nasal skin following trauma. A healthy man in his 60s sustained a complete avulsion of the nasal skin after a fall. The avulsed skin, initially discarded, was retrieved and prepared as a graft. Thorough disinfection and aggressive thinning were performed to optimize graft take. The graft was secured using a tie-over dressing under local anesthesia in the emergency room. The graft achieved full survival without the need for secondary interventions. Mild postoperative erythema resolved completely after 6 months of topical diclofenac therapy. This case demonstrates that avulsed native nasal skin can be successfully repurposed for nasal reconstruction when carefully prepared. Key factors for success included meticulous thinning and rigorous disinfection to counter the sebaceous and microbial challenges of nasal skin. Further studies may be beneficial to define the limitations and optimal management strategies for nasal skin grafting. (*Plast Reconstr Surg Glob Open* 2026;14:e7600; doi: [10.1097/GOX.0000000000007600](https://doi.org/10.1097/GOX.0000000000007600); Published online 8 April 2026.)

Reconstruction of nasal skin is particularly challenging due to its unique characteristics. The skin of the nose is rich in sebaceous glands and thicker than that of other facial regions, posing difficulties in achieving a color and texture match. Moreover, closure of grafts or flaps can lead to margin distortion. Herein, we describe an exceptionally rare case of skin grafting using avulsed native nasal skin following trauma.

CASE PRESENTATION

A previously healthy man in his 60s presented with complete avulsion of the nasal skin after striking his nose on a shelf during a fall. Initially, the avulsed skin had been discarded; however, upon our request, his family retrieved

and brought it to the hospital with the aim of using it as a native graft. The skin ischemic time was approximately 2 hours. Examination revealed a nasal defect measuring 40 mm by 15 mm (Fig. 1), and the avulsed skin included full-thickness skin along with attached soft tissue. (See figure, Supplemental Digital Content 1, which displays the anterior surface of the avulsed skin [A]. B, Posterior surface of the avulsed skin, <https://links.lww.com/PRSGO/E754>.)

Nasal skin is not a typical donor site, and preparation posed unique challenges. Given the high density of sebaceous glands and the risk of infection, the avulsed skin was thoroughly disinfected and carefully thinned to optimize graft take. Oil exudation during thinning necessitated repeated disinfection (Fig. 2A). Under local anesthesia, the wound bed was prepared, and the thinned nasal skin graft was sutured to it with 5-0 nylon sutures. These sutures were then used to apply cotton balls impregnated with antibiotic ointment, and the graft was secured using a

From the *Department of Plastic, Reconstructive and Aesthetic Surgery, Nippon Medical School, Tokyo, Japan; and †Green Templeton College, University of Oxford, Oxford, United Kingdom. Received for publication June 14, 2025; accepted February 13, 2026.

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Fig. 1. Nasal wound at presentation.

standard tie-over dressing technique (Fig. 2B). The entire procedure was completed within 1 hour in the emergency room.

The graft achieved full take (Fig. 3), and no secondary procedures were required. Mild postoperative inflammation, characterized by redness and induration, was managed with topical diclofenac sodium cream for 6 months, leading to complete resolution. No other postoperative complications occurred. At 6 months postoperatively, 3 plastic surgeons evaluated the patient in the outpatient clinic and found no perceptible differences in texture or color. As the patient expressed satisfaction and requested discontinuation of follow-up, postoperative observation was concluded.

DISCUSSION

The sebaceous nature¹ and relative thickness² of nasal skin necessitate aggressive thinning to prevent graft necrosis and to promote diffusion of nutrients.³ Given the rarity of using nasal skin as a graft donor, this case offered a unique opportunity to explore its utility. We performed extensive thinning, maintaining slightly more subcutaneous tissue than a conventional

full-thickness graft, aligning with the recommendation by Burget et al of a 3–4 mm “cushion” to preserve color, plumpness, and texture.⁴ Because this was an emergency setting, the exact thickness could not be measured; however, it was estimated to be approximately 1 mm, which represents the limit of manual skin thinning.

Bacterial colonization of nasal skin⁵ posed an infection risk. To mitigate this, the graft was immersed in povidone-iodine solution, a method shown to significantly reduce nasal bacterial load.⁶ Tie-over fixation and prophylactic oral antibiotics further supported graft survival.

Skin grafts are generally less technically demanding compared with flaps and typically involve only a single-stage procedure. However, flaps often achieve superior aesthetic outcomes due to better texture and color match.⁷ In this case, the use of avulsed nasal skin provided excellent texture and color compatibility with minimal scarring, combining the advantages of both techniques.

Although aesthetic units and subunits should be considered in facial reconstruction, in an emergency setting, the primary goal of initial treatment is to ensure graft or tissue survival. Avulsed native tissue generally provides the most favorable aesthetic outcome.

This technique is feasible only when the vascularized perichondrium is preserved, as grafting fails in the presence of fully exposed cartilage. Therefore, the procedure is applicable only under limited conditions. It may be worth attempting, except in cases of severe bleeding diathesis or when prolonged ischemic time has clearly compromised skin color. If the transplanted tissue becomes necrotic, debridement should be performed, followed by a period of wound conditioning, after which skin grafting from the preauricular, postauricular, or clavicular regions can be considered to achieve optimal color and texture match.⁸ In cases of severe damage, such as with exposed cartilage, alternative reconstructive options, including a median forehead flap, may be required.⁹ If this procedure is undertaken, some degree of mismatch in color and texture is unavoidable.

CONCLUSIONS

This case demonstrates that nasal skin can be successfully used as a donor graft for nasal reconstruction following traumatic avulsion. Critical steps include meticulous thinning and rigorous disinfection to enhance graft survival. Future investigations should aim to establish definitive criteria regarding defect size, depth, and perioperative management strategies for nasal skin grafting.

Rei Ogawa, MD, PhD, FACS

Department of Plastic, Reconstructive and Aesthetic Surgery
Nippon Medical School
1-1-5 Sendagi Bunkyo-ku
Tokyo 113-8603, Japan
E-mail: r.ogawa@nms.ac.jp

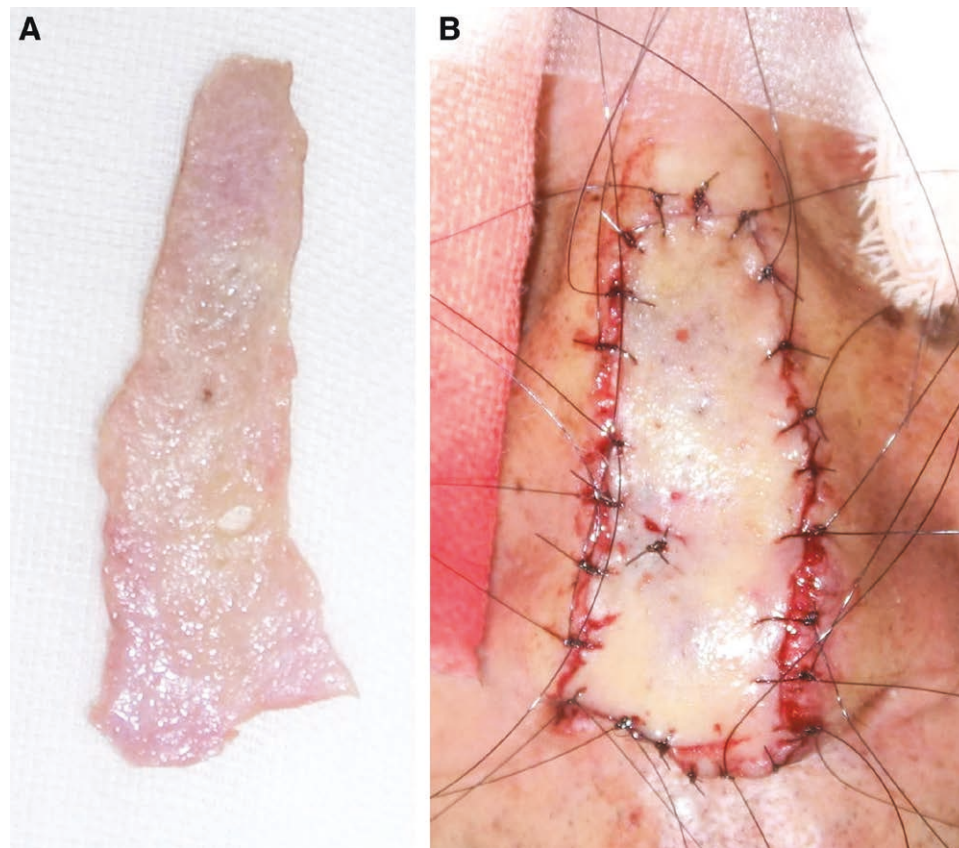


Fig. 2. Avulsed skin immediately after thinning and after grafting. A, Avulsed skin following disinfection and thinning. B, Graft secured on defect using tie-over dressing.



Fig. 3. Complete wound healing at 6 months postgrafting.

DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

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