
A Composite Hair-bearing and Non-hair-bearing Sideburn Flap

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A versatile and dependable composite hair-bearing and non-hair-bearing flap is described that allows for immediate reconstruction in the highly visible temple and preauricular areas. A combined hair-bearing and non-hair-bearing flap is transferred from the postauricular region to the area of the temple and laterally to the orbit. Modification of the flap by harvesting additional tissue from the posterior conchal region assures greater reconstructive potential and variability.

An innovative and customized flap is described for reconstructing the conspicuous preauricular and posterior facial regions in an exacting, predictable manner. It is extremely dependable and permits transposing tissue of excellent aesthetic and functional quality. The composite nature of the flap enables one to match the primary site in terms of the amount of hair-bearing skin originally ablated.

Historical Perspectives

Ablative defects in the preauricular and posterior facial regions have been reconstructed by numerous imaginative techniques, all of which have major limitations. These efforts range from primary closure with wide local undermining to split- and full thickness skin grafting with advancement and rotation of non-hair-bearing flaps, to transposition of hair-bearing flaps. Each method is tailored to the individual, taking into account the pathological potential of the primary lesion, the resultant surgical defect, and the nature and availability of surrounding tissue? For small superficial lesions, local advancement procedures meet most reconstructive requirements. Lore describes a post auricular advancement flap that appropriates skin posteroinferiorly for defects near the anterosuperior aspect of the auricles Full thickness skin grafts harvested from the postauricular or supraclavicular areas also give reasonably good results. Split-thickness skin grafts, however, should be utilized only when all other methods have been exhausted because, in general, the cosmetic and functional results derived from these grafts are inferior to those of all others (Fig 1). Many authors, including Esser in 1918 and Smith in 1951, [11] advocated increasingly aggressive restorative procedures, including cheek advancement and rotation, to meet the demands of deeper and more extensive ablative defects. In 1972, Stark and Kaplan [12] advanced cervical flaps from an inferior direction superiorly. This concept was modified by Juri and Juri in 1979, [6] utilizing modern face lifting techniques, by design-

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Fig 1. Split-thickness skin graft reconstruction, three weeks postoperatively. Note the difference in texture, color, and thickness.

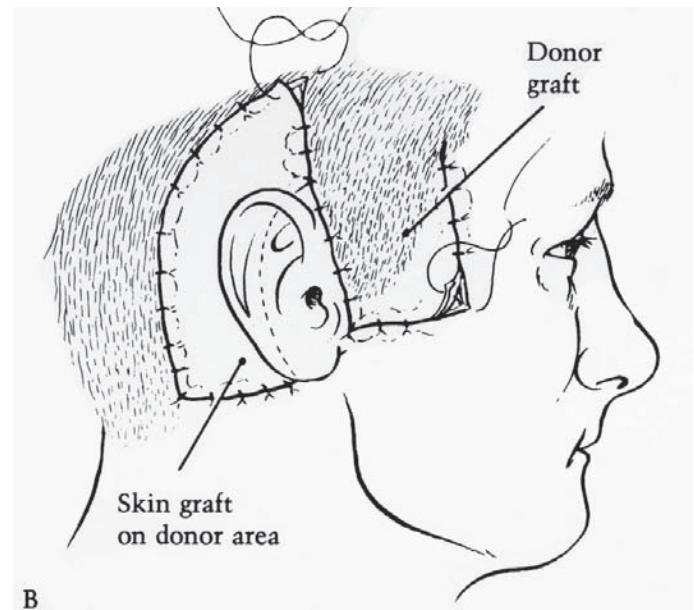
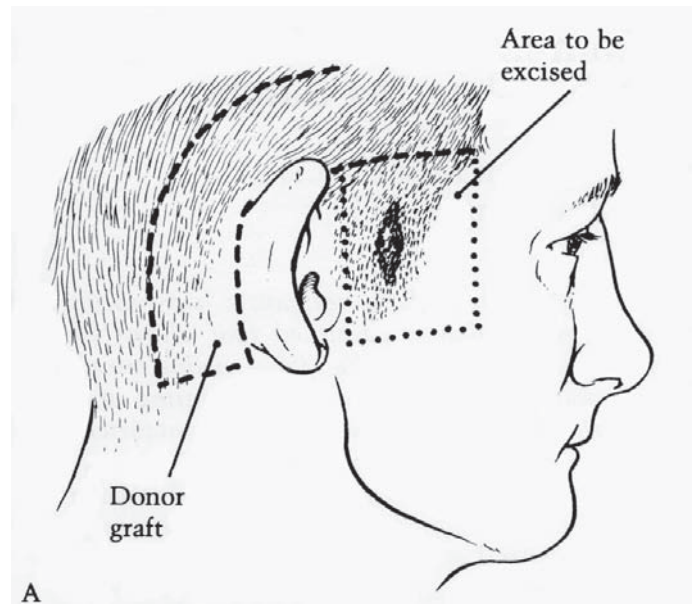


Fig 2. (A) Step 1. Planning and measurement of flap. (B) Transposition and skin grafting of donor site.

ing a large cervicofacial advancement and rotation flap requiring extensive undermining, including the areas over the cheek, neck, and lower chin and extending down to the level of the clavicle. In 1977, Converse proposed preauricular transposition flaps, using full thickness skin grafts or V-Y advancement techniques to close the secondary defect. A more complex method combined the use of an infraauricular transposition flap with a temporal rotation flap. [3] All of these rotation and advancement modifications, though variably applicable, have serious limitations—either visible scars or apparent differences from the rest of the hair-bearing areas of the male face. These deficiencies were partly resolved by expanding on the work of Schimmelbusch, who in 1892 [3] raised the first hair-bearing transposition flap. Early innovators of the use of hair bearing flaps for facial reconstruction included Esser, Lexer, and Joseph [4,7,13] However, specific side burn restoration waited for Orticochea, [9] who modified Pas sot's random-based temporal flaps [10] to the anterior hairline for use as side-burns. Wilson et al also used a hair-bearing flap transposed 90 degrees to the sideburn, in 1980. [3] A tubed, multistage reconstruction of the side burn was suggested by Brent in 1975, [1] using an inferiorly based pedicle. However, the unnecessary complexities of this proce-

dures are limiting.

Operative Technique

The composite sideburn flap is based superiorly on a randomized pedicle and transposed from the post auricular area through an arc of approximately 40 degrees to its new position in the preauricular and posterior facial region. The design modifica-



A



B

Fig 3. (A) Malignant melanoma of temple. (B) Six months postoperatively. Reconstruction utilized a combination sideburn flap.



Fig 4. Three years after excision of local recurrent adenoid cystic carcinoma of paratoid gland, necessitating removal of skin, zygoma, and muscle. Reconstruction utilized a combination sideburn flap with posterior conchal extension carried with hair-bearing sideburn. Note infraauricular defect secondary to paratoid resection five years previously.

tions are based on the size and position of the primary defect, emphasizing the relative proportions of hair-bearing to non-hair-bearing tissue required for the reconstruction. Thus, for men reconstruction can involve only a simple, complete sideburn or a much larger, non-hair-bearing area in the posterior face. As the defect advances anteriorly, requiring a larger proportion of non-hair-bearing tissue, the immediate retroauricular area is transposed along with the hair bearing tissue. In extreme cases, a considerably larger non-hair-bearing flap can be designed by using posterior conchal skin adjunctively (Fig 2). A wide choice of tissue is available in the composite sideburn flap, which is well camouflaged at the donor site and technically easy to maneuver. In women, the composite flap is made entirely of non-hair-bearing tissue from the immediate retroauricular and posterior conchal area and is transferred in an identical manner. If hair is needed for the temple, the post auricular hair is included. As in the male, the donor site is repaired with a split thickness skin graft.

Discussion

Facial reconstruction is exacting, requiring attention to such factors as skin color, texture, thickness, and physiological potential and concealment of scars. The composite sideburn flap admirably meets these standards in that it is customized, physiologically similar, and dependable, and permits superior scar concealment owing to the hairline and position of the auricle. Due to the limited arc of rotation—usually less than 45 degrees—the problem of bothersome dog-ears is obviated. As a random flap, it continually receives an adequate blood supply, so there is no transient loss of color or texture of the post auricular skin and tissue match is excellent.

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