Interpolated Forehead and Melolabial Flaps

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KEYWORDS

• Interpolated flap • Melolabial flap • Cheek flap
• Forehead flap • Nasal reconstruction

Cutaneous restoration is essential for the treatment of facial defects that result from the removal of facial skin malignancies. These defects are addressed using several options, including healing by secondary intention, primary closure, local and regional flaps, skin grafts, and composite grafts. Occasionally, cartilage grafts or subcutaneous augmentation flaps are also necessary to establish appropriate support as well as contour match with the tissue surrounding the defect. Selection of the optimal reconstructive method is influenced by the size, depth, and location of the facial defect. This article describes in detail the technical considerations of two useful flaps for facial reconstruction—the paramedian forehead flap and the melolabial flap.

Analysis of a facial defect includes determining the depth of the wound, the color and texture of the missing skin, and the extent of involved esthetic units and adjacent facial regions. In addition, the defect is inspected for any missing muscle, cartilage, or internal lining. The thickness, texture, and mobility of remaining adjacent skin are important in determining reconstructive options; furthermore, any medical, social, and psychologic issues pertaining to the patient should be considered. Paramount to a successful reconstruction is appropriate assessment and treatment of any existing or potential functional compromise. This article focuses on the use of interpolated forehead and melolabial flaps in facial reconstruction, primarily in the repair of nasal defects following excision of cutaneous malignancy.

DEFECT PREPARATION

Defects occasionally involve more than one region of the face. When planning reconstructive options, it is helpful to demarcate the division between the primary location of the defect and the surrounding facial regions such that defects involving multiple facial regions are repaired with separate methods addressing each region. Adhering to this principle places eventual scars along lines that separate each esthetic region, which helps preserve the natural contours of the face.

Within each region, individual esthetic units should be identified. For example, the esthetic units of the nose are based on variations in skin thickness and texture, as well as variations in nasal contour created by the underlying nasal framework. Optimal repair of a nasal defect may require repositioning of skin and soft tissue within an involved esthetic unit, thereby allowing eventual scars to lie within zones of transitions between adjacent units. In addition, small defects are often enlarged to facilitate repair of an entire esthetic unit by a single regional flap. Often, the contralateral esthetic unit is used for template design to ensure appropriate symmetry after inset of the flap.

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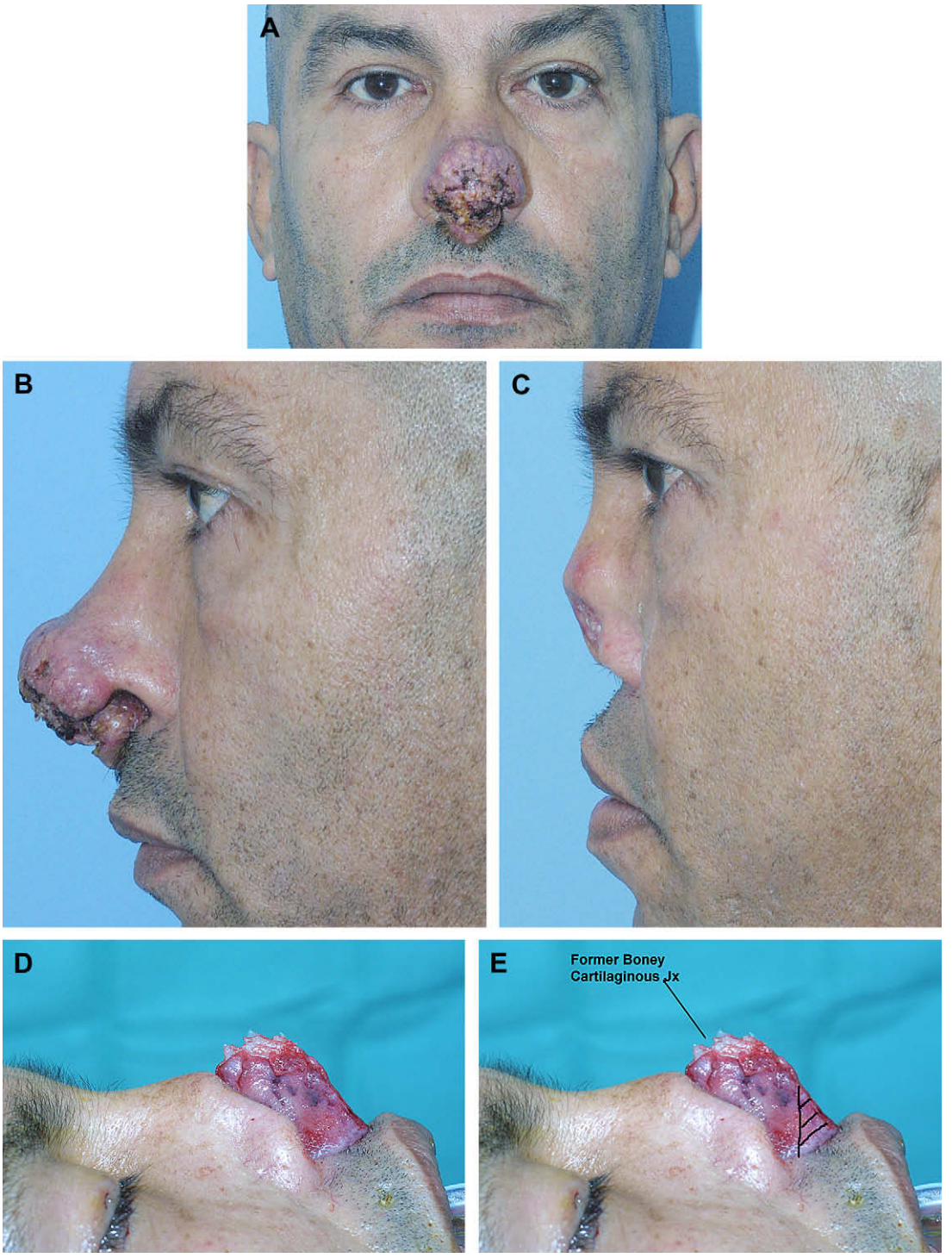

Fig. 1. (*A*) Patient with large cutaneous malignancy of the nasal tip, frontal view. (*B*) Patient with large cutaneous malignancy of the nasal tip, lateral view. (*C*) Patient after resection of cancer, lateral view. (*D*) Composite septal mucosal and cartilaginous "tilt-out" flap performed. (*E*) Composite septal mucosal and cartilaginous "tilt-out" flap performed, with septal orientation depicted. (*F*) Nasal tip reconstruction with auricular cartilage grafts, space noted below grafts. (*G*) Three-dimensional template designed after mucosal and cartilaginous framework restoration. (*H*) Template applied to forehead for design of paramedian forehead flap. (*I*) Forehead flap transferred to nose, with muscle flap used to fill space below cartilage grafting at nasal tip; debulking of flap avoided secondary to patient's significant nicotine dependence. (*J*) Three-year postoperative result; anticipated debulking pending smoking cessation and resolution of associated medical comorbidities.