Commentary: A technical revisit to the glabellar flap

We have read an interesting article by Balchev et al., published in the current issue of IJO. They included 15 patients who were followed up over 36 months. The authors have described the use of glabellar flap (GF) to reconstruct medial canthal region defects. They have categorized the medial canthal region into the upper, medial, and lower zone in reference to the medial canthal tendon. They used V-Y glabellar rotation, advancement, or combined transposition flap techniques.

By definition, the glabella is a region between the eyebrows that has potential skin to reconstruct surrounding areas like the medial canthus and nose. The glabellar myocutaneous flap is a simple, safe, and effective procedure that provides anterior lamellae and vascular supply to the reconstructed region. The advantages being similar skin color, texture, and thickness with minimal postoperative flap shrinkage or contracture. Moreover, the vascular supply leads to faster healing with minimal collateral damage.

Maloof and Leatherbarrow (2000) provided a detailed description of the GF. They conceptualized the idea of anatomical and surgical medial canthus, the latter being much larger in area. The surgical medial canthus extended from the subbrow region (superior) to the upper check (inferior) and medially up to the midline over the nose. They believed that any reconstruction of surgical medial canthus could be performed using a glabellar V-Y flap.

The critical factors in preoperative planning of GF include: a. Size, depth, and location of the defect b. Orientation and alignment of the V-Y flap c. Depth of the medial canthus or nasal bridge prominence d. Age and skin texture of the patient.

The smaller, shallower, and medial defects have favorable outcomes. The prominent nasal bridge or deep medial canthus will need a longer flap to reach up to the lateral edge of the defect. Younger patients have tighter skin that may have intraoperative implications.

Skin marking is a vital part of the GF harvesting process. After the surgical excision of the lesion and determining its tumor-free margins, a surgical marker pen is used to draw the triangular or rectangular GF. The flap size depends on the size of the defect, distance from the glabella, and the depth of the medial canthus. The first arm of the V-shaped GF, arises tangentially from the superolateral edge of the defect, passes superomedial toward the midline apex. The second arm (preferably curved in shape) is fashioned at an acute angle, and its length is kept slightly longer to accommodate the bend of flap tissue [Fig. 1]. The flap should have a broad base for better vascular supply. The dissection should be limited to the skin and subcutaneous tissue, avoiding the involvement of corrugators and procerus muscles. The suture fixation of the flap base to the underlying periosteum prevents traction and preserves canthal concavity. The donor site should be closed in two layers—the deeper muscular layer (4-0 or 5-0 absorbable sutures) and the skin with 4-0 or 5-0 prolene or nylon (preferably horizontal mattress sutures). For larger defects, the extended, modified advancement flap, rotational flap, or bilobed GF can be used.

![Figure 1: A glabellar flap fashioned for the reconstruction of left medial canthus lesion showing the first and second arms with a broad base](image-url)
The complex scenarios that may compromise the outcomes of GF include:

a. Young patients with tight forehead and facial skin
b. Very deep medial canthus
c. Dense hairs in-between eyebrows (synophrys)
d. Large and irregular defect extending more laterally or inferiorly.

The limitations of GF include consecutive midline forehead scar, medialization of the eyebrows, lymphedema, and flap uptake-related complications (necrosis, infection, etc.).

Nevertheless, the GF and its modifications constitute a simple, reproducible, and efficient technique providing excellent skin color match with satisfactory aesthetic and functional outcomes.

Manpreet Singh, Manpreet Kaur, Urmila Kumari, Juhi Daga
Department of Ophthalmology, Advanced Eye Centre, Post Graduate Institute of Medical Education and Research, Chandigarh, India

Correspondence to: Dr. Manpreet Singh, Room No. 504, 5th Floor, Advanced Eye Centre, Post Graduate Institute of Medical Education and Research, Chandigarh, India.
E-mail: drmanu83@gmail.com

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