Unilateral advancement flap with periosteal tacking sutures for single stage repair of a large lateral eyebrow defect

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For small brow defects, linear repairs or local flaps can yield optimal results.

Repair options for larger defects include a superficial temporal artery flap, temporoparietal fascia flap or paramedian forehead flap, although all require multiple stages.

A hair bearing FTSG can also be considered.

Often, focus is on restoring soft tissue contour before addressing hair bearing appearance.

Given the relatively limited local reservoirs, there are limited options for single stage repairs of larger brow defects.

Post-Op Defect

[Image of a post-operative defect with measurements of 1.8cm and 3.5cm]
Flap Design & Surgical Pearls

- Lateral incision places scar off central face
- Medial incision displaces Burow’s triangle to preserve as much hair-bearing brow as possible
- Placement of periosteal tacking sutures of the flap’s leading edge (*) to the orbital rim (x) prevents upward pull on the upper eyelid while advancing flap inferiorly to minimize tension on flap edges
Immediately Post-Op
Conclusion

• The brow is a unique hair bearing structure important in aesthetics and communication
• Priorities in reconstruction of large brow defects include maintaining eye function as well as eyelid and brow position while attempting to preserve as much hair as possible
• Repair options range from local flaps to multi-stage flaps
• A unilateral advancement flap assisted by periosteal tacking sutures may be a reasonable option for larger lateral brow defects as a single stage repair
  • Periosteal tacking sutures prevent upward pull on the eyelid