

# Monitoring Buried Flap in Pharyngeal Defect Reconstruction

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Laryngopharyngeal resection with permanent tracheostoma for advanced laryngeal malignancy is a reconstructive challenge. A thin fasciocutaneous flap, such as a radial artery forearm flap, is best suited to restore the continuity of partial pharyngeal defects. However, the flap skin surface forms the lining precluding its monitoring. Postoperative monitoring of these buried flaps has not been satisfactory, and various described methods include direct visualization by an endoscope, implantable Doppler, manipulation of skin paddle, external skin bridge segment, venous flow through flap, and so on.<sup>1–4</sup> Each of these calls for careful planning, design, and execution.

We describe such a defect reconstruction using a radial artery forearm flap monitored by an adipofascial segment between the superficial vein and the pedicle. About 2 cm wide segment was brought out from the neck incision for monitoring. The adipofascial flap segment, the arterial pedicle, and the superficial vein were dissected from each other to the extent of allowing free mobility without any kink or tethering (►Figs. 1 and 2). It is essential to ensure that the segment bleeds bright red and avoid constriction at the neck suture line (►Fig. 3). Covering with wet gauze is desirable to prevent crusting.

Monitoring is useful for the initial few days (►Fig. 4) and becomes unreliable beyond a week due to additional vascularity from the neck bed. The external segment was excised at the bedside and healed spontaneously before discharge. We performed the procedure on three patients monitored by the described technique; all had uneventful outcomes, with leakproof swallowing later. While there is no evidence that buried flaps are less safe, failure to detect an early flap failure



**Fig. 1** Display of the flap at the defect with arterial pedicle, cephalic vein, and the monitoring segment.





**Fig. 2** Following anastomosis, flap inset, and the position of the monitoring segment.



**Fig. 3** Following neck closure, tension-free external flap segment.



**Fig. 4** Postoperative day 4 with viable flap.

may be disastrous.<sup>4</sup> We believe this is a simple and reliable flap monitoring technique, where color check and prick test could be performed easily.

#### Conflict of Interest

None declared.

#### References

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