Learn to climb the simple reconstructive ladder properly for optimum results

Sir,

Wound management is an integral part of plastic surgery. The aim is to heal it completely with function and cosmetic restoration. The selection of procedure for management of the particular wound needs planning. The planning is learned by education which is not about what to think but how to think. It should be simple, easy to learn and should give best possible results.

The metaphor reconstructive ladder was introduced by Mathes and Nahai.[1] The procedures for wound management become from simple to complex as one climbs the ladder. The changes have been suggested in the ladder as new technologies have evolved.[2] These advancements have simply expanded the working scope of the existing rungs of the ladder. The critics of the ladder erroneously believe that it gives only the idea of the closure of wound without emphasizing any other aspect such as cosmeses or function. It has been criticized to the extent of saying awful effect of hearing “Reconstructive ladder” and “tearing down the reconstructive ladder.”[3] Its value in teaching, learning, and selecting the most appropriate procedure for reconstructing the wound has simply been ignored.

The concept of reconstructive elevator has been introduced.[4] The concept may look attractive and advanced but as a thought process for wound healing it has its drawbacks. The elevator takes the surgeon directly to procedures which are meant for complex reconstructions. It narrows the vision of surgical procedures. This concept comes when the surgeon is working only on particular type of cases. Each problem needs to be viewed individually for selecting the technique of reconstruction for better result. The reconstruction of soft-tissue defect may be done by number of procedures. The elevator concept will offer a free flap. The ladder may suggest skin graft, local, or free flap depending on the site, function, cosmetic consideration, and morbidity involved. The reconstructions by elevator concept happen by overlooking better but simple procedures.[5]

The attitude that only technologically advanced procedures are the best in each situation needs to desist. The surgeon should know how to climb the ladder by jumping or ignoring a rung to achieve the desired result. There is a difference between planning by ladder or elevator concept. The elevator takes directly to the station of what to think. The ladder takes the course of how to think for optimum reconstruction of wound. The choice is of the surgeon.

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There are no conflicts of interest.

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REFERENCES
1. Mathes SJ, Nahai F. Clinical Applications for Muscle and Musculocutaneous Flaps. St. Louis, MO: C.V. Mosby; 1982.
2. Janis JE, Kwon RK, Attinger CE. The new reconstructive ladder: Modifications to the traditional model. Plast Reconstr Surg 2011;127 Suppl 1:205S-12S.
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3. Freshwater MF. Algorithm agony. J Plast Reconstr Aesthet Surg 2013;66:297-8.
4. Gottlieb LJ, Krieger LM. From the reconstructive ladder to the reconstructive elevator. Plast Reconstr Surg 1994;93:1503-4.
5. Sandhir RK. Faulty planning in plastic surgery. Plast Reconstr Surg 1992;90:139-41.

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Sir,

Tissue approximation techniques have evolved from employing insect claws and linen glue strips. Surgical aims for suturing are well known. Patient characteristics, suturing materials and techniques, added to consideration of duration, anatomical zones, function, and aesthesis decide final outcomes. Despite advent of different technologies and methods, hand suturing techniques remain unparalleled in versatility. The simple interrupted, continuous, vertical or horizontal mattress sutures, all have their utilities and drawbacks. The hybrid mattress suture judiciously balances the pros and cons of vertical and horizontal mattress suturing and is executed with speed.

Wu et al. employ a combination of vertical and horizontal mattress on opposite sides of the defect, a technique suited to closing unequal size margins.

We have devised a hybrid technique of vertical and horizontal mattress suturing as a buried variant.

**TECHNIQUE**

A demonstrative model made of silicon sheets placed in step form is illustrated for clarity of depth and obliquity of suture course. The needle is held obliquely along the long axis of the wound. It is inserted from the deep surface of the flap 1–2 cm away from the incision apex and 1–2 cm lateral to the cut edge. The needle moves obliquely through the tissue towards the incision apex and brings the suture from deep subcutaneous to superficial dermis and from 1 to 2 cm lateral entry in tissues to medial cut edge of the wound. The needle exits subepidermally near the wound apex [Figure 1]. The suture returns from the opposite edge as a reverse mirror image to exit at the same depth and distance on the opposite wound edge as the entry site [Figure 2]. We employ absorbable sutures on reverse cutting needles, the sizes being dictated by tissue thickness. On tying the knot, the dermis and epidermis oppose with accuracy towards the apex where the suture is dermal. Deeper tissues approximate well with dead space obliteration at the site of buried knot where the needle is entering and exiting [Figure 3]. The closed wound edge resembles a downward slope from wound edge distally. The second interrupted hybrid mattress suture is similarly started at a more distal location from wound apex with the needle exiting subepidermally on top of the earlier deeper suture and knot. Progressing interrupted suturing leads to wound closure [Figure 4]. Oblique insertion of the needle along with the long wound axis allows for easy suturing in constrained spaces. A single hybrid buried suture brings two depths (deep fascial/subcutaneous and dermal layers) of tissues together across a wider length than interrupted stitches achieving deep dead space obliteration and accurate epidermal alignment. Wound edge vascularity remains uncompromised while ensuring haemostasis. The closure...