

$n = 20$; neck and chest, $n = 9$; forearm and dorsum of the hand, $n = 18$; and leg and dorsum of the foot, $n = 22$. In all cases, grafts were taken full, without conspicuous stitch marks or wide marginal scar line.

Although a multitude of techniques have been improved for immobilization of skin grafts,¹⁻⁵ the tie-over suturing technique is the most common, economical, and reliable method. However, this traditional tie-over technique frequently leaves stitch marks. Suturing in little bites or with loose ligation to avoid stitch marks would lead to a gap between the margin of the skin graft and the surrounding skin, which results in a wide scar. The continuous vacuum system⁵ requires bothersome management to check the air-tightness. The tape-assisted technique is uncertain in producing approximate pressure and frequently causes skin inflammation. To solve these problems and avoid remarkable stitch marks, we improved the tie-over with one-sided mattress suture, in which the sutures are not exposed on the surrounding skin.

This technique not only avoids stitch marks but also gives precise approximation of the edge of a skin graft to the wound edge of the recipient site, even if the wound bed is deep, which leads to minimal marginal scarring (Fig. 1). In the traditional tie-over, even with a loose ligation, the tie-over tension of the thread leads to stress to the skin and causes stitch marks and bad coaptation. In contrast, with the one-side mattress suture technique, the thread tension does not produce stitch marks and gives appropriate pressure to the very edge of the graft to fit the recipient margin and leads to minimal scarring (Fig. 2).

Although the demerit of this technique is that it is a little complex, the technique would quickly become convenient with a little training for all plastic surgeons. We conclude that the one-side mattress suture technique is the optimal method for all exposed site skin grafting.

DOI: 10.1097/PRS.0b013e3181a3f562

Akiyoshi Kajikawa, M.D., Ph.D.

Kazuki Ueda, M.D., Ph.D.

Yoko Katsuragi, M.D.

Masaki Momiyama, M.D.

Yuichiro Yana, M.D.

Department of Plastic and Reconstructive Surgery
Fukushima Medical University
Fukushima, Japan

Correspondence to Dr. Kajikawa
Department of Plastic and Reconstructive Surgery
Fukushima Medical University
1, Hicarigaoka 1
Fukushima 960-1295, Japan
kajikawa@fmu.ac.jp

Presented at the 49th Annual Meeting of the Japan Society of Plastic and Reconstructive Surgery, in Kobe, Japan, April 12, 2006.

REFERENCES

1. Rees TD, Fleury AL. The use of foam rubber in pressure dressings. *Plast Reconstr Surg.* 1956;18:309-311.
2. Burd DA. The pressure button: A refinement of the traditional "tie-over" dressing. *Br J Plast Surg.* 1984;37:127-129.
3. Niranjana NS. A modified tie-over dressing for skin grafts. *Br J Plast Surg.* 1985;38:415-418.
4. Silfvorskiold KL. A new pressure device for securing skin grafts. *Br J Plast Surg.* 1986;39:576-569.
5. Nakayama Y, Iino T, Soeda S. A new method for the dressing of free skin grafts. *Plast Reconstr Surg.* 1990;86:1216-1219.

The Intrinsic Tying Platform in Microsurgery

Sir:

In microsurgery, technique and preoperative planning are crucial. Dr. Robert Acland taught generations of surgeons the difference between large and small muscle tremor, which every surgeon possesses to a degree. He noted the importance of technique and correct instrumentation in microsurgery.^{1,2} There is a progressive diminution of fine motor tremor as the surgeon balances each joint of the upper extremity in a proximal to distal fashion; specifically, under the microscope, he demonstrated the degree to which increasing degrees of stability in the upper extremity improved micromovements and essential operating hand positioning during microsurgery.³

In addition, extrinsic factors have been studied in diminishing physiologic tremor during routine microsurgery. The efficacy of preoperative propranolol and the effects of aerobic exercise before performing microsurgery have been reported.^{4,5} Specifically, prophylactic propranolol has been shown to decrease resting physiologic tremor during procedures. Hsu and Cooley reported that microsurgical physiologic tremor increased following exercise but then returned to baseline within 4 hours.⁴

In addition to providing a solid foundation for resting a surgeon's hand under the microscope, stability during microsurgery—especially during surgery on vessels smaller than 1 mm and cases involving 10-0 nylon and smaller—can even be improved at the level of the fingertip. As seen in Figure 1, ordinarily the index and long fingers may control one side of the forceps during microsurgery. Although this may be entirely sufficient the majority of the time, there may be a certain number of cases involving sutures smaller than 9-0 in which additional steadiness may be beneficial. The intrinsic tying platform consists of slightly flexing the distal interphalangeal and proximal interphalangeal joints of the long finger and bracing the thumb and index finger against this flexed long finger (Fig. 2). Thus, the thumb and the index and long fingers become one unit in maneuvering the forceps or needle holder. Using this maneuver, one can convert the long finger into a stable tying platform at the level of the fingertip for which stenting open a submillimeter vessel during suture placement may be necessary (Fig. 3). This construct involving these digital fingertips can be rotated in a variety of positions as a single unit.