

Ideas and Innovations

A simple and rapid method of repeated tie over dressing

Hardeep Singh¹, Aditya Aggarwal¹, Rakesh Kumar Khazanchi¹, Sanjay Mahendru¹,
Vimalendu Brajesh¹, Sukhdeep Singh¹, S. Krishnan¹

¹Department of Plastic, Reconstructive and Aesthetic Surgery, Medanta — The Medicity, Gurgaon, Haryana, India

Address for correspondence: Dr. Hardeep Singh, Department of Plastic, Reconstructive and Aesthetic Surgery, Sector 38, Medanta — The Medicity, Gurgaon - 122 001, NCR, Haryana, India. E mail: drhardeepaulakh@gmail.com

ABSTRACT

Tie overdressing is commonly used to secure the graft against the raw surface and prevent loss due to of hematoma or seroma. A conventional tie over dressing with silk sutures, is a useful method of securing the graft to raw area. Refixation is difficult when repeated tie over dressings are needed. We assessed a low cost repeated tie over dressing method using sterile sample collection containers and silk suture threads in eight patients. After the graft is applied on the bed, tie-over stitches are taken, and paraffin gauze is applied over with adequate padding; the tie over sutures are passed through the container and the lid is tightened over it to complete the dressing. The lid can be unscrewed easily at any time to inspect the graft and can be easily reapplied in the outpatient department. The skin graft take in all the patients was complete without any seroma or hematoma. A novel and low-cost tie over dressing that enables simple fixation of the dressing, to maintain proper position of grafts that require repeated fixation is reported here.

KEY WORDS

Low cost; novel; skin graft; tie-over dressing

INTRODUCTION

Soft tissue coverage for wounds remains a difficult management problem for patients sustaining traumatic injury and burns. There are several methods to achieve wound coverage – secondary healing, primary suturing, skin grafting, and flap surgeries as described in reconstruction ladder.^[1] A skin graft is the most commonly used modality for coverage of wounds in reconstructive plastic surgery. The skin graft needs to undergo various stages of

healing for a good take on the recipient bed. There are different methods employed to secure the graft to recipient bed for a few days with a basic idea to ensure that the graft is not elevated off the bed by formation of haematoma/seroma under it.^[2] Repeated tie over dressings are required in situations where the dressing needs to be changed more frequently as in cases of infected raw area, bleeding tendency, patients on anticoagulant drugs, and in convex areas of body such as buttocks, breast, and the scalp, where the dressing is difficult to secure.

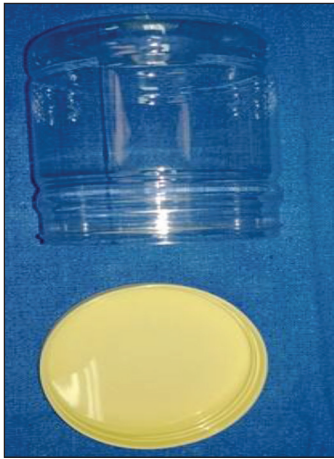
PROCEDURE

In this novel method, a sterile sample container was cut at its upper part [Figures 1 and 2]. The skin graft was applied on the raw area and fixed with skin staplers and tie over sutures. Once paraffin gauze and adequate padding is applied on the raw area, the tie over threads were passed

Access this article online	
Quick Response Code:	Website: www.ijps.org
	DOI: 10.4103/0970-0358.155274

from inside out of the container [Figures 3 and 4] and pulled at the appropriate tension to keep the dressing in place. The lid of the container was tightened to complete the dressing ensuring that the graft was maintained in close approximation with the wound surface.

The dressing can be changed repeatedly with sterile precautions depending on the requirement, as an outpatient procedure by unscrewing the lid [Figures 5-8] which can then be easily reapplied. The procedure can be used on wounds of any size by changing the size of the sterile container chosen.



Figures 1 : Sterile plastic container

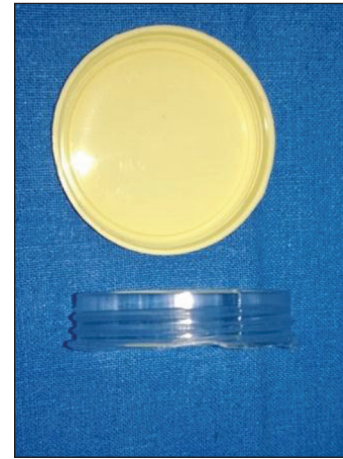


Figure 2: Upper part of the sterile container is cut



Figures 3 : Tie over threads being passed from inside out



Figure 4: The lid is tightened over the dressing



Figures 5: Post-toilet mastectomy raw area covered with the skin graft



Figure 6: The tie over dressing applied in OT

We have used this method in eight cases of the post toilet mastectomy raw areas with very good results [Figures 9 and 10].

DISCUSSION

Skin graft once applied has to be covered with petrolatum gauze to avoid its separation from the wound bed at the time of change of dressing. An ideal method of graft fixation should be simple, rapid, repeatable, able to be performed in the outpatient department, prevent hematoma or seroma formation, soak the exudates well, and allow the graft bed to be inspected easily.

There are multiple methods of securing dressings over the skin graft, some of them can be applied only once and some can be repeated. The dressings that can be applied only once are like foam,^[3] hydro cellular dressing^[4] (highly absorbent and can be easily changed), negative pressure therapy dressing^[5] (stabilises the

graft, increases the vascularity of bed, takes away toxic chemicals), and gas bag^[6] (transparent, can see graft and monitor any haematoma).

These traditional methods can stabilize the graft till the first dressing post operatively. In some contaminated wounds, the dressing needs to be removed earlier, especially if there is drainage or foul smell.^[7] This approach may also be proper for graft, used to cover defects of some anatomical regions with increases risk of contamination, such as perineal, axillary, and genital or it can be used in areas where base of wound is difficult to immobilize like breast/pectoral region. There are multiple methods that can be used repeatedly for the skin graft stabilisation.

Repeated tie over dressings can be done by keeping interrupted sutures long to be used as tie over dressings. These ties over dressing can be made of sutures or rubber bands.^[8] When taking a tie over



Figure 7: Tie over dressing repeated in an outpatient department



Figure 8: Graft uptake



Figure 9: Post-toilet mastectomy raw area



Figure 10: Final result

stitch, both the threads can be left long and only one thread is tied at a time, the other thread is left long for next time.^[9] This dressing can be reapplied only twice. Repeated tie over dressings are also done using bra hooks,^[10] and silk loops.^[11] These techniques are difficult for small dressings especially the bra hooks; the silk loops method is very cumbersome and takes long time to do. The novel method being discussed has a very small learning curve and is very fast. It hardly takes 5 min in the hands of a Plastic surgeon to complete the dressing. This dressing technique maintains the advantage of conventional tie over dressing with rapidity and repeativity.

CONCLUSION

Good graft take can be expected whether split-thickness or full-thickness with appropriate methods of stabilisation. We recommend a novel, low cost, simple, rapid method of graft fixation that can be used repeatedly and can be applied to a wound of any size.

REFERENCES

1. Thorne CH, Beasley RW, Grabb, Smith. Plastic Surgery. 6th ed Philadelphia: Lippincott Williams and Wilkins; 2007. p. 14.
2. McGregor AD, Mc Gregor I. Fundamental Techniques of Plastic Surgery. 10th ed. Philadelphia: Churchill Livingstone; 2004. p. 39.
3. Wells MD, Kim DS. A new method of skin-graft stabilization: The Reston technique. *Ann Plast Surg* 1995;34:554-6.
4. Di Benedetto G, Pierangeli M, Scalise A, Andriessen A, Rowan S, Bertani A. An improved tie-over dressing technique for skin grafts using a hydrocellular dressing. *Plast Reconstr Surg* 2000;106:507-9.
5. Scherer LA, Shiver S, Chang M, Meredith JW, Owings JT. The vacuum assisted closure device: A method of securing skin grafts and improving graft survival. *Arch Surg* 2002;137:930-3.
6. Ren J, Yiang QJ, Deng B, Yiang YN. Transparent gasbag tie-over for persistent pressure and inspection in free skin grafting. *Plast Reconstr Surg* 1995;95:396-9.
7. Mathes S. Plastic Surgery. 2nd ed. Philadelphia: Saunders Elsevier; 2006. p. 309.
8. Kim YO, Lee SJ, Park BY, Lee WJ. The tie-over dressing using skin-staples and round rubber bands. *Br J Plast Surg* 2005;58:751-2.
9. Sarifakioglu N, Gokrem S, Yuksel A, Aslan G. Staged tie-over dressing technique. *Plast Reconstr Surg* 2003;112:1740-1.
10. Dogan F, Ozyazgan I, Eskitaşoglu T. A new useful and renewable tie-over dressing method using package bands and bra hooks. *Ann Plast Surg* 2006;57:348-9.
11. Jo HJ, Kim JS, Kim NG, Lee KS, Choi JH. Redoable tie-over dressing using multiple loop silk threads. *Arch Plast Surg* 2013;40:259-62.

How to cite this article: Singh H, Khazanchi A, Mahendru S, Brajesh V, Singh S, Krishnan S. A simple and rapid method of repeated tie over dressing. *Indian J Plast Surg* 2015;48:75-8.

Source of Support: Nil, **Conflict of Interest:** None declared.

Author Help: Reference checking facility

The manuscript system (www.journalonweb.com) allows the authors to check and verify the accuracy and style of references. The tool checks the references with PubMed as per a predefined style. Authors are encouraged to use this facility, before submitting articles to the journal.

- The style as well as bibliographic elements should be 100% accurate, to help get the references verified from the system. Even a single spelling error or addition of issue number/month of publication will lead to an error when verifying the reference.
- Example of a correct style
Sheahan P, O'leary G, Lee G, Fitzgibbon J. Cystic cervical metastases: Incidence and diagnosis using fine needle aspiration biopsy. *Otolaryngol Head Neck Surg* 2002;127:294-8.
- Only the references from journals indexed in PubMed will be checked.
- Enter each reference in new line, without a serial number.
- Add up to a maximum of 15 references at a time.
- If the reference is correct for its bibliographic elements and punctuations, it will be shown as CORRECT and a link to the correct article in PubMed will be given.
- If any of the bibliographic elements are missing, incorrect or extra (such as issue number), it will be shown as INCORRECT and link to possible articles in PubMed will be given.