

## A modification of the conventional skin board

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### Abstract

Skin boards are a pair of wooden boards used to smooth the surface of the skin and make it easier for the skin knife to slide through. The skin board is used to tense the skin by placing the board against the skin and then drawing the two boards apart, flattening the surface and causing tension on the skin. A lubricant is applied to the skin to facilitate the passage of the knife (example- Vaseline). While stretching the skin, traditional skin boards scrape away the majority of this lubricant. The traditional skin boards have been modified by inserting longitudinal grooves on the surface that allow lubricant to glide through, allowing the lubricant to remain on the skin to be harvested. This change has little effect on the skin board's ability to tighten the skin, but it does create a flat, well-lubricated surface for the skin knife to pass over.

**Keywords:** Skin grafting, Skin board, Skin knife, Modified Skin board

### Introduction

The cornerstone of plastic surgery is the skin graft. Reverdin was the first to do it, and Brown et al. later refined it by describing full thickness, intermediate thickness, and epidermal (Thiersch) grafts in detail, as well as the benefits and drawbacks of each. The underlying concepts of skin grafting haven't changed much over the years.

Traumatic wounds, defects after oncological resections, burn reconstruction, scar contracture release, congenital skin deficiencies, hair restoration, vitiligo, and nipple areola rebuilding are all cases when skin transplants are used. Because skin grafting is such a diverse treatment, it is unavoidable that the technique for executing it be perfected until it reaches perfection. In the current piece, we'll look at one such breakthrough.

In traditional skin grafting, two wooden boards are used to flatten the skin and provide a flat and smooth surface for the skin knife to work on. The use of a skin board, on the other hand, causes lubricant to be scraped away from the skin's surface. A number of longitudinal grooves have been added to the angled edge of the standard skin board that comes into contact with the skin, allowing small streams of lubricant to travel through the grooves and help the impending skin knife.

### Materials and Methods

The traditional skin board was modified by adding a number of longitudinal grooves to the angled edge that comes into contact with the skin. The grooves are one centimetre apart and one millimetre deep. As a result, a little trickle of lubricant passes through the grooves, making it easier for the oncoming knife to slide through.

Teak wood of medical quality is commonly used for the skin board. The grooves in the standard skin board were bored in the board by a woodworker. The grooves are only required on the board that comes before the knife. The board had been autoclaved and was now ready for use in the operating room.



**Fig1:** The modified skin board with longitudinal grooves for the lubricant

The patient was a 35-year-old man with no known comorbidities who had a raw area on his left leg as a result of an electrical burn. Serial minimum debridement and negative pressure wound treatment were used to treat the wound at first. The wound had healthy granulation tissue, no active exudation, and no symptoms of infection when examined clinically. The patient was admitted for split skin grafting, which was done with the use of a customised skin board. It was noted that the board's ability to tighten the skin was unaffected. Because of the grooves, the lubrication remained on the skin even after going through the skin board.

### Discussion

Skin graft is one of the most indispensable techniques in plastic surgery. It is used in a variety of clinical situations, such as, traumatic wounds, defects after oncological resection, burn reconstruction, scar contracture, release, congenital skin deficiency, hair restoration, vitiligo and nipple areolar reconstruction.

A free-hand dermatome can be used to harvest split-thickness skin grafts. A free-hand dermatome is a rapid way to harvest a skin transplant that does not require electricity or pneumatic power, making it ideal for small and thin grafts. When harvesting skin over a bony prominence, infiltrating the subcutaneous tissue with tumescent prior to utilising a motorised dermatome can help with skin graft harvest.

Additionally, lubricating the skin with a tiny quantity of lubricant, such as Vaseline lotion, helps harvesting the skin simpler by reducing friction between the skin and the dermatome.

Skin boards are used to keep tension and create a nice flat surface for harvesting skin grafts with a skin knife. The skin board, on the other hand, is used to create tension by running it over the donor site, depleting the lubricant in the process. Due to the presence of microscopic grooves on the board, the current modification aids in the preservation of lubricant on the skin surface. The power of the boards to create tension is not diminished in any manner. Because of the lubricant, the skin knife passed through with ease. The amount of lubrication that needs to be reapply was also decreased.

### Conclusion

The present adjustment helps to keep the lubricant on the skin's surface and makes it easier for the skin knife to pass through. We utilised this skin board on one patient and discovered that it considerably improved the skin graft knife's effectiveness.

### Source of Funding

None.

### Conflict of Interest

None.

### References

1. Reverdin JL. Greffes epidermiques. *Bulletin de la Societe Imperiale de Chirurgie de Paris*. 1869;10:51.
2. Lawson G. On the transplantation of portions of skin for the closure of large granulating surfaces. *Transactions Clin Soc London*. 1871;4:p. 49.
3. Ollier L. Greffes cutanee ou auto plastiques. *Le bulletin—Académie Nationale de Médecine de Paris*. 1872;1:p. 243.
4. Thiersh C. Uber die feineren anatomischen veränderungen bei aufheilung von Haut auf granulationen. *Verhandlungen der Deutschen Gesellschaft für Chirurgie*. 1874;3:p. 69.
5. Blair VP, Brown JB. The use and uses of large split skin grafts of intermediate thickness. *Surge Gynecol Obstet*. 1929;49:p. 82.
6. Brown JB, McDowell F. *Skin Grafting*. 2nd edition. Philadelphia, Pa, USA: *JB Lippincott*; 1949.
7. Valencia IC, Falabella AF, Eaglstein WH. Skin grafting. *Dermatologic Clin*. 2000;18(3):521-32.
8. Ratner D. Skin grafting: from here to there. *Dermatologic Clin*. 1998;16(1):75–90.
9. Mutallik S, Ginzburg A. Surgical management of stable vitiligo: a review with personal experience. *Dermatologic Surge*. 2000;26(3):248–54.
10. Lee SS, Tsai CC, Lai CS, Lin SD. An easy method for preparation of postage stamp autografts. *Burns*. 2000;26(8):741–9.
11. Harashina T, Iso R. The treatment of leukoderma after burns by a combination of dermabrasion and “chip” skin grafting. *Br J Plastic Surgery*. 1985;38(3):301–5.
12. Ragnell A. The secondary contracting tendency of free skin grafts. *Br J Plastic Surgery*. 1952;5(1):6–24.
13. Silverstein P, McManus WF, Pruitt BA., Jr Subcutaneous tissue infiltration as an adjunct to split-thickness skin grafting. *Am J Surg* 1972;123(5):624–5.
14. Kishi K, Ninomiya R, Okabe K, et al. Treatment of giant congenital melanocytic nevi with enzymatically separated epidermal sheet grafting. *J Plastic, Reconstructive and Aesthetic Surgery*. 2010;63(6):914–20.
15. Fatah MF, Ward CM. The morbidity of split-skin graft donor sites in the elderly: the case for mesh-grafting the donor site. *Br J Plastic Surgery*. 1984;37(2):184–90.
16. Tanner JC, Vandeput J, Olley JF. The mesh skin graft. *Plastic and Reconstructive Surg*. 1964;34:287–92.
17. Sakurai A, Fukuda O. The effect of tie over pressure on skin graft “take” *Japanese J Plastic and Reconstructive Surgery*. 1984;4:p. 917.
18. Murakami M, Hyakusoku H, Ishimaru S. External wire frame fixation of eyelid graft. *Br J Plastic Surgery*. 2003;56(3):312–3.
19. Lewis JS, O'Brien CM, Martin DL. The “tie-over dressing” refined. *Plastic and Reconstructive Surg*. 2001;108(1):264–5.
20. Misra A, Belcher HJ. A new loop suture tie-over the technique for skin graft dressings. *J Hand Surg*. 2002;27(2):129–33.

**How to cite:** Ahmed F M, Chittoria R K, Padmalakshmi, Pathan I, Shijina, Thomas N et al. A modification of the conventional skin board IP Int J Aesthet Health Rejuvenation 2021;4(3):.