

Tape Buttress Technique to Appose and Evert Defect Edges in Atrophic Skin

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INTRODUCTION

Repairing surgical defects on atrophic skin, especially when wound edges are under tension, is challenging. The thin, atrophic dermis prohibits placement of buried vertical mattress¹ or subcutaneous inverted cross mattress (SICM)² stitches that are desirable for defect edge apposition and wound edge eversion. If transepidermal stitches alone are used to appose these atrophic defect edges, it results in skin tearing and rolling of the defect edges, thus impairing defect edge apposition. To overcome these challenges, the author uses a tape buttress technique to repair surgical defects in atrophic skin.

The tape buttress technique is a variant of the suture/steri-strip combination technique described by Davis et al³ and the horizontal technique described by Lin.⁴ Both Davis and Lin use surgical strips to reinforce the skin so that suture can be sewn through the taped skin without resultant tearing. Davis places simple interrupted stitches through strips placed perpendicular to the surgical line, while Lin places the strips parallel to the surgical line, but not adjacent to it. As opposed to these techniques, the tape buttress technique uses horizontal mattress stitches sewn through strips placed directly adjacent and

FIGURE 1. Surgical defect following excision. Note that the excision line is directly adjacent to the edge of the tape.



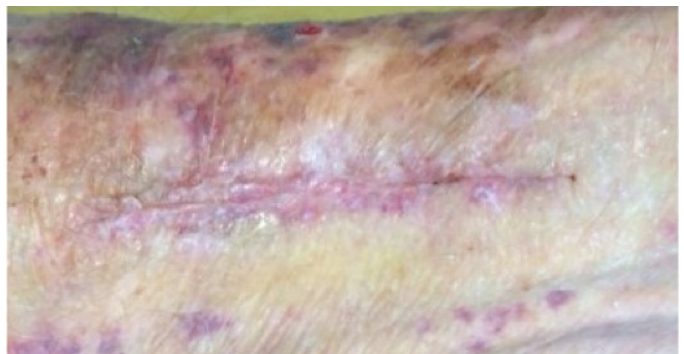
FIGURE 2. Apposed defect edges in the immediate postoperative period.



FIGURE 3. Appearance of surgical site 2 weeks after procedure.



FIGURE 4. Appearance of surgical site immediately after suture removal. Note the integrity of the well-apposed atrophic skin following closure of defect edges that were originally under high tension.



parallel to the defect edge. The horizontal mattress stitches, as opposed to simple interrupted stitches, facilitate excellent wound edge eversion without the need for buried sutures. The tape, being directly adjacent to the defect edge, prevents edges from rolling inward. Sutures and tape are removed together approximately 14 days postoperatively (Figures 1-4).

TECHNIQUE

After cleansing the surgical site with alcohol, use a gentian violet marker to draw an ellipse, with appropriate margins, around the lesion to be excised. Anesthetize as usual, then prepare the site with povidone-iodine, which dries without any slippery residue. Wipe the skin directly adjacent and lateral to the marked ellipse with liquid adhesive before placing four long surgical strips directly adjacent and lateral to the drawn ellipse, forming a diamond pattern with the tape. Excise the lesion along the drawn ellipse, right at the tape's edge.

Begin the closure midway along the defect by placing the initial horizontal mattress stitch through the tape and skin beneath. Then place additional horizontal mattress stitches one quarter of the way from each end of the ellipse. Alternatively, in very long or wide defects, especially those under tension, begin the closure by placing the first horizontal mattress stitch one quarter of the way from one end of the ellipse, the second one one quarter of the way from the opposite end of the ellipse, and a third one midway along the ellipse. Place additional horizontal mattress stitches, as needed, along the length of the defect until all defect edges are directly apposed and everted.

One to two weeks postoperatively, depending on the location of the surgical site, remove the horizontal mattress stitches in the usual fashion before lifting the tape off the skin surface.

DISCUSSION

The tape buttress technique to repair surgical defects on atrophic skin is a secure and effective way to appose and evert atrophic defect edges. The tape acts as a buttress to reinforce the atrophic skin so that suture does not tear through it and defect edges do not roll. Horizontal mattress stitches are used to evert defect edges and ensure good wound healing. Sutures and tape should be removed one to two weeks postoperatively for optimal cosmesis.

DISCLOSURES

The author has no conflict of interest.

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