Saving the failing wound

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When suturing thin skin under significant tension one runs a high risk of somewhat delayed wound healing and increased scarring (1,2). When superficial infection is superimposed upon this problem, the surgeon often stands helplessly by as the dissolving subcutaneous sutures gradually give way and the wound progressively separates. Systemic and topical antibiotics are very often of marginal benefit in arresting the whole process of separation, which seems to be more mechanical, with the inflamed thin skin opening as the remaining dissolving sutures become point-loaded and serially fail. The use of steri-strips or some other static tape is not particularly beneficial. The separated wound edges cannot be reapproximated even with serial reapplication of tape. The edge of the tape exposed to exudate from the wound often loosens and the adhesive tends to cause shear forces and blistering at the intact skin adhesive margin (3). At this point, traditional rescue efforts are usually abandoned and dressings are begun to clean the wound to facilitate closure by secondary intervention.

The author has used an ingenious new dynamic skin tape called SutureSafe from Canica Design Inc, Canada, in dealing with problems of this sort with considerable benefit, as is shown in the accompanying photo sequence. This dynamic tape, when put on early, even in thin skin under some tension, relieves the forces that would tend to progressively open the wound. If separation begins to occur the wound is protected, such that progressive suture failure will not occur resulting in a complete dehiscence. In fact, a wound that is beginning to dehisce can actually be pulled back together by the dynamic forces of the DynaStretch Tape. This adhesive micropore tape is not reinforced as are steri-strips, and stretches with the compliant skin thereby avoiding blistering. The central silicone elastomer produces relentless gentle dynamic closure forces. One can see the wound through the transparent silicone elastomer to discern any underlying infectious process. Topical antibiotics can be used in the wound. In fact, we have used thin packing on occasion. This is removed as the wound closes.

The tape is easily applied, and typically lasts from five to seven days. When used over a period of three or four weeks it salvages and allows primary wound healing even in the face of superficial infection.

CASE PRESENTATION

A 57-year-old woman, a heavy smoker, had a full-thickness 8 cm × 4 cm skin graft harvested from her right forearm to graft her right hand two weeks previously. The sutures were removed at seven days with the wound healing uneventfully. She fell down the stairs, opening the wound, and presented with the

Figure 1) Open wound from full-thickness graft donor site

Figure 2) SutureSafe tape (Canica Design Inc, Canada) was applied to the wound

donor site wound open with some worrisome looking drainage two days after the fall (Figure 1). SutureSafe was applied (Figure 2), and reapplied one week later (Figures 3 and 4). The wound was healed and stable at three weeks following the SutureSafe application (Figure 5).

Even in the face of significant drainage the tape can be used effectively if the skin is cleaned and prepped with tincture of benzoin, Allcare or Mastisol. A frequently changed absorbent dressing over the tape reduces exudate contact with the tape.

CONCLUSION

There is a new dynamic dressing tape on the market that holds considerable promise in salvaging failing wounds, providing a method of treatment that has never been previously been

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Figure 3) One week post-taping

Figure 4) Removal of tapes after one week

Figure 5) Result at three weeks post-SutureSafe salvage of open wound

available. As the co-inventor of this device, I cannot contribute to a valid objective study of this product, and I can simply encourage others to do clinical trials to establish the true merit of this product in dealing with the difficult spectrum of failing wounds.

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