

Plate 23

Walking Suture Technique

DESCRIPTION

The walking suture technique, popularized by S.F. Swaim, is a method of distributing tension sutures over a wide surface area when skin undermining and suture closure techniques alone are insufficient for wound apposition. Individual “walking” sutures pull the skin toward the defect in small increments. Multiple sutures have a cumulative effect in maintaining the undermined skin in position as it is advanced to the center of the defect.

SURGICAL TECHNIQUE

- (A) 2-0 or 3-0 absorbable suture material is usually selected. Suturing begins at the distant limits of the undermined skin. The skin is elevated as the needle is inserted into the dermis. Sutures may pass through portions of the panniculus muscle to gain access to the dermis.
- (B) The needle is then inserted into the underlying muscle fascia, generally 2 or 3 cm closer to the midpoint of the wound. Deep placement of the needle into connective tissue is necessary when suture material is placed into a granulation bed in order to prevent suture pull-out.
- (C) Walking sutures are no closer than 2 or 3 cm apart. After the “deep” row of sutures is tied, a second series of walking sutures are staggered with the first row.
- (D) The skin on the opposite side of the wound can be advanced or “walked” in similar fashion.
- (E) Completion of the wound closure. Note the skin depressions or dimples created from this buried suture pattern. A bandage can be used to control dead space with or without evacuation drains.

COMMENTS

Walking sutures are a simple and effective method to stretch skin over a wide defect and anchor the skin into position as gains in skin advancement are made. However, not all wide defects require the use of walking sutures.

Skin “dimples” or indentations are noted over the location of walking sutures. These disappear in time with absorbable suture materials. The two greatest concerns voiced with the use of walking sutures are the potential for circulatory compromise to direct cutaneous vessels and the subdermal plexus and the potential for formation of separate seromas or abscesses that would be difficult to drain separately. Careful placement of sutures and avoiding excessive numbers of walking sutures can minimize circulatory compromise. Clinical results to date have shown that multiple fluid pockets are not a major postoperative complication.

Skin stretchers (Skin Stretchers, Pavletic Angell Animal Medical Center, Boston, MA) may be used to prestretch the skin alone or in conjunction with walking sutures, in order to facilitate skin advancement. Skin stretching also may be used to promote wound closure without the use of walking sutures (see Plate 31 and 32).

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