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Authors

Beroukhim, Kourosh
Sklar, Lindsay R
Eisen, Daniel B

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Surgical Pearl: Reverse Beveling to Improve Wound Edge Apposition

Kourosh Beroukhim, MD, Lindsay R. Sklar, MD, Daniel B. Eisen, MD.

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2 **Title:** Surgical Pearl: Reverse Beveling to Improve Wound Edge Apposition

3 **Authors:** Kourosch Beroukhim, MD,¹ Lindsay R. Sklar, MD,¹ Daniel B. Eisen, MD.¹

4 ¹Department of Dermatology, University of California, Davis, Sacramento, California

5 **Corresponding author:**

6 Kourosch Beroukhim, MD

7 Department of Dermatology, University of California, Davis, Sacramento, California

8 3301 C Street, Suite 1400 Sacramento, CA 95816

9 Phone: 916-734-6111; Fax: 916-451-7245

10 Email: beroukhimk@gmail.com

11

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25

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28

29 **Body of Manuscript:**

30 **Surgical Challenge**

31 Minimizing the width of surgical scars requires tension-free approximation of skin edges in an
32 everted position in order to offset the contractile forces that pull apart skin edges during wound
33 healing.¹ Classic surgical teaching advocates perpendicular wound edges without bevel towards
34 the center of the wound, which would otherwise obstruct direct approximation of the dermis.²
35 However, the tendency of the scalpel handle to fall toward the surgeon's dominant hand often
36 results in unintentional beveling of the skin edges towards the center of the wound. In addition,
37 even perpendicular wound edges frequently remain difficult to evert.

38 **Solution**

39 Creating incisions with a reverse bevel (away from the center of the wound) facilitates tension-
40 free approximation of skin edges in an everted position. (Video 1) This may be achieved by
41 angling the edge of the scalpel away from the center of the wound and further enhanced by
42 exerting lateral traction on the skin during creation of the incision. For beginner surgeons, aiming
43 for a reverse bevel minimizes the risk of unintentional bevel towards the center of the wound.
44 The reverse bevel positions the superior wound edges closer to one another in comparison to the
45 deepest edges of the wound. (Figure 1A) When buried vertical mattress sutures are subsequently
46 used to approximate the dermis, the superior wound edges naturally fall together in an everted
47 position. (Figure 1B) Care must be taken to avoid an extreme reverse bevel, which may increase
48 the difficulty of placing deep dermal sutures without creating prominent cutaneous dimples.

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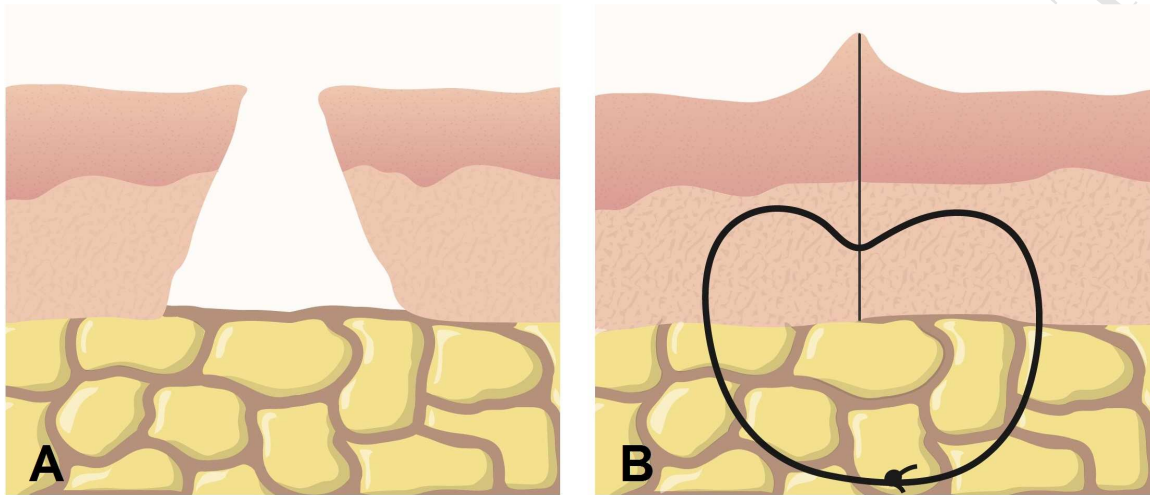
50 **References**

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- 53 tissue: incising, excising, and undermining. *J Am Acad Dermatol.* Mar 2015;72(3):377-387.

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55 **Figure Legends**56 **Figure 1A.** “Incision with a reverse bevel away from the center of the wound.”57 **Figure 1B.** “Tension-free approximation of wound edges in everted position.”

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61 **Video Legend**

62 **Video 1.** “Demonstration of reverse beveling to facilitate tension-free approximation of wound
63 edges in an everted position”

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