

ACHIEVING CLOSURE

Two plastic surgeons discuss changes in wound closure technology, and why their preferences are all about outcomes

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NATIONAL REPORT ➤ Stuart Linder, M.D., F.A.C.S., whose Beverly Hills plastic surgery clientele



Dr. Linder

includes film industry icons, uses Steri-Strip Skin Closure (3M), for the superficial closure of surgical incisions. Z. Paul Lorenc, M.D., F.A.C.S., whose Park Avenue practice attracts a broad spectrum of successful, self-made, determined professionals, is an advocate of DERMABOND (Ethicon) for closure.



Dr. Lorenc

DRIVING THE EVOLUTION

In a decade that has seen a drop in the average age of patients seeking plastic surgery to the early to mid-career level, the evolution of wound closure technology has been driven by patient expectations for a more expeditious recovery. Patients want good cosmetic results, but they also want to resume full activity after surgery, without needing additional office visits simply to remove staples or sutures. The noninvasive approach to superficial wound closure should also have a natural appeal for surgeons such as these because of reduced skin trauma and less potential for infection. Yet some of their surgical peers don't embrace the technology of tissue adhesives or

topical devices, preferring the classical approach of nonabsorbable sutures for surface wound closure.

"New technology is wonderful provided that we can deliver the same quality of care that we have given in the past or better," Dr. Lorenc tells *Cosmetic Surgery Times*.

“...The evolution of wound closure technology has been driven by patient expectations for a more expeditious recovery.”

LIQUID OR DEVICE? DERMABOND is a transparent liquid skin adhesive containing 2-octyl cyanoacrylate, which was approved in 1998 for the superficial closure of surgical incisions in conjunction with, but not in place of, subcuticular sutures. DERMABOND is administered by applicator to the wound edges, which are manually approximated by fingertips or forceps, waiting 30 seconds between each of three thin layers, and maintaining the manual approximation for around 60 seconds after the final layer. DERMABOND works best with a perfectly apposed wound edge and is not appropriate when there is a discrepancy

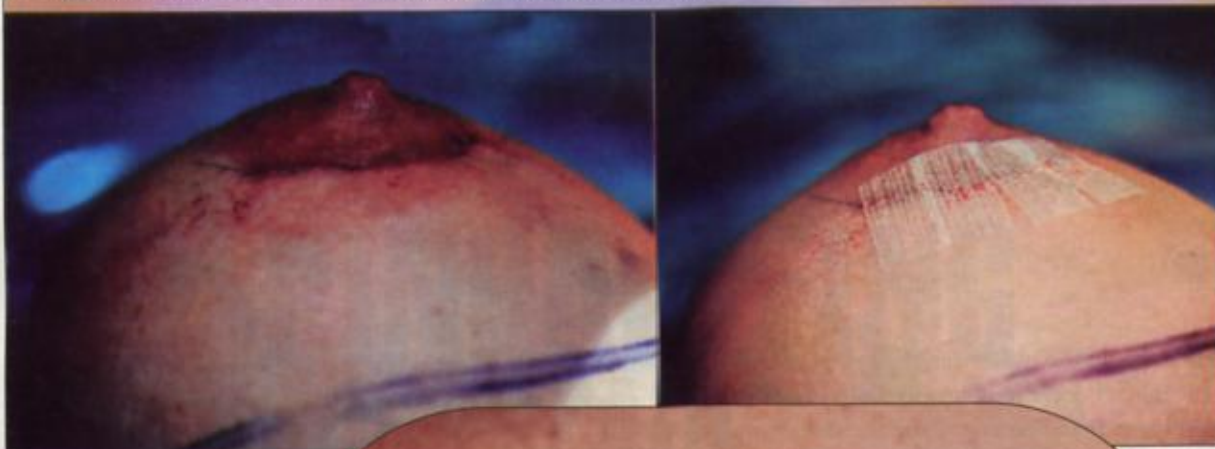
in the wound edges. During application, the adhesive should not be allowed to enter the wound because the polymerized material could elicit a foreign body reaction. Interestingly, Dr. Lorenc successfully used DERMABOND for a breast augmentation in a patient who was severely allergic to surgical tape.

3M Steri-Strip is a set of individual pieces of adhesive-based wound closure tape that can be used in conjunction with Mastisol (Ferndale Labs) or benzoin to close a low-tension wound or surgical incision. Steri-Strips may be used as an adjunct to suture closures for higher tension wounds, such as tummy tucks and breast lifts. The strips, which are connected with cross stays in a railroad track pattern, may be applied with a gloved hand or forceps in two lines parallel with the wound. If edges are not accurately apposed, the Steri-Strips over the affected area may be peeled off to reapproximate the wound.

The more recently developed 3M Steri-Strip S Surgical Skin Closure is a system of soft polyurethane adhesive pads and interlaced polyester filaments that are laid out over the wound. Steri-Strips are contraindicated where adhesion cannot be obtained, for example, an area where the skin is wet or moist or has oils, exudate or hair; and areas that have a lot of repetitive movement or high tension. Steri-Strips that become macerated in wet areas, such as the suprapubic region, should be replaced with dry gauze.

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NEWS



(Top left) Immediate intraop photograph with periareolar scar. 26-year-old female, saline augmentation, dual plane technique with 4-0 Vicryl subdermal and 5-0 Prolene subcuticular pull-through suture.

(Top center) Same patient with Benzoin and Steri-Strips in the traditional Steri-Strip fashion placement.

(Top right) Periareolar scars status post-augmentation mammoplasty procedure. 26-year-old female, six-month post-operative photo, has scars well-healed via closure with both subdermal sutures of 4-0 Vicryl, 5-0 Prolene subcuticular pull-through sutures which were removed on post-op day 10 (which reduces epidermal tension), as well as Benzoin and traditional Steri-Strip placement.



(Immediate left) 37-year-old female, one year post excision hydroadenitis right axilla. Superficial closure with DERMABOND; deep closure 4-0 PDS one layer.

Photo credit: Drs. Linder and Lorenc

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According to Dr. Linder, it is important to note that allergy to adhesives can be an issue. He has seen a case of allergy — unknown prior to surgery — which produced severe blistering and left areas of hyperpigmentation.

VOICE OF EXPERIENCE Dr. Linder has performed thousands of body-sculpting procedures — breast augmentations, breast lifts, breast reductions, body contour, liposuctions and abdominoplasty — and he has used traditional Steri-Strips as a fourth closure layer for virtually every one.

According to Dr. Linder, “The major advantage of Steri-Strips is that they provide excellent cosmetic closure of a wound. Steri-Strips help to bring about a clean apposition of the edges of the surgical incision, reducing step-off deformity so that the end result is smooth.” He feels that Steri-Strips improve his efficiency, may reduce wound hypertrophic scarring, and may help to reduce infections — particularly when a prosthetic device is being inserted into the body. Within a limited range of experience (approximately 16 patients to date), Dr. Linder is equally enthusiastic about the 3M Steri-Strip S system.

COMFORT LEVELS Like some other

surgeons, Dr. Linder is not comfortable with the DERMABOND technique. He finds that the potential time required for closure of a long wound with DERMABOND is somewhat prohibitive as is the potential for irritation of internal tissues and the inability to readjust the apposition of the closure once the adhesive is dry.

“...Speed[ing] up the closure process... is important because wound closure is a significant portion of the procedure. Time saving spares anesthesia and cuts back on OR costs.”

— Z. Paul Lorenc, M.D., F.A.C.S.
NEW YORK, N.Y.

Dr. Lorenc, on the other hand, has been comfortable with the DERMABOND technique from the first time he used it. For him, “DERMABOND speeds up the closure process, which is important because wound closure is a

significant portion of the procedure. Time saving spares anesthesia and cuts back on OR costs. These savings are more dramatic in the case of a longer wound, such as an abdominoplasty or a breast reduction.”

“In some situations, the use of DERMABOND is discretionary,” says Dr. Lorenc. “In others, I consider DERMABOND to be absolutely essential, for example, when I do a thigh lift. There’s no way that a Steri-Strip would stay on that wound. And DERMABOND makes it so much easier for patients. They can hop in the shower in 48 hours.”

Both surgeons agree that their superb results with surface closure could not have been achieved without meticulous attention to subcuticular closure. This suggests that, in many cases, setting up the deep closure properly can produce an equally good effect utilizing either product. As Dr. Lorenc, who also serves as a clinical professor of plastic surgery at New York University School of Medicine, tells residents, “What separates good plastic surgeons from great plastic surgeons is a sense of beauty that is partly innate and partly comes with experience — where aesthetics is more than just putting a wound together.” ◆

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