

Preliminary Results of Double Fixation in Endoscopic Forehead Lift

The author describes how he augments Endotine Forehead device fixation with a temporary external cortical screw. This prevents the elevated and advanced skin flap from becoming detached from the Endotine, causing a relapse of brow ptosis. This double fixation endobrow technique places initial tension on the cortical screw, allowing tension-free fixation to the Endotine. Early results have been good in a series of 18 patients. (*Aesthetic Surg J* 2006;26:472-475.)

Endoscopic brow lifts are now performed with increasing frequency. Many techniques for scalp fixation have been advocated without any achieving universal acceptance. Techniques range from external taping and bolsters, fibrin glue, and cortical tunnels to temporary or permanent screw fixation. The Endotine Forehead device (Coapt Systems Inc., Palo Alto, CA) is a biodegradable internal fixation device that received marketing approval by the U.S. Food and Drug Administration in March 2003. This device offers a rapid and effective means of fixation.¹⁻³ Although there have been reported patient complaints relating to its palpability, this has not been a problem in my practice.

Early in my experience using the Endotine Forehead device, I noted that in several patients, the elevated and advanced skin flap became detached after a few days, which resulted in the relapse of brow ptosis. To solve this problem, I decided to augment the Endotine fixation with a temporary external cortical screw placed in the same incision. I soon



Hilton Becker, MD, Boca Raton, FL, is a board-certified plastic surgeon and an ASAPS member.

observed that enhanced elevation and fixation could be achieved by using this technique. The additional time it took to place the external screw was minimal, and no increased complications have been seen in a series of 18 patients.

Technique

I use the standard technique of Endotine placement as advocated by Stevens et al.⁴ Prior to Endotine fixation, I drill a hole into the posterior cortex 4 to 5 mm lateral to the Endotine, and then place traction on the

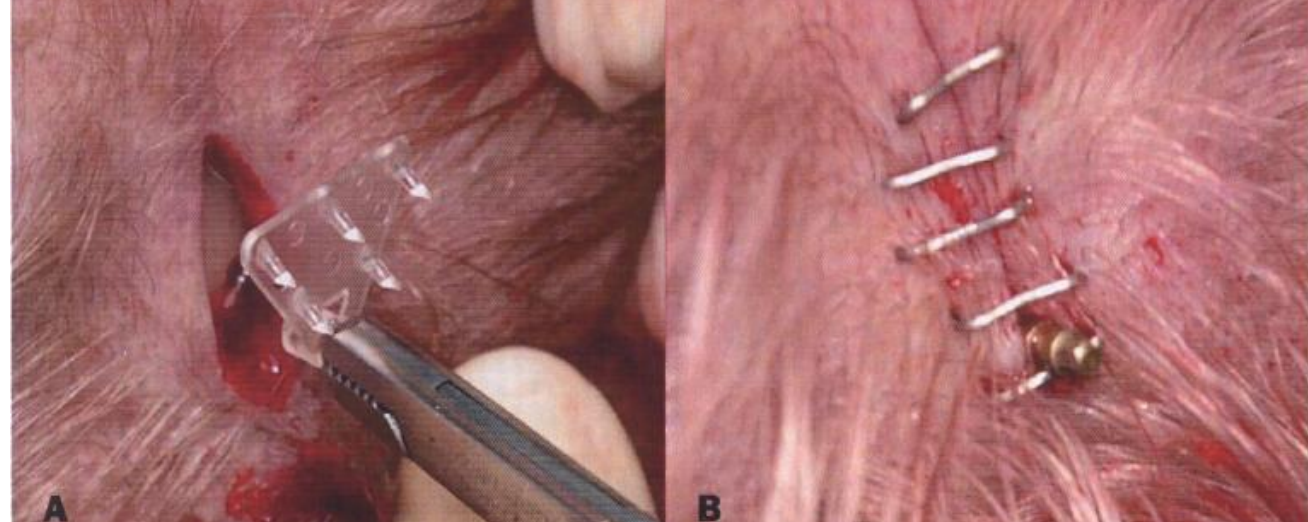


Figure 1. A, Endotine placement. B, The skin flap is placed under tension and supported by the external screw. The incision is closed with skin staples.



Figure 2. A, Endotine placement with external screw support. B, Closure with staples.



Figure 3. A, Preoperative view of a 35-year-old woman. B, Postoperative view 1 month following endobrow lift using double fixation. C, Postoperative view after 3 months.

scalp flap. I place the external screw through the same or a separate puncture hole and screw it into the bone, thus maintaining the skin flap in position under moderate tension. I then fix the flap to the Endotine without tension and close the incision (Figures 1 and 2). I remove the external screw about 10 days later, at which time secure fixation to the Endotine has occurred.

Discussion

It is well known that suture approximation of tissue under tension will result in the suture cutting through the tissues and the spreading or widening of scars. A technique of double fixation (ie, tension maintained by the first suture allowing the second suture to secure tissue fixation before tension is placed on the second suture) avoids the second suture cutting through the tis-

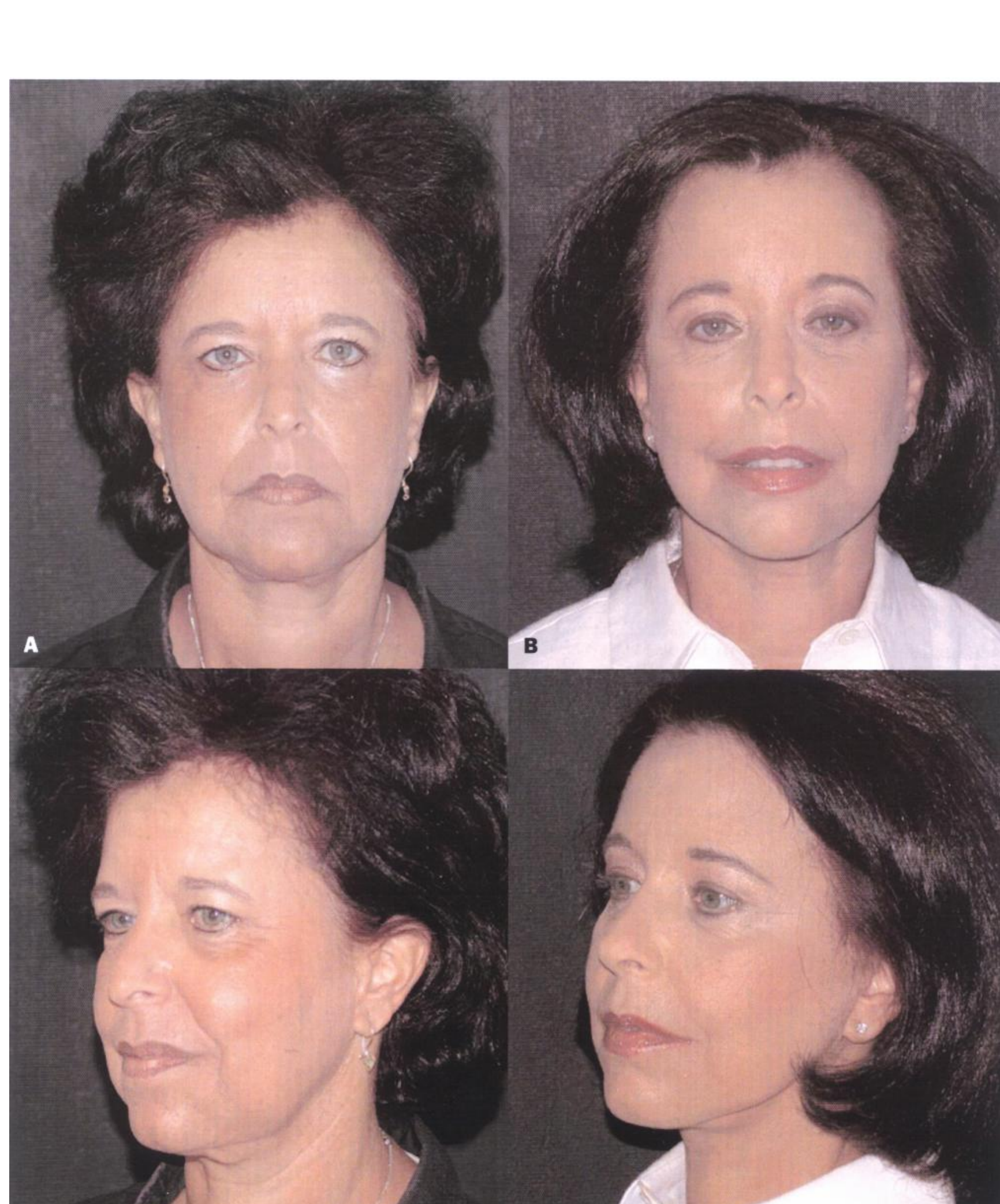


Figure 4. A, C, Preoperative views of a 55-year-old woman. B, D, Postoperative views 3 months following endobrow lift using double fixation and a face lift.

sue. This technique has been described in flexor tendon repair.⁵ A similar technique is also being used in face lift surgery.

The double fixation endobrow technique places initial tension on the cortical screw, allowing tension-free fixation to the Endotine to take place. When the cortical screw is removed (after about 10 days), sufficient tissue fixation has taken place, thus reducing tension on the Endotine.

I have used the double fixation endobrow technique in 18 patients. All patients were satisfied with their result after a maximum follow-up of 3 months (Figures 3 and 4). Although the cortical screw is placed into hair-bearing scalp, alopecia at the site has not been a problem. One patient required further elevation of the brow. No case of infection or adverse effect as a result of the external screw has been seen.

References

1. Bryant R. Endotine Forehead pays back with patient satisfaction. *Cosmetic Surg Times*, April 2004.
2. Troy T. Brow lifts made easier thanks to new resorbable "back-like" device. *Cosmetic Surg Times* November/December 2003.
3. Bryant R. Endotine viable for old brow lift problems. *Cosmetic Surg Times*, November/December 2003.
4. Stevens WG, Apfelberg DB, Stoker DA, Schantz SA. The Endotine: A new biodegradable fixation device for endoscopic forehead lifts. *Aesthetic Surg J* 2003;23:103-107.
5. Becker H, Orak P, Duponselle E. Early active motion: following a beveled technique of flexor tendon repair. *J Hand Surg* 1979;4:454-460.

Reprint requests: Hilton Becker, MD, 5458 Town Center Road, Suite 101, Boca Raton, FL 33486.

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