

## How I Modified the K-wire Fixation Technique for Endoscopic Brow Lift

“Second Thoughts” focuses on ways in which aesthetic surgeons have modified or even dramatically changed their techniques over time to achieve optimal results. Contributors are Aesthetic Society members and other recognized experts.

I first began performing endoscopic brow lifts in 1993. At that time, there were a number of different fixation techniques with which I experimented. The most commonly used techniques at that time were the Ramirez head dressing<sup>1</sup> and the screw fixation technique. Ramirez head dressings tend to be cumbersome, whereas the screw fixation technique is more high-tech and appears to be better tolerated by patients. After performing several endoscopic brow lifts,<sup>2</sup> I was disappointed by the amount of postoperative pain experienced by patients as well as the significant amount of alopecia that occurred around the screw sites. In addition, patients were dissatisfied with the visual effect of the screw protruding from the head.

Subsequently, I observed a patient who had undergone gamma knife radiotherapy and then wore a halo supported by transcutaneous pins. I was impressed by the

way these wounds healed within a period of 2 weeks. At this time, I first had the idea to use K-wire fixation for endoscopic brow lifts.<sup>3</sup> Initially, I was using the K-wires both in the brow and in the temple scalp to fix the brows. Although this technique worked very well, I did experience some problems.

Initially, I limited the K-wire insertion into the bone at the level of the brow to 4 mm. In older patients with softer bones, I found that this was not adequate. I now insert the K-wire approximately 6 to 7 mm into the supra-orbital bone. At this level there is no area of danger, and if inserted too deep, the K-wire will simply project into the frontal sinus. I still limit the depth of penetration of the K-wire into the temporal hairline to a 5-mm purchase.

I used to bend the tip of the K-wire as much in endoscopic brow lift as I do in hand surgery, but many times this pulled the K-wire out. I have modified the technique in such a way that now I do not bend the end of the K-wire



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**Figure 1. A,** Preoperative view of a 37-year-old woman. **B,** Postoperative view at 3 months following endoscopic brow lift. Patient also had a TCA peel.



**Figure 2. A,** Preoperative view of a 57-year-old woman. **B,** Postoperative view at 3 months following endoscopic brow lift, face lift, upper eyelid blepharoplasty, lip augmentation, and TCA peel.

but simply cut it approximately 3 mm above the surface of the skin.

I no longer use a 2-0 Prolene (ETHICON, Inc., Somerville, NJ) for my temporal fixation suture because in some cases I have had to remove them because of complaints by patients that they could be felt at the incision site. I now use a 3-0 Nurulon (ETHICON, Inc.), which is a braided permanent nylon suture. I have had no patient complaints concerning these sutures and have never needed to remove them.

I generally remove the brow K-wire 5 days postoperatively and the temporal K-wire 7 days postoperatively.

The modified K-wire fixation technique has alleviated the problems associated with the screw fixation technique,

namely postoperative alopecia and inordinate pain. The K-wire fixation technique is simple and easy to perform and has had good long-term results (Figures 1 and 2). ■

### References

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