CLINICAL TECHNIQUES

A Cosmetic Surgeon’s Decade of Experience Performing Eyelash Transplantation

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Introduction: Single-hair grafts to the eyelids, performed using a very challenging technique, offer cosmetic surgery patients a natural-looking solution for alopecia of the eyelid due to various causes, ranging from overcurling and trauma to systemic and metabolic processes. The technique described in this article requires the cosmetic surgeon to have a vast experience in both hair transplantation and eyebrow transplantation.

Methods: We present a technique that requires simple instrumentation and the aid of one well-trained assistant. The procedure has been performed on 20 male and 350 female patients over a 10-year period.

Results: The procedure has resulted in a mean graft survival percentage of 95%. The technique produces cosmetically pleasing outcomes, and complications are rare.

Conclusions: A challenging technique for eyelash transplantation can successfully effect a pleasing and natural look for cosmetic surgery patients.

Hair transplantation is not only used for improving male and female pattern baldness and brow and mustache alopecia but also for hair loss in other parts of the body, including the eyelashes. Transplanting to these areas is based on the same doctrine. Hairs will grow because of the effect of donor dominance.1 Absence of eyelashes is not only cosmetically unnatural but also makes the eyes more vulnerable to injury from dust and foreign bodies. Therefore, eyelash reconstruction is important in restoring functional anatomy and improving a patient’s self-esteem.1

Loss of eyelashes has numerous causes. Trauma is the most commonly reported etiology of eyelash loss resulting from burns, scarring from infection (usually associated with tattooing and body piercing), and surgery. Excessive eyelash plucking and curling can lead to lash loss, as can trichotillomania, an obsessive-compulsive disorder associated with long-term hair pulling, that requires treatment. In addition, hypothyroidism and other endocrine disorders are treatable causes of eyelash loss.1 Congenital disorders such as congenital aplasia are also associated with eyelash loss.1

Cosmetic surgical techniques for hair transplantation to the eyelashes have improved but still remain a challenge. Few instruments are required. Complications are rare, and aesthetic results are typically pleasing for the patient. Figures 1 through 4 show the results of the eyelash transplantation procedures.

Figure 1. Patient No. 1 before the procedure (Left) and 3 months after eyelash transplant (Right).

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Reports from the historical literature reveal that eyelash reconstruction techniques date as far back as the early 1900s.\(^1\)\(^-\)\(^3\) In 1914, Krusius\(^2\) reconstructed the eyelashes by inserting harvested punch grafts into the eyelash border. In 1917, Knapp\(^3\) inserted a strip of graft from the eyebrow into the eyelash border. In 1980, Marritt\(^4\) inserted hair follicle roots obtained from scalp punches into the eyelid border using a needle. In 1994, Caputy and Flowers\(^5\) described the "pluck and sew" technique performed on patients with alopecia, which
The surgeon cuts the single grafts, using a No. 10 blade on sterile tongue depressors, and then places the grafts on normal saline-moistened Telfa strips in a Petri dish. The patient is moved to a sitting position, and the recipient site, which has been outlined by the patient before surgery, is prepped, redrawn, and anesthetized. With a 16-g Nokar needle, microslits are made that follow the natural growth pattern of the eyelashes: care must be taken to count the number of slits. The surgeon implants a single graft per slit by grasping the hair above the bulb and releasing it in the recipient site, using a small cotton swab to apply very gentle pressure to hold the graft in place. Special care is taken to implant the hairs above the tarsal plate at a slant to effect a natural look.

The number of grafts required depends on the length of the eyelids and amount of lash loss. Most often, between 20 and 40 grafts are required. Corneal shields are not used because they have not been found to be helpful in protecting the eyes of the awake patient. This part of the procedure is very challenging and requires a steady hand.

Although some have reported using no dressing, we apply a modified face-lifting dressing of fluffed 4x4 gauze, Kling gauze, and Coban gauze to the donor sites. Note that no dressing is placed over the recipient sites. The dressing is removed after 24 hours. Four milligrams of Decadron is given intramuscularly to retard swelling. Diclofenac sodium and acetaminophen-hydrocodone are prescribed for discomfort.

The grafts “set” in 72 hours. Full growth can be expected in 3–6 months, although growth should begin within 2 weeks of transplantation. Review figures 1 through 4 for photographs of before and after transplantation results.

**Postoperative Care of Grafts**

Patients should avoid eye makeup on the eyelids for 6 weeks. In addition, light curling of the lashes should be discouraged for the first 3 months. Patients can lightly trim the new lashes after 6 weeks.

**Results**

Mean survival percentage has been 95% for eyelash grafts transplanted using this procedure. Some patients (approximately 1%) may develop perifollicular swelling, which creates a “cobblestone” appearance at the ends of the grafts. This usually subsides after 4–6 weeks without treatment. If a patient manipulates the grafts in the early stages of growth, this may lead to infection, scarring, cysts, or loss of grafts. The only treatment is surgical removal of the involved grafts. Obviously, patients with trichotillomania that are not in remission are to be avoided.

**Conclusions**

Cosmetic reconstruction of the eyelash border can be safely performed if single-hair grafts are carefully harvested and prepared and cautiously implanted. Also, vigilant patient participation, including postsurgical follow-up and care of grafts, is important. New hairs typically begin to grow within 2 weeks, and full growth can be observed in 3 to 6 months. For the best results, it is extremely important for the surgeon to have vast experience with both hair and brow transplantation.

**References**


