



Advances in transplantation technology and surgical techniques make hair transplants an excellent treatment option for women

The HAIR She WANTS by Craig L. Ziering, DO

A woman's hair is "her crown and glory." It is an extremely important physical attribute that contributes to her self-esteem, her perception of her attractiveness to the opposite sex, her personality, and her sense of well-being. Whereas our culture can embrace and even celebrate "bald being beautiful" for men, there is little social forgiveness or acceptance for female hair loss. Hence, women's hair loss is an emotionally charged issue.

In years past, the hair-restoration industry often ignored the female hair-loss patient, deeming her as too emotional and requiring too much hand-holding. Furthermore, the old punch-grafting, or "hair plug," technology handicapped a hair-transplant surgeon's ability to achieve the best result for women.

Unlike men, women rarely go completely bald, so a factor in achieving a positive result was not to damage the existing hairs. The punch-graft instrumentation was large, and it damaged or removed existing hair in thinning areas. With the dawn of microscopic follicular-unit grafting and the development of finer, more precise instrumentation, this is no longer a concern for or limitation to treating women who present with classic female pattern hair loss (FPHL).

Another advancement that improves a woman's surgical candidacy is the new surgical technique used for harvesting the donor strip that leaves a single donor scar regardless of the number of surgical sessions performed. Because women often style their hair in many different ways

and, in particular, like to wear it "up," the single donor scar becomes a critical issue. Today, donor-strip-removal techniques preserve the density of the donor area while providing greater density to thinning areas.

Approximately 43 million women in the United States experience the trauma of thinning hair. These women are increasingly choosing hair transplantation as a solution for their hair loss and are obtaining great results from it.

The "Root" of the Problem

There are two types of hair loss, or alopecia. The first is scarring, or cicatricial, alopecia, which is further divided into primary scarring alopecia (lichen planopilaris, frontal fibrosing alopecia, pseudopelade, central centrifugal alopecia, chronic cutaneous lupus erythematosus, folliculitis decalvans, tufted folliculitis, and dissecting cellulitis) and secondary scarring alopecia (inflammatory, autoimmune, infectious, and neoplastic alopecia, and physical and chemical burns).

The other type of alopecia is classified as noncicatricial and is further subdivided by the manner in which the hair was lost: hair "coming out by the roots" (telogen effluvium, androgenic alopecia, alopecia areata, syphilitic alopecia, loose anagen syndrome, and hair loss secondary to oral contraceptives) and hair breaking (tinea capitis, structural hair shaft defect, trichorrhexis nodosa, breakage secondary to improper hair care or cosmetics, trichotillomania, and anagen arrest).¹

Women with scalp-hair loss should always be screened by performing an appropriate history and physical examination. If there are any signs or symptoms that suggest endocrine or dermatologic causes, they must be investigated appropriately or referred to another specialist for this purpose. It is also important to rule out temporary hair loss caused by severe emotional or physical stress.²

Of all women who suffer from hair loss, 70% have no apparent cause other than heredity. These women are classified as FPHL and represent the majority of women seen by hair-transplant surgeons.

FPHL has three general patterns; from least to most common, they are:

- a male-pattern or frontoparietal pattern³;
- a centrifugal hair-loss pattern over the top of the scalp with an intact frontal fringe⁴; or
- a "Christmas-tree" pattern with increasing hair loss toward the frontal scalp progressing toward and sometimes into the frontal hairline.⁵

Four other characteristics of FPHL are noteworthy for hair-transplant surgeons⁶:

- These women may eventually develop decreased hair density in the temporal, parietal, and occipital donor areas.
- Many of these women develop 2- to 5-mm oval or irregularly shaped areas of total alopecia (focal atrichia) that are scattered within the areas of diffuse thinning.
- FPHL has two peaks of hair-loss onset—the third and fifth decades—and women whose onset is earlier tend to have greater progression of loss.⁷

The Hair She Wants

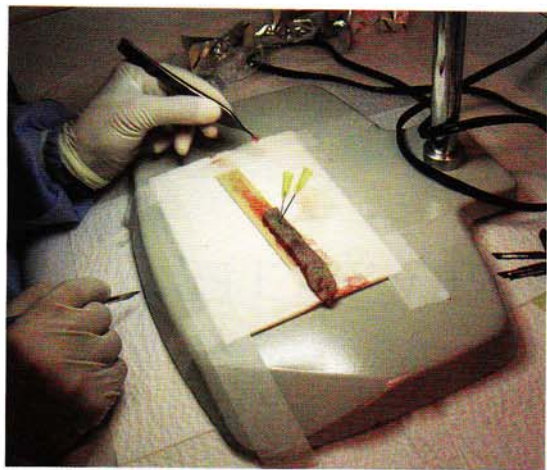


Figure 1: A typical follicular-unit donor strip.

- FPHL is probably a multifactorial, genetically determined trait, and it is possible that both androgen-dependent and androgen-independent mechanisms contribute to the phenomenon.⁸

Understanding the Female Patient

The starting point for every procedure is the consultation with the patient. During the consultation, it is critical to determine whether the patient is a good candidate for hair transplantation and to establish realistic patient expectations.

From a surgical point of view, the most important factor is assessing the donor hair. A female patient must have a favorable donor area to recipient area hair-density ratio, and the surgeon must recognize and communicate to the patient the potential for progressive hair loss over time.⁹ Most women have adequate donor hair to achieve some thickening of strategically chosen aesthetic zones in the recipient area.

Along with—and equally important to—the medical evaluation are the procedure's emotional component and the patient's realistic expectations. If the patient's primary goal is to significantly

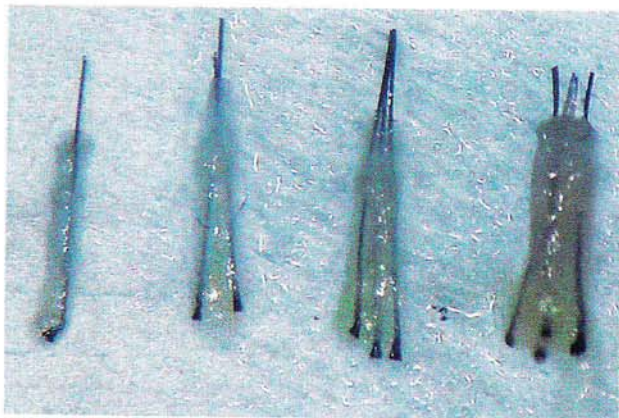


Figure 3: One-, two-, three-, and four-hair follicular units.

increase her hair density in aesthetically important areas—not to produce “thick hair”—she is a good candidate.

On the other hand, if a patient defines surgical success as “not being able to see my scalp,” this is an unrealistic expectation, and she will be dissatisfied with the result regardless of the increased density achieved. This patient should not undergo hair-transplant surgery. Because there is such a strong emotional link between a woman's innate femininity and her hair, this type of patient will be emotionally exasperated by the process, the procedure, and the postoperative wait required for hair growth.

Because hair growth typically begins 4 months postoperatively, but does not reach optimal growth until 15 months after surgery, many women become anxious and express concern by the time 8 months have passed. Hair-transplant surgeons should anticipate this and be prepared to provide the reassurance, compassion, and encouragement a woman needs to get to that 15-month mark. Compared to their male counterparts, women are much more likely to ask questions and want more detailed responses.

Finally, during the consultation, patients must be given full disclosure of the potential risks and complications associated with hair transplantation, such as postoperative forehead swelling and “shock” to some of the existing hair in the donor area surrounding the incision and in the recipient area. Forehead swelling peaks at 3 days postprocedure, then gradually subsides. Recipient-area shock occurs in 10% to 35% of first sessions, but rarely subsequently.¹⁰ Fortunately, most of this hair grows back.

Because of this potential trade-off, it is important that patients are committed to two

surgeries. Again, the key is increased communication and increased access to the surgeon. A well-informed patient is the best patient.

The Hair-Transplant Procedure

Microscopic follicular-unit transplantation is an intricate, detailed, and highly planned surgical process and procedure. The surgery day begins with a review of the patient's health history and an accurate reading of all of her vital signs: blood pressure, pulse, height, and weight. Then, the surgeon discusses the detailed artistic design for the recipient area with the patient.

Because in most women the frontal hairline is relatively intact, the bulk of the transplant zone begins 1 to 2 cm behind the hairline and extends posteriorly toward the anterior vertex. The width of the transplanted zone should be restricted to about 5 to 6 cm. If the hairline needs to be creat-

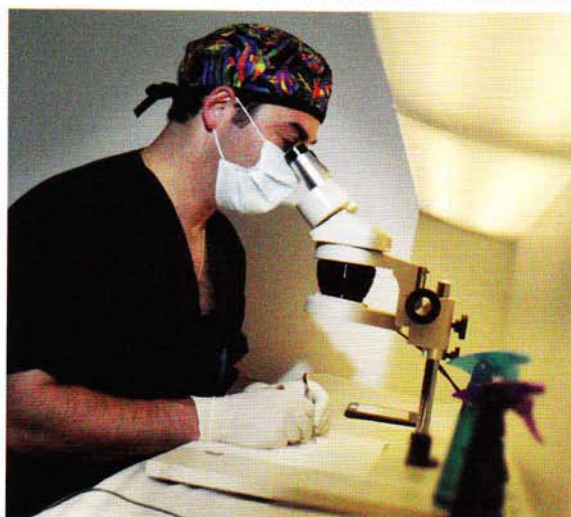


Figure 2: The donor strip is dissected with the use of a stereomicroscope.

ed or reinforced, the surgeon must keep in mind that women have more cowlicks and directional changes than men.

A critical area to transplant for increased density is the anterior temporal zone. By appreciating the patient's styling preferences and by limiting the area that is transplanted, an illusion of fuller hair can be achieved in many women.

Selection of the donor area in women differs from their male counterparts because they tend to have smaller and tighter scalps and poor density in the temporal areas. The patient's donor area is prepped for evaluation. The surgeon identifies the nuchal ridge, orinion, of the patient's occipital scalp; it is right above this area where the density of the hair tends to be the greatest and the scalp skin

PHOTOS COURTESY OF CRAIG L. ZIERING, DO

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Before & After



A 31-year-old patient before and 6 months after follicular-unit transplantation in the hairline and center scalp. For an extensive series of photographs of this patient's procedure, please see this article posted on PlasticSurgeryProductsOnline.com.

laxity is most appropriate. The region below theinion tends to be somewhat hyperelastic, which can result in stretching of the skin as the incision heals and the development of a wider, unsightly scar.

A small amount of hair in the potential donor area is shaved with a clipper so that a 30X-magnification hair densitometer can be used to calculate the patient's follicular-unit density. Based on this density and the surgeon's desired graft yield for the session, the needed donor area is clipped, prepped, and draped.

The patient is given an oral benzodiazepine, and her donor area is injected with a quantity of local anesthetic that is based on her weight. She is then placed in a prone position for harvesting the donor strip. The donor is taken in an elliptical strip between the ears and above theinion. Because the greatest density is in the flat occipital area, the strip is wider here (1.0 to 1.5 cm), tapers to 0.8 to 1 cm moving laterally to the parietal zone, and stops postauricularly. Harvesting hair from the temporal area in female patients is discouraged, because this area is prone to continued thinning and may result in a visible scar.

The incision extends just below the

dermal papillae and into the subcutaneous fat, and does not penetrate the fascia. This superficial depth allows for less transection of the blood vessels and nerves that are contained in the fascial layer of the scalp.

Tissue forceps are used to grasp one end of the tapered elliptical incision while a single-edge No. 10 blade is used to dis-

sect the strip in a horizontal fashion away from the subcutaneous attachments. Once a several-centimeter portion of the strip has been "peeled" away, the tissue forceps

are replaced with a 4- x 4-inch gauze to gently grasp the strip of tissue to avoid crush injury to the end of the tissue and the follicles. If the surgeon is in the appropriate plane, a woman's donor strip tends to peel off very easily (Figure 1, page 46). Hemostasis can be achieved with a hemostat or cautery if necessary, but care must be taken not to damage the follicular bulbs along the incisional edge. The incision is then closed with a 3-0 or 4-0 nylon running suture. A two-layer closure can be used if there is tension or if stretch-back is feared because of a hyperelastic scalp.

Relieve the Tension

If tension is a significant issue, the surgeon will sometimes use a tunnel technique to loosen any fascial restrictions.¹¹ Tenotomy scissors are inserted and spread open along the margins superiorly, inferiorly, or both, depending upon how tight the restriction, at 3- to 4-cm intervals to aid in fascial release without undermining the entire length of the incision. This tech-

Before & After



This 51-year-old patient received follicular-unit transplantation primarily in the hairline. She is shown before and 5 months after the procedure.

nique is used to reduce incision-line tension, as well as to reduce or eliminate the subdermal scarring and binding down of the fascial layer that can occur with complete undermining.

The donor strip is placed underneath a stereomicroscope for dissection into its individual one-, two-, three, and four-hair follicular units (Figures 2 and 3, page 46). Although donor strips are shorter in women, they usually yield 1,200 to 2,000 follicular units, depending on their length and donor density. Throughout the dissection process, the tissue and grafts are kept hydrated in a saline solution on ice to prevent drying. The patient is then returned to a sitting position, and the recipient area is anesthetized locally in a ring-block fashion.

Using precise diamond-shaped, spear-point blades, the surgeon creates recipient

Before & After



This 56-year-old patient underwent follicular-unit transplantation in a broad area of the scalp. She is shown before and 1 year after the surgery.

sites, reproducing the various naturally occurring angles, direction, and orientation of hair-growth patterns in the predetermined recipient treatment area, keeping in mind the available total number of microscopically dissected grafts. Following the "hair flow" gives the patient a more natural result.

The advanced technology of precision blades that creates the anatomically correct housing for the structure of the hair graft—broader at the base and slimmer at the top—permits a custom fit that is not too tight (which could cause popping) and not too loose (which could cause graft sinking).

The areas of focal atrichia that often exist within the diffusely thin treatment zone can be approached in two ways. These areas can be treated simply with follicular units or with larger follicular families by removing some of the bald tissue before the grafts are placed. This technique will create the appearance of even greater density.

With the surgeon's constant supervision, graft placement is performed by a team of highly trained and experienced technicians. Upon finishing the graft placement, the technicians bathe the scalp with a copper peptide-tri-amino acid solution that encourages epithelial-cell proliferation and decreases erythema. They are instructed on using ice and massage to minimize forehead swelling.

Surgery patients are sent home with complete postoperative instructions, a healing kit, and three medications: an antibiotic, prednisone (four 10-mg tabs daily for 3 days), and pain medication (codeine or hydrocodone). Prepackaged healing kits include copper peptide-soaked gauze pads that are to be used twice daily for 3 days, a copper peptide spray, shampoo, conditioner, and a gel that is to be used along the suture line daily for 8 days.

A 10-day postoperative visit is scheduled for suture removal and initial post-surgical evaluation. Postoperative visits are then scheduled for 5, 10, and 15 months to take pictures and to evaluate hair-growth progress.

Closing the Gap

Increasing numbers of women are exploring hair-transplant surgery as a permanent solution to their hair-loss problems, or as an aesthetic solution to disguise scars resulting from face- and brow lifts—and even to restore eyebrows and eyelashes. They are considering this treatment alone or in conjunction with their

current options of topical minoxidil, low-level laser-light therapy, scalp camouflage products, and hair systems ("wigs").

Creating educational materials that cater to the needs of women and taking additional time in the consultation process to address the whole patient—emotionally and intellectually—are the keys to producing a successful experience and outcome for the female patient. **PSP**

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