The Evolution of the Graft: The Maturation of a Medical Specialty

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In 1993, Otar Norwood, MD, who had been publishing *The Hair Transplant Forum*, a quarterly newsletter for hair-restoration surgeons, joined with Dow Stough, MD, to organize a meeting of hair-restoration surgeons in Dallas, Texas. That meeting was revolutionary in that along with the formal presentation of some very strong and exciting technical papers, for the first time a substantial amount of time was planned to allow for an open dialogue that encouraged audience members to share their experiences. Competitive paranoia gave way to active listening, acceptance, and the development of professional friendships. In addition, a strong professional society, the International Society of Hair Restoration Surgery (ISHRS), was born. The ISHRS has become a fine example of how professional cooperation can rapidly advance technologies and expand industries.

Now, 17 years later in 2010, the ISHRS has evolved into the world's premier professional organization for hair-restoration surgery. The ISHRS is unique among all medical professional societies in that its membership is not confined to surgeons or dermatologists, but instead includes any and all physicians who are interested in learning how to become better hair-restoration surgeons. The combination of a multidisciplinary membership and the encouragement of open discussions and frank debates have allowed the profession to rapidly improve the aesthetic quality of the results of the average hair transplant. Indeed, the multidisciplinary nature of the membership has allowed all members to gain greater insights about the physiology of hair loss; pharmacology of medical hair-loss treatments; genetic influences on the hair cycle and hair loss; the impact of low-level lasers on wound healing and hair growth; wound-healing pharmacology; alternative causes of hair loss; and practice management skills that encourage the creation of high-quality, positive patient experiences. I often wonder if Drs. Norwood and Stough really understand the depth of the impact their wise leadership and example have had on the profession.

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Better Techniques, Better Results

The professional exchanges and educational opportunities facilitated by the ISHRS have accelerated the rate of development of new surgical techniques and dramatically improved the aesthetic results achieved from hair-restoration surgery. In the 2008 ISHRS Hair Transplant Challenge survey, an online consumer survey of 1407 people conducted from May 2008 through January 2009, 60% could not correctly identify the hair-transplant recipient in 2 separate sets of 4 photographs of male participants (Figure 1). The modern-day hair transplant yields such natural-looking results that it is virtually undetectable. In addition, the *2009 ISHRS Practice Census* reports that the average number of procedures per patient has dropped from 2.2 in 2004 to 1.4 in 2008.[1] This is because physicians now transplant follicular units, which are smaller, more natural-looking grafts, in larger quantities dubbed *megasessions*. I can remember when the average patient had to undergo 4 procedures to attain a natural look in the early 1990s. These are just a few of the indicators that demonstrate how much the profession has improved patient safety, comfort, and aesthetic results.

A number of technological advancements have contributed to the dramatic improvement in aesthetic results. The most important surgical improvement is the relocation of just the individual follicular units without any of the donor area in between the follicular unit. Scalp hair commonly grows in clusters referred to as *follicular units*, with 2 to 4 hairs attached to 1 sebaceous gland and erector pili muscle. Transferring only these follicular units from the donor area to the recipient area without compromising the bald skin around them has significantly reduced the trauma of the surgery and, subsequently, healing time, aggravation, and scarring (Figure 2). These smaller grafts can be placed in smaller sites, often less than 1.3 mm in length, allowing for a tighter fit that gives the surgeon the

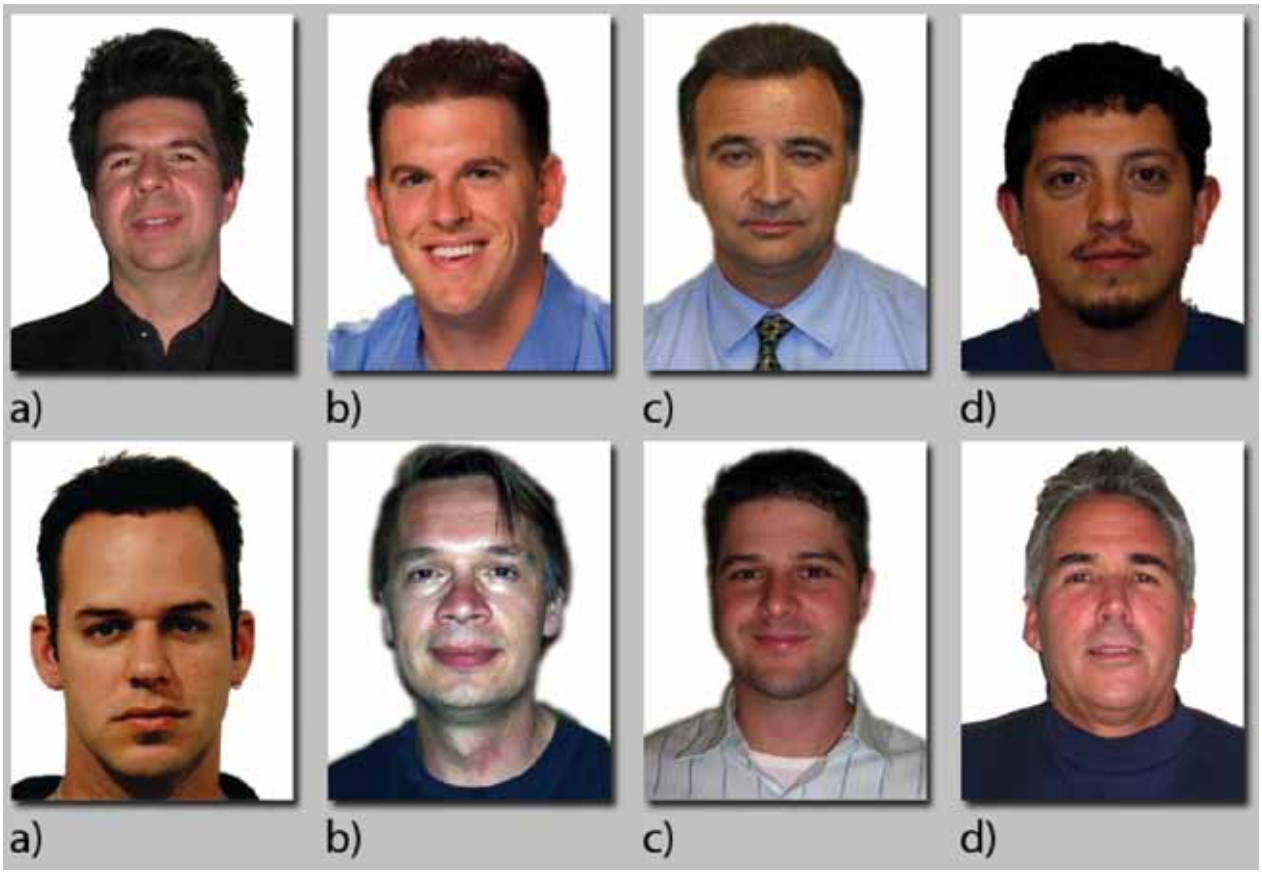

Figure 1. When asked to identify a male hair-transplant recipient in the following 2 separate sets of 4 photographs, more than 60% of respondents were not able to correctly identify the male hair transplant recipient in each set. Correct answers: First set of photographs, choice B; second set of photographs, choice A. Source: International Society of Hair Restoration Surgery 2008 Hair Transplant Challenge survey of 1407 people. Printed with permission from the International Society of Hair Restoration Surgery.

ability to accurately control not only the spacing between the grafts, but also the exit angle and direction of the future hair growth. All of these factors have contributed to a much more natural-looking aesthetic result.

Not only has the transplanted hair taken on a dramatic improvement in aesthetic results, but the development of improved surgery techniques has dramatically reduced the postoperative scarring in the donor area, the part of the scalp from which the transplanted grafts are harvested. In 1990, my average harvest donor scar was approximately 3 mm in width. Today, by incorporating the refined trichophytic closure (a donor-harvesting technique developed by Paul Rose, MD; Mario Marzola, MBBS; and Patrick Frechet, MD), these scars are often barely perceptible (Figure 3). In fact, many surgeons have moved away from strip harvesting into harvesting 1 follicular unit at a time, as described by James Harris, MD, and William Rassman, MD. Known as follicular unit extraction, these procedures also leave a minimal scar in the donor area (Figure 4).

Demand Grows for Nonscalp Procedures

Recent advances include hair transplantation not only to the scalp, but other areas of the body as well. Eyebrows, eyelashes, chests, sideburns, moustaches, pubic areas, and beards are all being successfully transplanted with follicular unit technologies that have been developed in the last 6 to 10 years (Figure 5). The *2009 ISHRS Practice Census* found that in the United States, the number of facial (moustache/beard) hair transplants increased by 15.1% (1369 procedures in 2008 versus 1189 procedures in 2006).[1,2] Other areas of the world also saw sizeable increases in these nonscalp hair-transplant procedures.[1,2]

Our Challenge: Raising Public Awareness

The *2009 ISHRS Practice Census* survey reported that approximately 252,000 hair-restoration surgeries were performed in 2008 (98,727 of those in the United States), reaffirming the American Academy of Cosmetic Surgery data that hair-restoration surgery is one of the most popular cosmetic procedures in the cosmetic surgeon's

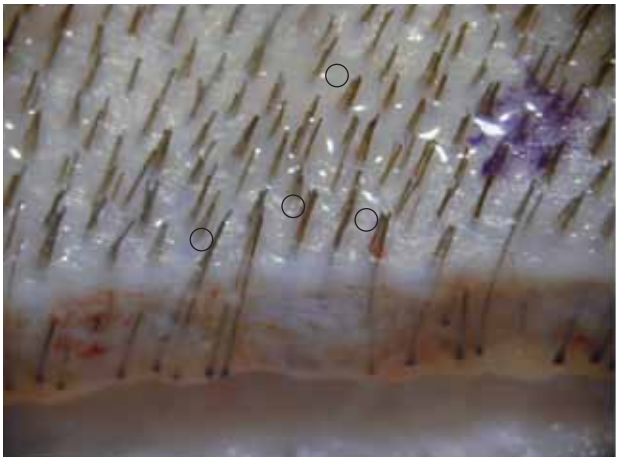

Figure 2. Follicular unit structure of donor hair, which no longer includes the bald skin between the follicular units.

armamentarium.[1] The ISHRS Hair Transplant Challenge survey found that 59.8% of the people who were asked whether they would rather have more hair, more money, or more friends chose more hair.[1] Yet, if one looks at the potential market for hair-restoration surgery (eg, sound candidates who are motivated to do so and can afford the procedure), we see that less than 3% are taking advantage of the service. That is the same percentage of market penetration that was estimated by this author in 1979.

Why is it that even though our services and products have dramatically improved since 1993, the US market has not grown appreciably? At the 17th Annual Scientific Meeting of the ISHRS in July 2009, the president of direct hair implantation, Konstantinos Giotis, reported that from a practice survey of 500 patients, 98% of the respondents did not know if all hair-restoration clinics provide similar results. Along those lines, 47% of the respondents in the Hair Transplant Challenge survey answered that hair can only be transplanted to the scalp, and only one quarter (25.5%) correctly chose 50% as the percentage of hair loss that was needed to be cosmetically visible. In addition, the survey found that the 2 main reasons for respondents to hesitate in undergoing a hair transplant were that a hair transplant will not look natural (35.9%) and will be too expensive (34.8%).

The bottom line is that hair-restoration surgeons have not done a good job of communicating to the public the quality, safety, and convenience of hair-restoration surgery. Indeed, many potential patients are discouraged from pursuing hair-restoration surgery because a few in the profession feel they must aggrandize their own work and undermine the creditability of their peers, not realizing that such behavior casts doubt in the consumer's mind as to the ability of the entire profession to provide universally consistent results. The market will not expand until all people are aware of all the services we provide and are confident that the entire profession can reliably provide high-quality, natural-looking results.

Contemporary hair-restoration surgeons provide patients with insights about the cause of hair loss and recommend appropriate treatment plans, both medical and surgical. Surgeons offer hair restoration to patients with both male and female pattern hair loss and are sophisticated about the differences in treatment plans and designs for each. They provide aesthetically sound hair replacement not only to the scalp, but also eyebrows, eyelashes, chest, sideburns, moustache, beard, and pubic areas. Yet, few outside the hair-restoration surgery profession know these services are available.

Figure 3. Trichophytic closure scar.

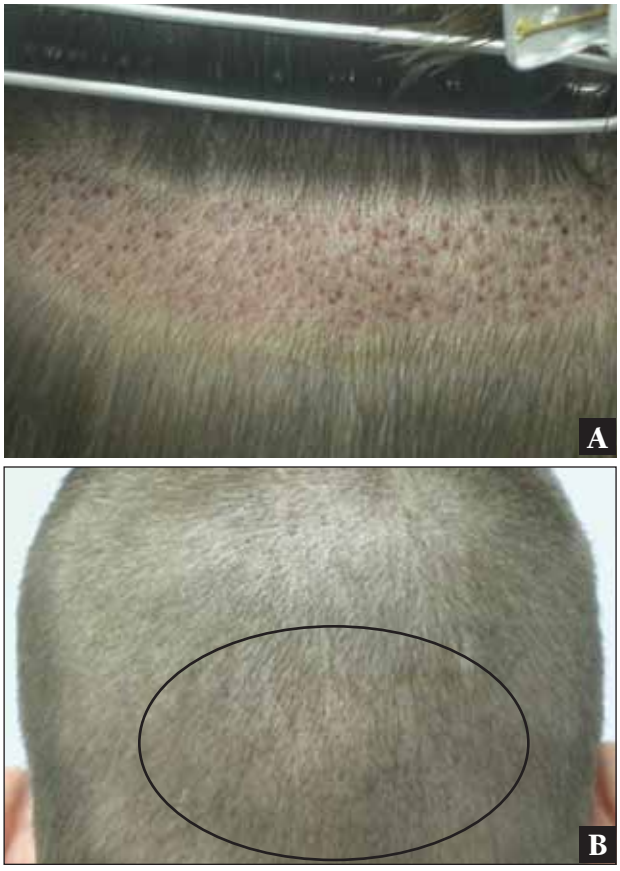

Figure 4. Follicular unit extraction 1 day postsurgery (A) and 14 days postsurgery (B).

Over the past 17 years, hair-restoration surgery has matured as a specialty through the development of technologies and practice protocols that consistently provide hair-restoration results that are natural looking and aesthetically sound with minimal scarring, all the while optimizing patient safety and comfort. The specialty has also matured because the ISHRS has encouraged open communication and debate on all issues, developed lecture and live surgery workshop training programs that meet the accreditation standards of the Accreditation Council for Continuing Medical Education, offered a fellowship training program that encompasses detailed surgical training, and provided a venue for hair-restoration surgeons to develop strong lifelong relationships with their peers.

Figure 5. Eyelashes immediately after transplantation.

The challenge now is to determine how we can work together to develop the confidence of the public. I am confident that the same multidisciplinary approach used by the ISHRS to improve our surgery services will also serve us well in developing a communication methodology that will spread the word about the real benefits of contemporary hair-restoration surgery.

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