Shaved FUE vs Long Hair FUE: A Comparative Study During Excision, Extraction, and Placement

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**ABSTRACT**

**Introduction:** Long hair follicular unit excision (FUE) is a challenging technique that requires advanced surgical skill. As this procedure becomes more well known, patients frequently ask for it and surgeons offer it more. Still, we have little information on the effects of this technique on the grafts and the overall result of the procedure. The objective of this study was to compare the surgical and graft quality in shaved and long hair FUE by evaluating different parameters during excision, extraction, and placement.

**Methods:** Excision, extraction, and placement processes were compared between long hair and shaved hair FUE. For the excision comparison, two parallel boxes were marked and measured on each patient at the level of the center of the occipital area within the safe donor area. One box was shaved and the other was left with long hair. Grafts excised and extracted were counted under a microscope and inspected for partial or total transections; the time elapsed for the excision and extraction was also noted. For the placing comparison of long hair versus shaved hair FUE, two parallel boxes of 1 square centimeter were measured and marked on each patient at the level of the frontal hairline on either side. One box was for dense packing with 50 shaved follicular units (FUs) and the other box was for placement of long hair grafts in a great enough density to achieve desirable coverage. Time was also calculated during all placement processes.

**Results:** A total of 10 male patients (n=10) were recruited (mean age of 44) and classified with the Norwood Scale between 3 and 5 (with an average of 4.2) regardless of location whether it was anterior, central, or vertex. During the excision and extraction phase of the procedure, we observed that in the long hair box, we could extract an average of 20% more grafts compared to the maximum calculated by the Hair Density Index (HDI) for that specific area t(18)=12.5, p<0.001. We did not see a significant difference in the total transection rate (TTR) between the two boxes (t(18)= 2.277, p<0.017), but we did see a significant difference in the partial transection rate (PTR), with an 8% higher partial transection rate in long hair excision and extractions compared to shaved excisions and extractions t(18)=–4.11, p<0.001. Additionally, excision and extraction of long hair FUs takes almost twice the time to perform than shaved ones. When placing grafts, we observed that an average of 24% fewer grafts from the long hair batch were needed to achieve the ideal coverage t(18)=–22.13, p<0.001.

**Discussion:** Long hair FUE is a slow process that can cause a slight increase in partial transections, but stretches the boundaries in regards of maximum donor availability and minimum density needed for recipient area coverage.

**Key words:** follicular unit excision, long hair FUE, shaved FUE, coverage, maximum density, limited donor availability

**INTRODUCTION**

Follicular Unit Excision (FUE) has developed immensely since Australian physician Dr. Ray Woods started performing this technique in 2001 and since Dr. William Rassman’s publication of the 2002 paper, “Follicular Unit Extraction: Minimally Invasive Surgery for Hair Transplantation.” Over the years, huge advancements in technology have been made as new devices, punches, and excision methods have been created.

In 2006, Dr. Marcelo Pitchon published the paper “Preview Long Hair Transplantation,” in which he described his surgical technique previewing results in patients who had strip surgery, leaving all his grafts with long hair shafts during placement to preview a possible final outcome immediately post-surgery. Long Hair Preview Follicular Unit Excision (LHP-FUE) is an innovative hair transplant technique that is reserved for
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President’s Message

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Dear Colleagues,

I hope you have all had a safe re-entry in the opening of your practices.

We recently analyzed the results of the 2019 Practice Census, which revealed that the hair restoration industry is growing, with an estimated worldwide market for surgical hair restoration of around $4.6 billion USD. When comparing the number of surgical procedures performed around the world in 2019, Asia led the way with 196,630 procedures, followed by the Middle East/Africa with 188,360 and the United States/Canada with 182,025. Europe experienced the largest growth in the number of surgical hair restoration procedures in 2019, with 106,949 procedures representing a 35% increase from 2016.

Since the global market of hair restoration surgery is growing and new hair surgeons are continually entering our field, the ISHRS more than ever has to offer guidance and serve as a model of ethical and good medical practice.

This year we are proud to announce the launch of two fantastic online courses, Basic and Advanced. The program for the Basic course has been planned by Dr. Humayun Mohmand (Pakistan) and Dr. Shady El-Maghraby (Egypt). A tremendous amount of organizational effort has been required to put together the total of 20 lectures and 35 short 5-minute videos that comprise the course. More than 30 ISHRS members have contributed to its contents and the vast amount of information it provides. The superb advantage of the online nature of this course is that the attendees can review the lectures at any time, indeed several times and up to 3 months after the event itself. The course will be held on Saturday & Sunday over the two weekends of August 22-23 and 29-30.

This year’s Advanced/Board Review Course offers the most comprehensive and targeted curriculum aimed at two audiences: the practitioner who wants to do well on the written and oral American Board of Hair Restoration Surgery (ABHRS) exams and the intermediate/advanced hair surgeon who wants to learn sophisticated and new techniques to improve his/her surgical expertise and understanding. The program has been developed by Dr. Jerzy Kolasinski (Poland) and Dr. Sam Lam (USA) and will be held on Saturday, September 26 and on Saturday, October 3.

As you are aware, due to the COVID-19 pandemic the World Congress of 2020 will be a virtual event. The scientific program is being developed by Dr. Brad Wolf and his Scientific Committee. It will be a unique and real technical challenge to put so many oral communications and posters together but we are up to the task. Although they can obviously not be handed over in person, we have nevertheless decided to celebrate the Golden and Follicle Awards ceremony as usual. However, it will have a different format and a few surprises. Please email your nominations for these awards following the guidelines found on page 135.

Finally, we announced a call for volunteers to participate and work on the various committees of the ISHRS. This recruitment for committee volunteers is intended to encourage more members to participate and assist in the important work of the ISHRS. It is an excellent way to become more involved in our society, and the recruitment process allows us to know more about those members who wish to participate in the leadership of the ISHRS. I hope to see many applications.

Looking forward to “seeing” everyone in October!

Call for Committee Volunteers

We are inviting ISHRS members to apply for openings in several committees. We are seeking dedicated individuals with knowledge and experience within the field of hair restoration surgery and a desire to contribute.

Terms will begin at the conclusion of the World Congress (October 26) and typically run for 3 years.

Call closes: September 1, 2020

To apply, go to https://registrationreports.com/ishrs/committees/
Co-Editors’ Messages

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Watching my daughter cranking away at med school, I ask myself: Did I really do as much studying 30 years ago, or is there that much more information to learn in medicine? Learning is something we think of as primarily taking place during our years of formal education and training, but the reality is learning to become or remain a relevant physician never really ends. As established practitioners, the learning we undertake requires more of a purposeful investment of our time, for it needs to be sought out. Staying relevant also calls on our ability to be willing to modify existing (comfortable) techniques, a process that may at times provoke mental or even (in the case of large FUE cases) physical discomfort. Right at this very moment, your sitting down to read this Forum demonstrates a commendable commitment to learning, rewarding you not just by enhancing the care you provide, but by allowing your mind to grow and even create fresh neuronal pathways. The upcoming annual meeting, to be held virtually this October, will require a similar commitment and will invoke a change in habit, avoiding the need to travel and instead allow for learning from the comfort of our homes or offices.

The articles you submit to the Forum (and you will submit an article, right?) take effort but provide a sense of accomplishment, intellectual stimulation, and enhancement of one’s professional reputation. You can be sure of having your contribution read and enhancing the quality of care provided by your colleagues. After a bit of spirited debate, Aditya and I, under the guidance of the ISHRS Board of Governors, have come up with a pathway for the Forum to enhance its scientific merit so that it meets the stringent requirements of FORUM ePUB while managing to maintain its unique informal component that permits for “how I do it” and “this is what I think” submissions. This will involve one or two articles every issue following strict editorial guidelines including sound statistical analysis and format that will be entered into ePUB (such as this issue’s lead article by Dr. Marie Shambach), joined with our regular columns, communications, and other contributions that in this issue include an insightful and practical review of PRP systems, a relevant literature review on COVID-19 and hair loss, and several on managing or preventing complications. One column that provides particularly valuable “pearls” is “Notes from the Editor Emeritus,” and Dr. Mike Beehner’s contribution in this issue is no exception. Placed toward the front of the journal for good reason, the contributions from our Editors Emeriti dispel not just knowledge but wisdom earned from many years of practice. Whether or not the columnists is utilizing the latest surgical techniques, what he/she offers in terms of experience is perhaps the most valuable from which to learn.

Looking forward to “seeing” you in October at our Virtual 2020 World Congress. Also, in early September, Aditya and I will join Dow Stough and Bob Haber, who are Forum Editor Emeriti, for a webinar entitled, “30 Years of the Forum—A Review and Discussion of Pivotal Research and Concepts.” Keep your eyes open for the announcement.

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Another impressive issue of the Forum is here! Our members have truly shown that COVID-19 will not slow them down. Jeff and I would like to say a big THANK YOU to all contributors—your support is invaluable to keep the Forum moving forward and minimize the impact of the pandemic on our society. On page 154, you will see that we have fine-tuned the article submission and acceptance guidelines to help expedite the editing process. Keep those articles coming! Jeff and I also wish to thank the editorial team, especially Cheryl, Victoria, and Helen for their support through the pandemic.

A subject touched on throughout this issue is the doctor-patient relationship. As many of us are re-opening our practices, it is important to be aware of the changing landscape of patient attitudes and mental health as a result of the pandemic, which can ultimately affect the doctor-patient relationship. COVID-19 has added an element of anxiety to everyone’s lives, and we need to consider this aspect when providing advice and evaluating patient candidacy in order to establish an appropriate and trusting doctor-patient relationship.

Our lead article presents an interesting comparison between shaved and long-hair FUE. Since the long-hair FUE technique presents a solution to the short-term cosmetic problem of shaved FUE, it is gaining in popularity among patients and physicians. However, limited data are available on transection rates and other aspects of this technique, causing hesitation among surgeons to adopt long-hair FUE into their practices. This well-conducted study helps us further understand the pros and cons of this technique. Long-hair FUE is certainly a more time-consuming technique, but it allows immediate visual identification of hair density in both the donor and recipient area, enabling the surgeon to make real-time decisions on the number of grafts that can be safely excised as well as the number needed to achieve ideal coverage. Thus, this technique allows a customized approach to FUE hair transplants, and if the procedure time can be reduced, I wouldn’t be surprised if it becomes a more popular technique with FUE hair transplants.

On page 137, Dr. James Harris presents a study commissioned by the ISHRS COVID-19 Task Force that reassures us that reopening our hair transplant clinics and performing FUE procedures is safe for the staff and our patients. For me, it is a relief to be able to tell my staff and patients that the FUE technique does not produce detectable bioaerosolized blood or skin fluids. I commend Dr. Harris and the task force for working so diligently to establish timely guidelines and provide data that have allowed us to safely navigate through reopening our practices.

It is times like these that our appreciation for the community and support of the ISHRS grows. We are a steadfast society committed to patient safety and advancing the field of surgical hair restoration. Reading the Forum and being a part of this community certainly provides me with an element of calm during these tumultuous times, and I hope you can find that too.