



COLUMNS

- 142 President's Message
- 143 Co-editors' Messages
- 145 Editor Emeritus:
Robert S. Haber, MD
- 153 Hair Sciences: An Interview
with Dr. Matthew Harries
- 158 Cyberspace Chat
- 161 Hair's the Question
- 165 Review of the Literature:
Dermatology
- 170 Letters to the Editors
- 171 Surgeon of the Month:
Alfonso Barrera, MD
- 172 Surgical Assistants Editor's
Message
- 174 Classified Ads

FEATURE ARTICLES

- 151 Donor scar camouflage
using tattooing in African
Americans
- 152 Problem avoidance in hair
transplant surgery
- 156 Successful treatment of
chemotherapy-induced
alopecia with LaserCap™:
a case report
- 163 Message from the Program
Chair of the 2010 Annual
Scientific Meeting
- 166 Review of the ISHRS Asian
Regional Live Surgery
Workshop
- 169 Review of the 2nd Annual
Hair Transplant Cadaver
Workshop
- 172 The importance of pre-
operative ECG testing for
hair transplant patients

**There's still
time to register!**

SEAPORT HOTEL & WORLD TRADE CENTER
BOSTON 2010
MASSACHUSETTS USA OCTOBER 20-24
18TH ANNUAL SCIENTIFIC MEETING

Small details can make a great difference

Antonio Ruston, MD São Paulo, Brazil tony@clinaruston.com.br

*"Discovery is seeing what everyone else saw and thinking what no one thought."
Albert von Szent-Györgyi (1893-1986, Hungary, Nobel Prize in Medicine in 1937
for his discoveries on cell respiration, vitamin C, and chemistry of muscle contraction)*

It is not my intention to teach you how to become "the best hair transplant surgeon," but rather to present some of the small details that I have collected over the years, some of which originated in our clinic and some that I learned from colleagues during my visits to their clinics. I have included the physician's name in parentheses following the pearl that I learned from them so that they are credited for their hard work. I can certainly say that in my visits I always learned some new detail to enhance my ability as a hair transplant surgeon.

Service Excellence

I remember once that I was in a very small hotel here in Brazil. I had arrived around 11 p.m. and went directly to bed. When I awoke the next morning, every employee at the hotel knew my name—at breakfast, at the pool, at the bar. Everyone addressed me saying, "How are you Mr. Antonio? How was last night? Are you enjoying your stay?" I was quite impressed. While the employee from reception might have seen my room number on the key so he would know the guest staying there is "Antonio," how did the others know my name? I also remember that when I was in the pool area or on the beach, they would bring me cold water with mint and lemon slices. The lesson here is that they did not wait until I made a request; they just observed and anticipated my need.

This is "Service Excellence," something so critical today that there is a 2-year MBA program just to teach it. To make an analogy, we are not "a big hotel corporation," but rather more like a bed and breakfast, and yet still I think we can provide this service excellence to our patients. In my clinic, this idea is promoted in the following ways:

1. Every member of my staff must know the patient's name. Before the surgery begins, all team members go to the pre-op room to introduce themselves and their function on the team. We also ask what name or nickname the patient prefers to be called.
2. It is important that we anticipate the patient's needs: Should we wait until a patient says that he is not comfortable during the procedure or until he says that his donor region is hurting? Or until he says that he is thirsty or experiencing neck discomfort? Wouldn't it be much better to ask him every 15 minutes or half hour if he is comfortable or if something might be bothering him? A patient might not complain until we ask him, but this same patient will relate this "check in on" positively when describing his hair transplant experience to others. For many years, we have been giving an evaluation form to all of our patients and I am always surprised by some of the comments and suggestions given. To get feedback, I suggest you do the same: provide a simple evaluation form with a space at the end where the patient can write additional comments.

Patient Consultation

When the patient is inside the consultation room we use a program that personalizes the institutional and educational video, beginning with "Good afternoon, Mr. Smith. Welcome to the Ruston Clinic." It

Hair Transplant Forum International Volume 20, Number 5

Hair Transplant Forum International is published bi-monthly by the International Society of Hair Restoration Surgery, 303 West State Street, Geneva, IL 60134. First class postage paid at Chicago, IL and additional mailing offices. POSTMASTER: Send address changes to *Hair Transplant Forum International*, International Society of Hair Restoration Surgery, 303 West State Street, Geneva, IL 60134. Telephone: 630-262-5399, U.S. Domestic Toll Free: 800-444-2737; Fax: 630-262-1520.

President: Edwin S. Epstein, MD

Executive Director: Victoria Ceh, MPA

Editors: Francisco Jimenez, MD
jimenezeditor@clinicadelpelo.com
Bernard P. Nusbaum, MD
dmusbaum@yahoo.com

Managing Editor, Graphic Design, & Advertising Sales:
Cheryl Duckler, 262-643-4212
cduckler@yahoo.com

Scientific Section: Nilofer P. Farjo, MBChB

Surgeon of the Month: Samuel M. Lam, MD;
Maurice P. Collins, MBBS

Cyberspace Chat: Sharon A. Keene, MD

The Dissector: Russell Knudsen, MBBS

How I Do It: Bertram Ng, MBBS

Hair's the Question: Sara M. Wasserbauer, MD

Surgical Assistants Corner Editor:
Laurie Gorham, RN
laurieg@bosley.com

Basic Science: Satoshi Itami, MD
Andrew Messenger, MBBS, MD
Ralf Paus, MD
Mike Philpott, PhD
Valerie A. Randall, PhD
Rodney Sinclair, MBBS
David Whiting, MD

International Sections:

Asia: Sungjoo Tommy Hwang, MD, PhD
Australia: Jennifer H. Martinick, MBBS
Europe: Fabio Rinaldi, MD
South America: Marcelo Pitchon, MD

Review of Literature:

Dermatology: Marc R. Avram, MD
Nicole E. Rogers, MD
Plastic Surgery: Sheldon S. Kabaker, MD

Copyright © 2010 by the International Society of Hair Restoration Surgery, 303 West State Street, Geneva, IL 60134. Printed in the USA.

The views expressed herein are those of the individual author and are not necessarily those of the International Society of Hair Restoration Surgery (ISHRS), its officers, directors, or staff. Information included herein is not medical advice and is not intended to replace the considered judgment of a practitioner with respect to particular patients, procedures, or practices. All authors have been asked to disclose any and all interests they have in an instrument, pharmaceutical, cosmeceutical, or similar device referenced in, or otherwise potentially impacted by, an article. ISHRS makes no attempt to validate the sufficiency of such disclosures and makes no warranty, guarantee, or other representation, express or implied, with respect to the accuracy or sufficiency of any information provided. To the extent permissible under applicable laws, ISHRS specifically disclaims responsibility for any injury and/or damage to persons or property as a result of an author's statements or materials or the use or operation of any ideas, instructions, procedures, products, methods, or dosages contained herein. Moreover, the publication of an advertisement does not constitute on the part of ISHRS a guaranty or endorsement of the quality or value of the advertised product or service or of any of the representations or claims made by the advertiser.

Hair Transplant Forum International is a privately published newsletter of the International Society of Hair Restoration Surgery. Its contents are solely the opinions of the authors and are not formally "peer reviewed" before publication. To facilitate the free exchange of information, a less stringent standard is employed to evaluate the scientific accuracy of the letters and articles published in the *Forum*. The standard of proof required for letters and articles is not to be compared with that of formal medical journals. The newsletter was designed to be and continues to be a printed forum where specialists and beginners in hair restoration techniques can exchange thoughts, experiences, opinions, and pilot studies on all matters relating to hair restoration. The contents of this publication are not to be quoted without the above disclaimer.

The material published in the *Forum* is copyrighted and may not be utilized in any form without the express written consent of the Editor(s).

President's Message

Edwin S. Epstein, MD *Virginia Beach, Virginia* esehairmd@gmail.com

In my final President's Message, I wish to thank the membership for the honor of serving as president these past 15 months. The president wears many hats, and I have tried to follow and complete the initiatives directed by the Board of Governors, to be open minded to all sides when issues arise, and to make unbiased and fair decisions and recommendations. I appreciate the support and advice of the BOG, and express great appreciation to the entire administrative staff of the ISHRS.

My goals were simple: maintain our financial security, expand our membership, and create more value in our membership. Despite some early bumps in the economy, we will end the year financially healthy. Our total membership numbers will be slightly higher than last year. The website appearance has been improved and emphasis has been put on marketing our site. We have added more online educational materials including an updated Basics Lecture Series, and the ISHRS Surgical Assistants Training Resources Center is almost ready to be launched.

We sponsored several successful workshops in Denver, Tel Aviv, Orlando, Houston, and Bangkok, and continue to be the world's educational leader in hair restoration surgery. Our members served as faculty for society meetings in Italy, Europe, Japan, and Brazil. In 2010, the AHRS-India will have its second Congress, and the Asian Association of Hair Restoration Surgery was born during the Asian Workshop in Bangkok. The ISHRS is a unique organization: We have a relatively small membership in numbers, but a global representation comprised of physicians from nearly every discipline in medicine. This allows for friendships to develop and encourages an international camaraderie that is rare in most medical organizations.

The theme of this year's Annual Scientific Meeting is "Revolution and Evolution." The common denominator of both is change. A revolution can be an abrupt event, like the formation of the ISHRS in 1993, or an idea, like the use of microscopes to separate grafts. Evolution is a progressive change, and the ISHRS has evolved in many directions. The one constant event in life is change, and we should be open to new ideas, and to new techniques and technology. We must maintain our commitment to the public, as physicians and scientists, to follow standards of evidence based medicine, and to resist the temptation to create a marketing edge using Internet hype that may be inaccurate or that has not passed the test of time or met our standards.

On the note of evidence based medicine, our CME Committee has undertaken an intense project of determining current practices and best practices of our profession in order to identify the practice gap so that future meeting and educational efforts can be focused on teaching to close the gap. This project will include module surveys that will be conducted over the next two years. The first, "Who Does What," has already taken place.

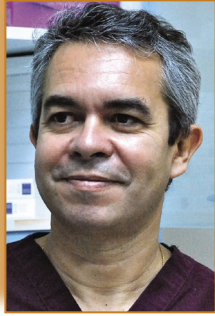
The foundation of the ISHRS is its members, and the success and growth of the Society relies on their dedication and voluntary contributions to the annual scientific meeting, the workshops, and the numerous committees, which implement the many projects of the Society. The Scientific Committee headed by Paul McAndrews has put together a fantastic and diverse conference, and I congratulate them. I wish to commend and thank those members who have served on our numerous committees, including several ad hoc committees that I appointed this year to work on various current issues. The Pro Bono Committee, headed by David Perez-Meza, oversees OPERATION RESTORE and has had a busy year with revamping and improving the application process. In addition, the Media Relations Committee has continued its non-stop efforts to promote our Society and specialty to media outlets all over the world. Finally, I want to recognize the superb efforts of our retiring *Forum* editors, Paco Jimenez and Bernie Nusbaum, who have followed the footsteps of past editors by continuing to raise the educational content bar of the *Forum*, and congratulate Nilofer Farjo and Bill Reed, who will take over as editors.



Edwin S. Epstein, MD

Co-editors' Messages

Paco Jimenez, MD *Las Palmas, Spain*
jimenezeditor@clinicadelpelo.com



One of the most valuable learning experiences can be a visit to a colleague's clinic. Most of us would agree on the basic fundamentals of follicular unit transplantation, but I can assure you that such visits often result in the discovery of innovative ideas and techniques, some of which may well end up enhancing your practice. The leading article by Tony Ruston is an example of the quest for perfection. Tony's idea of asking other colleagues for their contributions was an excellent one, and led to his receiving an unexpected number of interesting ideas. For instance, after reading this article, I would like to try the oxygen tube connected to the prone pillow, and I will have another look at humidifiers, a concept that Jerry Cooley postulated several years ago. I showed this paper to my technicians for discussion and guess which idea most attracted their attention: yes, the weekly 20 minutes shiatsu massage to each member of the team performed by a professional massage therapist.

There are other interesting articles in this issue: tattooing the donor scar (Dr. Yates); a case report on the use of low level laser therapy in chemotherapy-induced alopecia; and a basic science interview on scarring alopecia with Dr. Matthew Harries, a young but highly regarded investigator working in Manchester with Ralf Paus.

Finally, it is always a pleasure to read a paper from possibly the best writer in our field, Dr. Richard Shiell. His more than 40 years of experience and critical thinking guarantee the wisdom and judgement behind his comments. In this issue he addresses key points to avoid problems in hair restoration

⇒ page 144

Bernard Nusbaum, MD *Coral Gables, Florida*
drnusbaum@yahoo.com



To date, I have attended a total of 15 ISHRS Annual Meetings and also have served as Program Chair for one of them (San Diego). I can frankly say that I am thoroughly impressed with the upcoming Boston conference that Paul McAndrews and the Scientific Committee have put together. I encourage all of you to look through the program as you might agree with me that this year's meeting is truly "over the top." I can't really find anything that is missing and, without question, there is something for everyone, regardless of level of expertise. If you want to know what's going on with "cloning" or bioengineering of the hair follicle, you should not miss the "Emerging Therapies" session. If you have been wondering about the use of growth factors, PRP, or novel storage solutions, the latest information will be presented. Ever thought you might have transplanted a patient with an unusual alopecia? Well, in Boston, you will be able to polish your hair loss diagnosis skills as well as make sure that you are current on all the most recent technical pearls to elevate your talent in the operating room. There is the not-to-be-missed Complications Panel, the latest data on laser therapy, as well as debates between the most experienced, and opinionated, surgeons in the field. It doesn't end there, as you will personally witness results at the popular Live Patient Viewing and sit and have intimate breakfast sessions with the experts.

All this and more makes up an unprecedented educational experience. Boston, by the way, is a fantastic destination with much to do and plenty to see. Along with the camaraderie

⇒ page 144

Editorial Guidelines for Submission and Acceptance of Articles for the *Forum* Publication:

- Articles should be written with the intent of sharing scientific information with the purpose of progressing the art and science of hair restoration and benefiting patient outcomes.
- If results are presented, the medical regimen or surgical techniques that were used to obtain the results should be disclosed in detail.
- Articles submitted with the sole purpose of promotion or marketing will not be accepted.
- Authors should acknowledge all funding sources that supported their work as well as any relevant corporate affiliation.
- Trademarked names should not be used to refer to devices or techniques, when possible.
- Although we encourage submission of articles that may only contain the author's opinion for the purpose of stimulating thought, the editors may present such articles to colleagues who are experts in the particular area in question, for the purpose of obtaining rebuttal opinions to be published alongside the original article. Occasionally, a manuscript might be sent to an external reviewer, who will judge the manuscript in a blinded fashion to make recommendations about its acceptance, further revision, or rejection.
- Once the manuscript is accepted, it will be published as soon as possible, depending on space availability.
- All manuscripts should be submitted to both drnusbaum@yahoo.com and jimenezeditor@clinicadelpelo.com.
- A completed Author Authorization and Release form—sent as a Word document (not a fax)—must accompany your submission. The form can be obtained in the Members Only section of the Society website at www.ishrs.org.
- All photos and figures referred to in your article should be sent as separate attachments in JPEG or TIFF format. Be sure to attach your files to the email. Do **NOT** embed your files in the email or in the document itself (other than to show placement within the article).
- We **CANNOT** accept photos taken on cell phones.

Submission deadlines:

October 5 for November/December 2010 issue
 December 5 for January/February 2011 issue
 February 5 for March/April 2010 issue

Dr. Jimenez's Message

☞ from page 143

surgery. In the introduction, he states that "almost every technique that I tried produced mostly happy patients (as well as a small percentage of those who were dissatisfied with their results)." Even in the hands of one of the most experienced and respected hair transplant surgeons in the world, 100% satisfaction can never be guaranteed. Following Richard's rules as he describes them, however, may well mean we have to face that unfortunate fact on fewer occasions.

Paco Jimenez, MD

Dr. Nusbaum's Message

☞ from page 143

and networking that are the hallmarks of our meetings, Boston should be the "best ever."

I look forward to seeing you there.

Bernard Nusbaum, MD

Female Hair Loss Workshop Video



Dear Hair Restoration Surgeon,

The International Society of Hair Restoration Surgery (ISHRS) organized a workshop that was devoted exclusively to female hair loss and restoration.

Because of the extremely high value of the contents this workshop was recorded and is now available as a 4 DVD Set.

Now you have chance to get this exclusive DVD set, showing all presentations and surgeries performed during this workshop.

The design and techniques for treating female hair loss with transplant surgery are unique. This educational video will let you **learn from the top worldwide recognized experts** the newest techniques and solutions in female hair loss diagnosis and treatment, so that you may adapt it in your local practice right now.



Get it now at:

www.ISHRS.org/chopin

Limited number of copies available!

2009–10 Chairs of Committees

2010 Annual Scientific Meeting Committee: Paul J. McAndrews, MD
American Medical Association (AMA) House of Delegates (HOD) and Specialty & Service Society (SSS) Representative: Carlos J. Puig, DO (Delegate) and Robert H. True, MD, MPH (Alternate Delegate)
Annual Giving Fund Chair: Matt L. Leavitt, DO
Audit Committee: Robert H. True, MD, MPH
Bylaws and Ethics Committee: Robert T. Leonard, Jr., DO
CME Committee: Paul C. Cotterill, MD
Core Curriculum Committee: Edwin S. Epstein, MD
Fellowship Training Committee: Nilofer P. Farjo, MBChB
Finance Committee: Carlos J. Puig, DO
Hair Foundation Liaison: E. Antonio Mangubat, MD
Live Surgery Workshop Committee: Matt L. Leavitt, DO
Media Relations Committee: Robert T. Leonard, Jr., DO
Membership Committee: Marc A. Pomerantz, MD
Nominating Committee: Jennifer H. Martinick, MBBS

Past-Presidents Committee: Bessam K. Farjo, MBChB
Pro Bono Committee: David Perez-Meza MD
Scientific Research, Grants, & Awards Committee: Michael L. Beehner, MD
Surgical Assistants Executive Committee: Lauren Gorham, RN
Surgical Assistants Awards Committee: Cheryl J. Pomerantz, RN
Task Force on Hair Transplant CPT Codes: Robert S. Haber, MD
Website Committee: Cam Simmons, MD
Ad Hoc Committee on Database of Transplantation Results on Patients with Cicatricial Alopecia: Nina Otberg, MD
Ad Hoc Committee on Regulatory Issues: Paul T. Rose, MD, JD
Evidence Based Medicine (EBM) Task Force: Sharon A. Keene, MD
Strategic Task Force (#3) on Increasing Physician Membership: Edwin S. Epstein, MD
Strategic Task Force (#5) on Resources for Training Assistants: Jennifer H. Martinick, MBBS

2009–10 Board of Governors

President: Edwin S. Epstein, MD *
Vice President: Jerry E. Cooley, MD*
Secretary: Jennifer H. Martinick, MBBS*
Treasurer: Carlos J. Puig, DO*
Immediate Past-President: William M. Parsley, MD*
 Michael L. Beehner, MD
 Vincenzo Gambino, MD
 John D. N. Gillespie, MD
 Alex Ginzburg, MD
 Robert S. Haber, MD
 Sharon A. Keene, MD
 Jerzy R. Kolasinski, MD, PhD
 Robert T. Leonard, Jr., DO
 Bernard P. Nusbaum, MD
 Arthur Tykocinski, MD
Surgical Assistants Representative: Emina Karamanovski, MD

*Executive Committee

Notes from the Editor Emeritus

Robert S. Haber, MD *Cleveland, Ohio* bobhaber2@gmail.com



We Emeriti have the unique privilege of being allowed to periodically expound upon matters we feel relevant. Whatever has recently pleased or irked us can find its way onto this page. I for one find myself in the midst of some important transitions. I entered my second half century this year, and for me that was a challenge, causing me to evaluate my progress in life, and thus hopefully to nudge

it in the right direction. My son will be starting college in a few weeks, and while he is ready and eager to begin his next phase of life, I find myself far from ready to let him go. And my practice, while healthy and thriving, has been suffering from conflicts within my staff.

So what to do? Michelangelo was once asked how he could sculpt such an extraordinary work of art as his famous statue of David. He replied that you start with a block of marble, then chip away everything that doesn't look like David. The key is that Michelangelo was able to see exactly what his finished work was supposed to look like. I've recently come to realize that I can use a similar philosophy to sculpt my life. In my first half century, I trained and built and acquired, and arrived where I am now. But during much of that time I was too busy to exert control over my direction. I now must use clear vision to see what kind of life I want, and chip away everything that doesn't fit. I don't have a little boy anymore. I have a son who's taller and smarter than me, and I know that the part of me that's trying to hold on has to be chipped away.

I am as dependent upon my assistants as any hair transplant surgeon can be, and each individually has great skills. Yet I finally came to the conclusion that if peace and tranquility were to be achieved in my office, the status quo had to be chipped away, and so this week I made the very difficult decision to dismiss one of my senior assistants. The repercussions of that decision will take some time to come to fruition, but I'm confident that a healthier work environment will exist. And importantly, I have made it clear that I am in charge of our destiny. Other aspects of my practice that don't fit my vision are coming into focus, and I will carefully continue chipping away the parts that are keeping the ideal from taking shape.

I recently returned from the Second Annual Hair Restoration Surgery Hands-On Cadaver Workshop held July 23–25 in St. Louis. Organized again by Sam Lam and Emina Karamanovski, the workshop was a great success. A succinct mix of didactic lectures and hands-on training on foam heads, melons, and fresh cadaver heads, it served as an excellent introduction to the field of hair restoration surgery for both novices as well as those with some existing skills. If Sam and Emina had been present when I learned that I was assigned five lectures I had never given previously, there would have been two additional cadaver heads for the participants to practice on, but, fortunately for them, they were several states away.

While educationally top-notch, the workshop brought into focus everything that was both great and terrible about our field. Great was the availability and willingness of a group of experienced surgeons to take time away from our practices to teach our craft. Great was the expert surgical assistants also present to teach novice technicians their special skills. Great was the respect that most of the attendees showed for the complexity of our field, and the understanding that it is not a procedure to be added flippantly to one's repertoire.

Terrible (in my opinion) was the glaring absence of a single dermatologist amongst the attendees. The undisputed experts in the workings of the skin and hair, and the significant majority of practitioners of hair restoration at one time, my colleagues seem to be abandoning the field, and I believe this is very unfortunate. Terrible is the difficulty of training assistants to allow a newcomer to the field to perform large sessions. A newcomer must either stumble along with slow and unskilled assistants for a time until skills are improved, risking bad outcomes, or hire traveling assistants to run the show, or attempt to "steal" trained assistants from other offices. None of these are desirable. At this workshop, as at most meetings, job offers were made to assistants who had been brought to teach.

Terrible (in my opinion) was the glaring absence of a single dermatologist amongst the attendees. The undisputed experts in the workings of the skin and hair, and the significant majority of practitioners of hair restoration at one time, my colleagues seem to be abandoning the field, and I believe this is very unfortunate.

Terrible was the belief by too many of the participants that automated FUE machines were a great way to avoid the previously stated problems regarding assistants. If we don't figure out a way for newcomers to train assistants, we may see a flood of FUE disasters, and a subsequent backlash against all practitioners of our field.

What to do? We need a clear vision of where we want our field to be in ten years. Then, while we actively promote all the great stuff, we have to diligently chip away all the parts that keep it from being a masterpiece. ✧

Small details

☞ from front page

may sound silly, but a patient wants to feel that he or she is unique and valued, so we try to treat each patient in a personalized manner.

The more informed the patient, the more realistic his or her expectations will be and therefore the higher the chance for satisfaction. We must educate our patients in respect to our techniques and to our limitations. When our patients are laymen, we must use laymen's vocabulary.

A short 3D animation may clarify a long explanation, in addition to better illustrating an idea that we are trying to convey. For example, I might use a 3D animation to try to encourage a patient to accept a design with a more accentuated temporal recession.

Another important detail during the evaluation is to show similar cases to the patient. For this reason, a database organized by density, hair type, etc., greatly facilitates locating similar cases.

During the microscopic analysis of the patient's scalp, permit the patient to interact, showing the difference in terms of hair thickness, the different follicular units, the miniaturization of the hairs, etc.

Take pictures from different angles to show your patients. They are always surprised by the extent of their baldness from the top view.

Pre-Operative

1. **Succinctness:** Too much information regarding pre-operative care may result in the patient not reading it or not paying attention to what is truly important. One suggestion is to be succinct regarding this care, calling your patient's attention only to those issues that are really important. In addition, telephone every patient one or two days prior to the procedure, asking if they have any concerns.
2. **Anxiety relief:** Every patient arrives to surgery feeling anxious so we provide anti-anxiety medication (alprazolam 1mg) for the patient to take on the eve of his surgery. This provides a peaceful night of sleep and reduces anxiety, thus minimizing the adrenaline charge and improving the bleeding during surgery. We also give alprazolam 1mg when the patient arrives for surgery.

Donor Area

Here are many details that we have adopted in regards to the donor area:

1. **Correct marking:** We make sure to mark not too high, and not too low, always thinking about future sessions.
2. **Laxity measurement:** It takes one minute and helps a lot in preventing excessive tissue removal, consequently creating tension when closing (sometimes using the Mayer-Pauls device)
3. **Massage:** I use a powerful massage device on the patient's back and shoulders during the donor anesthesia (see Figure 1). (Dr. Bernard Nusbaum)
4. **Trichophytic suture:** Another magnificent detail. We believe it is indisputable that the scar quality is much better and far less perceptible when we adopt this closure.



Figure 1. Massage in the back and neck regions during donor anesthesia

5. **Absorbable suture:** Eliminating suture removal is a great relief to the patient and one less follow-up visit for the doctor. We use it in primary cases, with no tension.
6. **Good night suture:** Inverting the knots reduces discomfort in the donor area. It can be done only if you use an absorbable suture. (Dr. Marcelo Pitchon)
7. **Shaved area:** Avoid shaving beyond the area that will be removed so that short hairs or the scar are not apparent after closing.

Pain Management

After visiting Dr. Bob True and seeing the effectiveness of The Wand®, we started to use it on the slow speed (on the high speed the pain is the same as with the insulin syringe). It takes time but is worth it. Additionally, for years we have used a vibrating massage device to reduce the pain and it has truly shown to be effective (Dr. Bill Parsley).

In the post-operative period, we know that pain occurs only in the donor area. After a brief survey that I did with several colleagues, I reached the conclusion that a combination of infiltration of bupivacaine at the end of the surgery, intramuscular toradol, and paracetamol with codeine in the first 48 to 72 hours is the most effective post-operative pain management. We also give an anti-anxiety pill to take on the first night following surgery.

Graft Placement

1. **Stick-and-place:** I believe that we should all practice the stick-and-place technique so that we are not so dependent on our surgical teams. Further, it significantly reduces the surgical time. I have been using a mixed technique: pre-made incisions in the frontal area and stick-and-place for the rest.
2. **Tattoo:** To make it easier for the assistants and to avoid confusion with the areas already transplanted, we mark the areas with a tattoo using green ink and a 1mm blade, to clarify this transition as well as the transition between the areas with 1 and 2 hairs. This greatly facilitates visualization and the tattoo fades by the end of the procedure or after the first wash.
3. **Gentian violet:** In the frontal area (pre-made incisions), we have been using gentian violet to tattoo. (Dr. Ron Shapiro) This greatly facilitates visualization at the time of placement and it is much easier to remove in comparison to methylene blue or similar (Figure 2).
4. **Comb:** We developed a comb that facilitates the manipulation of the hair and can be sterilized. It can be found at www.mediquipsurgical.com/shco.html.



Figure 2. Green tattoo separating areas with 1-hair FUs, 2-hair FUs, and stick-and-place; Gentian violet staining, which enhances slit visualization

Post-Operative Care

1. **Spray:** We have given our patients a saline spray to squirt on the transplanted area every hour until the hair is washed the following day. This has significantly reduced the scabs.
2. **Detailed information:** Clear and detailed information helps with patient understanding and reduces post-operative doubts.
3. **Phone call:** A simple phone call the night of the surgery or the following morning helps the patient feel more secure.
4. **Complete post-operative kit:** We give our patients all of the medication that they will need (even an anti-anxiety pill for the first night), special shampoo, an appropriate cap (like a baseball cap), and, more recently, a DVD showing how to correctly wash their hair (which can be found at this link: www.youtube.com/watch?v=QC5uXy4eEKI).
5. **Gel forehead compress:** After introducing this into my practice, I have had no cases of swelling (Figure 3). It should be used as soon as possible, 3- to 4 times a day, for 4-5 days. It should be kept in the refrigerator and 10 minutes before use should be placed in the freezer. The patient can apply it until the cold sensation is gone.



Figure 3. Forehead gel wrap to reduce swelling

6. **Emergency cell phone:** For many years I have provided a cell phone number to reach me. I always joke that they can contact me 23 hours and 45 minutes a day because I haven't found a waterproof cell phone (believe it or not, they rarely call).

Team

1. **Ergonomics:** Analyzing and investing in making ergonomic improvements for the surgical team yields big results. Once a week we have a massage therapist perform a shiatsu massage for about 20 minutes on each member of the team (during surgery, on a rotation basis, outside the surgical suite) (Figure 4). Additionally, we are always re-evaluating the posture of our assistants, adapting their work spaces, height of their chairs, and arm positions, and, from time to time, we contract a Global Postural Re-education specialist who goes comes to the surgical suite and evaluates the posture of each team member. Never underestimate a complaint related to posture (or muscle pain or tension) because the more comfortable your surgical assistant is, the greater his or her motivation and productivity will be.
2. **Assigned tasks:** Detect natural skills in each member of your team and assign them specialized tasks such as graft supervision, customer service, adapting new technologies, patient comfort, entertainment, etc.
3. **Monthly meeting:** Each month, the entire team comes together to discuss operational details, quality of patient care, etc.



Figure 4. Shiatsu massage on the surgical team

Patient Comfort

1. **Movie:** Watching a movie reduces the perception of time and also distracts the patient.
2. **Position:** The positions in the neck and lumbar regions are very important, because if the patient is uncomfortable, he or she will shift positions regularly and become restless, making the surgery more difficult and increasing its duration. To manage this, we have different pillow types and sizes.
3. **Overall comfort:** Remember to always ask your patient how he or she is feeling at different times during surgery.
4. **Surgical environment:** This should be conducive to relaxing the patient (appropriate music and illumination, massage, etc.).
5. **Oxygen:** We connect an oxygen tube to the prone pillow and put in 5 liters during the donor area removal. The tip of the tube is near the patient's nose, next to the opening of the pillow (Figure 5). This not only improves safety but it also improves the patient's well being and reduces the sensation of claustrophobia.



Figure 5. Oxygen tube in the prone position and lumbar support

Small details

from page 147

Follicular Units

- Graft supervisor:** Make one person responsible for supervising the follicular units, especially those with 3 hairs and those trimmed by new assistants. This will help make the grafts more homogenous, hence facilitating their placement and reducing the scab period. Subsequently, feedback should be given.
- Humidifier:** We use four humidifiers, which increases the humidity of the surgical environment by 30-35%, especially with the air conditioner turned on. (Dr. Jerry Cooley)
- Length of the hair:** I believe that a good length of hair is between 1.5-2cm. At this length, it is not too long to interfere during placement and there is an immediate result helping to hide the scabs, thereby creating a positive impact on the patient (Figure 6).

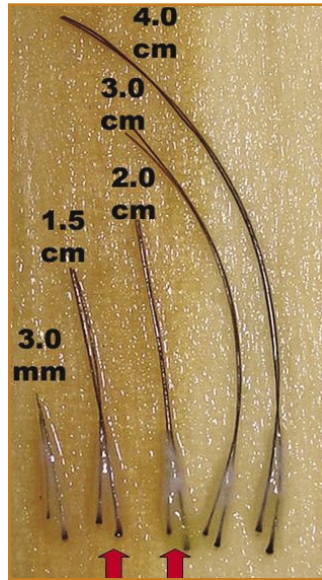


Figure 6. Different hair lengths

Additional Tips from Our Office

- Ultrafines for the front line:** The use of very fine hairs randomly in the front greatly improves the naturalness of our results.
- Number of grafts:** Showing the number of the grafts on a large whiteboard inside the operating room not only



Figure 7. Whiteboard for easy visualization with the final number of grafts and hairs in the lower right corner

facilitates visualization for the surgeon but also allows the patient to follow the number of grafts yielded while also giving credibility to the total number of grafts and hairs (Figure 7).

- Show grafts and blades:** We always show our patients their FUs. We put one of each on a spatula and also show the size of the blades (preferably the smaller ones) and the forceps used in the procedure. We also offer our patient the opportunity to look through the microscope.

To conclude, I would like to comment that in the competitive world that we work in today, our patients do not depend on us. We depend on them. Each one has individual interests and the option to choose someone else. When we pay attention to the vast number of small details, they make a great difference, not only in the quality of our results, but also in the satisfaction and loyalty of our patients, as well as the motivation of the surgical team. ✨

Additional pearls from my colleagues

As I was finishing this article, I thought to myself: I have visited many clinics and colleagues, but certainly not all. And, of course, some colleagues who I had already visited have since developed something new, as we always do in our practices. So, I wrote to many colleagues (and I apologize to those who did not receive my email) and asked them to share some pearls that have made a difference in their practices. I received so many that we (the editors and I) decided to include what we thought were the most interesting ones at the end of this article. I am sure that these pearls will be useful to all of us.

- We have those patients who are willing and interested to look under the microscope (the teaching microscope with the dual lens) to watch their grafts being dissected and to see the strip and the already cut grafts in the Petri dish.
- We always try to go at least 30-50 grafts OVER what we agreed to give and charge the patient for. That way, if a graft or two falls out, the patient will reason that it was one of the FREE ones!
- If the patient has some residual native hair on top, we will offer a sample of Toppik or DermMatch camouflage agent after the surgery and explain how to use it, in order to help keep the secret of having had the surgery.
- We use a mail-order pharmacy that pre-delivers to us each individual patient's meds. We give each patient sealed bottles of prednisone, lorazepam (for sleep), and Tylenol #3 with codeine to take home so they don't have to stop at the drugstore.
- When first-time patients leave the office, we give them a sheet entitled "Expectations," and tell them it is very important and to read it over. It basically tries to lower patients' sky-high expectations so that they aren't expecting a full head of hair or even a difference at 5 months, for instance, and it emphasizes that, for many patients, it isn't until 12-15 months that they will appreciate the full growth of the most recent session.

Michael Beehner, MD

Recently I've been putting in an interrupted single stitch in the mastoid area, and running the stitches on either side in the temporal and occipital areas. The donor area is like a 3-sided box, and putting these single anchoring sutures in the corners seems to help stabilize these corners.

Jerry Cooley, MD

I got this tip from Tony Mangubat: When injecting tumescence, first bend the needle with two 90 degree angles so it looks like a stair, make the length of the last part about 4-5mm so when you place the needle into the scalp it will only go into that depth. It works great.

Mark DiStefano, MD

1. In many Asians as well as others with spiky hairs in the back of the head that tend to grow more outwards than downwards, be aware of the greater risk of a visible donor site scar even if it heals as a fine line.
2. When transplanting beards/goatees, in those with thick dark donor hairs, stay away from the "soul patch" and chin mound (that area extending down the center aspect of the lower lip onto the actual chin), otherwise, you risk getting small bumps in the area.
3. Don't ever denigrate a colleague, rather be as positive as possible, because for every unhappy patient one of your colleagues have, you are likely, even with your very best work, to have your share.
4. It's all about the angulation of the recipient hairs—the surgeon cannot over-angle the recipient sites so that the hairs grow as narrowed angled off of the surface of the scalp.
5. African American hair recipient sites should be shallower than Caucasian sites so that the hairs do not fall into the sites and get buried.
6. In procedures larger than 2,000 or so grafts, to reduce the time spent *ex vivo* by the donor hairs, remove the strip in two parts—not removing the second part (which is typically anticipated to provide one-third of the total grafts) until most of the grafts from the first part have been planted.
7. Placing adhesive tape (Microfoam tape) across the forehead for the first 3 days really does help reduce the incidence of post-procedure peri-ocular swelling.

Jeffrey S. Epstein, MD

I personally call every patient the evening of surgery to inquire about pain or to clarify any post care instructions. The patient is always amazed the surgeon is calling personally and this reinforces our level of care.

Bob Haber, MD

1. When we prepare donor harvesting, patients are in the prone position for 30-50 minutes. At this time, they may have anxiety or feel uneasy because they cannot see anything and they fear the operation. To minimize this uneasiness, I usually let patients listen to music to reduce sound related to donor harvesting and the assistant nurse pats the patient on the back and/or grasps the patient's hand to help him feel more comfortable.

2. After surgery, when the patient stands up after a long operation, some may have syncope. To reduce or prevent it, I usually let the patient do leg exercises on the operating table (such as cycling) before standing up and it makes the venous valves on the legs work well and the blood in the legs goes up to the right atrium decreasing the chance of syncope.

Tommy Hwang, MD, PhD

I have found it phenomenal to use an Apple TV in the lobby to continuously rotate and show my before and after pictures, and I use my iPad to show before and after results on the fly.

Sam Lam, MD

1. I prefer a selection of neck rolls from soft to hard. They can be increased in diameter with a towel wrapped around for those with long necks.
2. I tell patients at the beginning that they are "king for the day" and will have a "world-class experience." This reinforces to the staff what is expected of them.
3. I ask patients what they would like for lunch.
4. I make sure patients have proper lumbar support with a pillow under their knees (and a blanket to snuggle into).
5. I break every 2 hours for patients to eat, drink, and move around. The staff breaks too.
6. I cover patients' eyes to protect them from sharp instruments. This also stops direct light and encourages sleeping.
7. I offer relaxation/classical music, and we only talk quietly except when we want the patient to wake up.
8. I routinely follow-up with a phone call the next day.

Jennifer Martinick, MBBS

1. We have added to our surgical table a Tempur-Pedic 4" memory foam cushion that we bought and cut to the size of the table. Patients don't complain of being uncomfortable while in the prone position or in the reclining position.
2. We use an Oxygen Concentrator for our patients (because it is supposed to reduce infection by 50%). We use a nasal cannula at 5 liters after we turn the patient over in a supine position. Patients state it makes them feel better.

Mary Ann Parsley, RN

1. For anesthetic, I like to use marcaine and lidocaine, but I never mix them; if you mix them, the effect is not the same. I also use low amounts of epinephrine (1:200,000 or more) for the donor and recipient areas.
2. Placing in the crown area, my techs and I prefer to plant the grafts with the patient face down. In this position, we can reach the site's angulation much better.
3. If a complication exists, we always give "SUPPORT" to our patients, and we try to avoid the following three mistakes: 1) deny that the complication exists; 2) do not be inaccessible to the patient; and 3) do not act angry toward the patient.

David Perez-Meza, MD

Small details

☞ from page 149

1. After John Gillespie introduced bi-level anaesthesia, 0.2% lidocaine with 1:100,000 epinephrine has become my workhorse local anaesthetic agent. When given slowly with vibration, I can keep discomfort to no more than 2-3/10 and I don't need to use sedation. It works just as well as 1% lidocaine and I rarely need more than half of the maximum recommended safe dose of lidocaine for a 3,000-graft case.

2. I will do a trichophytic closure if the edges overlap easily after the deep sutures are done. The deep sutures help hold the bottom edge while cutting a shallow ledge.

To cut a trichophytic ledge I use a broken 15 blade in an adjust-a-depth handle so that about 1.5mm of the tip protrudes. After scoring the bottom edge, I use strabismus scissors to trim off the ledge at the epidermal-dermal junction.

Cam Simmons, MD

1. When transplanting in females, choose carefully the area of greatest cosmetic significance and keep the region small enough that you are sure to make a real difference in density. Resist putting just a "few grafts here also" as patients may try to convince you. They won't affect any real change and it minimizes the effect in the primary area.

2. I have started instructing my staff to make the grafts "extra chubby," which is really just the "old" chubby. I found that as sites got smaller and closer, I was just not getting the growth I expected, and part of the problem I think was that technicians were making the grafts skinnier to minimize difficulty in placement.

3. A recent survey I did of female patients showed 97% had none to minimal post-operative telogen effluvium as judged by the patient. I think several technical aspects help in getting these results. I inject minimal epinephrine in the area, and rather use saline injected very superficially to control bleeding, if needed. I am meticulous about following hair direction. I make sites at densities of 15-25 in most areas utilizing 1-hair FUs mostly only in the hairline, and have found this results in great cosmetic improvements despite the trend towards higher densities.

Robin Unger, MD

1. We have a half-body massage pad that fits onto the chair that our patients rave about and has enabled even those patients with really bad back conditions to make it through the second half of surgery easily and pleasantly. It is actually designed for a car seat or for a desk chair, but it has vibration and shiatsu and all that stuff like an expensive massage chair. You can find them for about \$100-\$150 and they are well worth the investment (www.brookstone.com/sl/product/5059-shiatsu-massaging-seat-topper.html). When patients are face down for strip removal, we also place a round pillow under their ankles to take the pressure off the low back.

2. We use ice to reduce the pain of needle insertion for local anesthetic, but we have found that a metal coffee

press (it looks like a tiny barbell—you can see them at Starbucks—that is used to tamp down the coffee grounds when making an espresso) works better than straight ice (which melts anyway) or an ice pack. You can autoclave them since they are just metal (http://cgi.ebay.com/RSVP-Terrys-Tamper-Espresso-Coffee-50-55-mm-NEW-/270581879437?cmd=ViewItem&pt=Small_Kitchen_Appliances_US&hash=item3efffd28d) and they stay very cold for longer than an ice pack.

3. To control bleeding at the corners of my strip incisions, I unfold a 4 x 4 and place the tip in the corner. The liquid tension holds it in place so you do not need an assistant holding the gauze there and it wicks away bleeding making it easier to work in that area. Similarly, a hemostat will hold gauze under its own weight either at the corners or along the middle. These are my favorite ways to free up staff to start cutting right after taking a strip.

Sara Wasserbauer, MD

1. My staff must place their grafts in small telfa "packets" (cut pads folded over) that are kept in chilled solution on ice with their NAMES on each packet. This keeps everyone accountable no matter how much experience one has. It is a quality assurance method as well as a great training tool for monitoring graft preparation as well as suitability for placement.

2. The most important pre-op photos are the ones I take personally in the operating room with my markings outlining the proposed and patient agreed upon (noted in chart) treatment boundaries, hairline placement, and priority zones. I hand the patient the camera to see that they agree prior to starting surgery. (It is a different perspective than just the mirrors.) This prevents any confusion or misunderstandings in the follow-up months to come.

3. My routine follow-up regimen and contact with the patient is as follows: a) hair wash next day; b) in-office, low level laser treatment or loaner laser comb without bristles 3 times per week for 2 weeks; c) suture removal at 10 days.

This gives me and the patient at least 5 brief interaction opportunities during the immediate post-op period. This is followed by a 4-month, 8-10 month, and 12-15 month in-office follow-up (Skype if out of town or country). Patients are then called annually for an invitation to an in-office follow-up.

5. I give patients a detailed daily post-op calendar for their fridge that takes them through everything they need to do or take from day 1 to day 14.

6. All patients receive a post-op bag that includes everything they need for post-op: all meds, hot/cold pack, personalized airplane neck pillow to help them sleep, after-hours practice contact information, instructions and calendar, and Graftcyte® kit.

7. When I close the donor area with a running suture, I leave a 1-2mm gap between the knot and the skin on each end. This prevents the knot from getting buried, and makes removal easy for the nursing staff and painless for patient.

Craig Ziering, DO