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**President:** Edwin S. Epstein, MD

**Executive Director:** Victoria Ceh, MPA

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

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

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# President's Message

Edwin S. Epstein, MD *Virginia Beach, Virginia*

In 1993 I attended the first meeting of the ISHRS in Dallas, Texas. I had recently transitioned from a full-time Urologist to full-time "Hairologist." I was performing what I thought were state-of-the-art techniques: dividing a 4mm punch into quarters, into minigrafts, and 100 grafts was a big case. What changed the direction of my career were presentations by Drs. Carlos Uebel and Bobby Limmer, and the Moser Group—1,000 graft cases using strip harvesting and hairs separated under magnification. The ISHRS, the child of Drs. Dow Stough and O'Tar Norwood, for me started an educational and artistic journey, inspired by surgeons from all over the world who gathered to share their knowledge and create a foundation for the great Society we have today.

Our educational gatherings continue and have expanded. While we used to meet only a couple of times per year, we now are lucky to have so many active members and regional societies that we are able to offer numerous educational options to hair transplant surgeons throughout the year.

I want to recognize and congratulate those responsible for the impressive number of hair restoration meetings and workshops since the Amsterdam meeting:

- July 2009, Dr. Jerzy Kolasinski, Female Hair Loss Workshop, in Poznan, Poland
- October 2009, Dr. James Harris, FUE Workshop, in Denver, Colorado, USA
- November 2009, Dr. Alex Ginzburg, the 1st ISHRS Mediterranean Workshop, in Tel Aviv, Israel
- November 2009, Dr. Sam Lam, Cadaveric Beginner's Workshop, at St. Louis University, USA
- December 2009, Dr. Hiroto Terashi, presided over the Japanese Society of Clinical Hair Restoration Annual Meeting, in Kobe, Japan (I had the honor of attending in 2008, and it was a terrific educational and social experience.)
- December 2009, Dr. Sanjev Vasa, hosted the First Annual Meeting of the Indian Association of Hair Restoration Surgeons, in Ahmedabad, India

And there are many more scheduled in 2010:

- March 2010, Dr. Carlos Puig, Female Hair Loss Workshop, in Katy, Texas, USA
- April 2010, Dr. Matt Leavitt, Orlando Live Surgery Workshop, in Orlando, Florida, USA
- April 2010, Dr. Yves Crassas, "Alpine" Workshop, in Courchevel, France
- May 2010, Dr. Piero Tesauro, Italian Society of Hair Restoration Annual Meeting, in Capri, Italy
- May 2010, Dr. Patrick Frechet, European Society of Hair Restoration Surgery Annual Meeting
- June 2010, Dr. Damkerng Pathomvanich, New Advances in Asian Hair Transplantation Workshop, in Bangkok, Thailand
- July 2010, Dr. Sam Lam, 2nd Cadaveric Beginner's Workshop, at St. Louis University, USA
- August 2010, Dr. Marcelo Pitchon, Brazilian Association of Hair Restoration Surgery Annual Meeting, in Belo Horizonte, Brazil
- September 2010, Dr. Sanjiv Vasa, Indian Association of Hair Restoration Surgery, in Rajasthan, India
- October 2010, Dr. Paul McAndrews, will preside over the 18th Annual Scientific Meeting of the ISHRS, in Boston, Massachusetts, USA

The backbone of the ISHRS is its international membership. 2009-2010 will be the first year that the number of international members exceeds 50% of the membership. We anticipate this percentage to increase thanks to the efforts of the Global Council, hair restoration societies in different countries, and live surgery workshops sponsored by individual members and supported by world-renowned faculty and the ISHRS administrative staff.

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# Co-editors' Messages

Paco Jimenez, MD *Las Palmas, Spain*

Starting off this issue, Dr. Michael Beehner reports that "skeletonized" 1-hair follicular units have a survival rate of 48%, very low in comparison with "medium" and "chubby" grafts. Though only a one-patient study, I believe it is crucial to know the extent to which a "skeletonized" Beehner graft is in fact "skeletonized." A histological analysis of those "skeletonized" grafts might have given us a clue to their reduced survival. It is very possible that the "skeletonized" follicles that Dr. Beehner implanted were partially or completely devoid of dermal sheath. We thank Drs. Mel Mayer and Victor Hasson for their following editorials as it is always interesting to contrast different opinions on this controversial topic.

Next, it is an honor to include an interview with one of the rising stars in Hair Biology research, Japan's Dr. Manabu Ohyama. I believe his seminal article on the characterization and isolation of human follicular stem cells is one of the most relevant article published in this decade. It is a pleasure to read his answers to Dr. Nilofer Farjo's questions.

Dr. T.K. Shiao then shows us how—with imagination—bicycle lights can be converted into excellent LED light sources that can be very useful in our practices, especially for the process of graft insertion.

Dr. Robert Reese gives us an excellent overview on the different methods of obtaining plasma rich platelets (PRP), how they differ from each other, and which would be the most appropriate for use in hair transplantation. I sent Dr. Reese's article to my fellow Spaniard Dr. Eduardo Anitua, a world-renowned expert in PRP, who kindly wrote an editorial detailing important considerations about the field of plasma and platelet-derived growth factors.

Finally, in addition to our regular columns and reviews of several workshops, we have an interesting "How I Do It" covering Dr. Mark Andrews' simplified trichophytic technique.

*Paco Jimenez, MD*

Bernard Nusbaum, MD *Coral Gables, Florida*

"When is hair cloning going to be available?" My patients are asking this question with ever-increasing frequency. Some patients claim the Internet promises breakthroughs in the near future or that cloning treatments are available in other countries. In my opinion, we may have disseminated information regarding this technology prematurely and are now faced with the perception of unfulfilled promises to our patients.

We dream of the day when patients can have unlimited amounts of hair without the need for donor area surgery. Success depends on multiplying dermal papilla or hair follicle stem cells so that they retain the ability to induce hair follicles. In this issue, Dr. Manabu Ohyama discusses how immunodeficient mice allow stem cells to reorganize into follicles, but that reproducing this result in humans has proven to be more difficult, yet, hope exists, as phase II trials are in progress.

Skeptical points of view include those espoused by Dr. Ralf Paus at the ISHRS Annual Meeting in San Diego and in the *Forum* (2008; 19(3):81). Dr. Paus proposes that androgenetic alopecia is not a stem cell problem, and that no shortage of follicles exists, as large numbers of miniaturized follicles are present with the potential to reverse to terminal hair status, given the proper molecular signals. This may well become a reality *before "hair cloning"* as hair molecular biology continuously elucidates molecules and genes that can turn hair growth on and off. An example of this therapeutic approach was presented in the July/August 2009 *Forum* (19(4):120) in which Dr. Gail Naughton discussed an injectable hair growth treatment developed from products of newborn fibroblast culture. In this issue, Dr. Ohyama mentions that gene identification also may be an important target for hair loss therapies.

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

1. 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.
2. If results are presented, the medical regimen or surgical techniques that were used to obtain the results should be disclosed in detail.
3. Articles submitted with the sole purpose of promotion or marketing will not be accepted.
4. Authors should acknowledge all funding sources that supported their work as well as any relevant corporate affiliation.
5. Trademarked names should not be used to refer to devices or techniques, when possible.
6. 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.
7. Once the manuscript is accepted, it will be published as soon as possible, depending on space availability.
8. All manuscripts should be submitted to both **drnusbaum@yahoo.com** and **jimenezeditor@clinicadelpelo.com**
9. 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.
10. 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).

Submission deadlines:
February 5 for March/April 2010 issue
April 5 for May/June 2010 issue
June 5 for July/August 2010 issue

## President's Message

from page 2

As the number of members grows worldwide, perhaps additional regional societies, such as an Asian society, South American society, or Eastern European society, may find a niche as the world flattens and globalizes. The ISHRS will lead the way to promote new technology, educate its members, and foster camaraderie and lasting friendships.

As we begin a new year, I look forward to the many opportunities at the meetings and workshops to meet with you, my colleagues, around the world as we continue to debate and improve upon our hair transplant techniques and methods.

Best wishes for a healthy and prosperous 2010!

*Edwin S. Epstein, MD*

## Dr. Nusbaum's Message

from page 3

To further temper our hopes for cell implantation therapy are the theoretical risks of malignant degeneration as well as formation of cysts or foreign body reactions. While these concerns may appear to be imaginary, a recent article in *Dermatologic Surgery* (Donovan; 35(9):1311-1323) describes how altered regulation of genes involved in embryonic hair follicle development as well the hair cycle might be implicated in the development of basal cell carcinoma.

Regenerative medicine and stem cells are the most exciting avenues of medical research today and hair follicle stem cells will play a key role. In mammals, the hair follicle is the only structure that can regenerate itself by recapitulating the steps of its embryonic development. Skin and hair follicles are accessible sources of stem cells that may fulfill many roles, from enhancing wound healing to formation of various organ tissues. Yet, I still wait for someone to answer us, with some accuracy: "When will hair cloning be available?"

*Bernard Nusbaum, MD*



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# Notes from the Editor Emeritus

William M. Parsley, MD *Louisville, Kentucky*

November 2009 brought two excellent workshops in hair restoration. From November 8-9, an ISHRS Regional Workshop was held in Tel Aviv, hosted by the very experienced Dr. Alex Ginzburg. It was designated the 1st Annual Mediterranean Workshop for Hair Restoration Surgery and was both educational and entertaining. Drs. Matt Leavitt, Ron Shapiro, Tommy Hwang, Bessam Farjo, and Jerzy Kolasinski were among the all-star faculty. No surprise that it was a successful meeting with great reviews. Hopefully, there will be others to follow.

The second workshop was a Hands-on Cadaver Workshop held in St. Louis, Missouri, from November 6-9. My wife Mary Ann and I were excited to be part of the faculty for this novel approach to teaching hair restoration. It was hosted by Drs. Sam Lam and Emina Karamanovski, with our President Dr. Ed Epstein as the honored guest. Dr. Lam conducted the meeting with precision, almost as if it was his primary profession. He is a natural teacher and organizer, and will be a valuable ISHRS leader for years to come. Dr. Karamanovski was in charge of the assistants section and was equally up to the task. The faculty included Darla Stewart, Tina Lardner, and Dr. Joe Greco along with Drs. Vance Elliott and Jerry Cooley. Dr. Greco's lecture on PRP and Dr. Cooley's discussion on a liposomal ATP solution (topically and possibly as a storage solution) were particularly intriguing. Drs. Epstein and Elliott presented informative lectures on important topics such as medications for hair loss, the young patient, and complications. The meeting consisted of 3 mornings of didactic lectures and 2 afternoons of hands-on experience using cadavers. The setup was excellent with great lighting and top-notch equipment. Considerable time for valuable faculty-participant interaction was given. The meeting received excellent reviews and another meeting has already been scheduled for July 23-25, 2010, again in St. Louis. For those wondering why two meetings were scheduled the same weekend, an explanation is due. Dr. Lam had much earlier set up an independent meeting. When it was decided that an association with the ISHRS was advantageous to both, it was too late to be moved. Also, it was felt that the great distance prevented much competition. Nevertheless, it will not occur again.

The ISHRS has always been blessed with some creative minds. One such recent creation is the Hairline Design Laser tool. Many of us use tape measures, carpenter's angles, mirrors, and any other tools at our disposal to try to properly design and balance a hairline. I brought this laser device, created by Drs. Damkerng Pathomvanich and Bertram Ng, back from Amsterdam and let it sit on the shelf for about 3 weeks before deciding to give it a try. It immediately became a valuable tool in designing new hairlines. A red laser with a cross-hair lens, it projects a crossing horizontal and vertical line on the scalp. Turned upside down, it is easy to create a sagittal plane from the glabella, along which to make a mid frontal point. After manually creating my designed apex on each side, the laser can be raised and tilted to connect all three points, allowing a free hand to draw the hairline along this laser projection. It has been accurate and a valuable time saver. I understand they are looking for a commercial seller at the time of this editorial and hope they find one.

By the time this issue is published, the Association of Hair Restoration Surgeons-India's Inaugural meeting will have been held in Ahmedabad, with Dr. Sanjiv Vasa as the first president and host. Congratulations to all involved for their efforts and for what will undoubtedly be the start of a valuable long-term teaching and learning experience.

Finally, after considerable work, the Cicatricial Alopecia Data Collection Form has been posted online in the Members Only section of the ISHRS web page. This will give valuable information as to the results of surgery for the cicatricial alopecias, plus alopecia areata and triangular alopecia. Please fill out this form and send it in on any and all cases of your surgeries on these conditions, even if incomplete. This program will only be as good as our support. We will appreciate all your help.✧

## Comparison of survival

from front page

Photo 1. Bald head with hair transplant pattern and study boxes drawn on it. Five study boxes are marked of in the rear of the midscalp area.

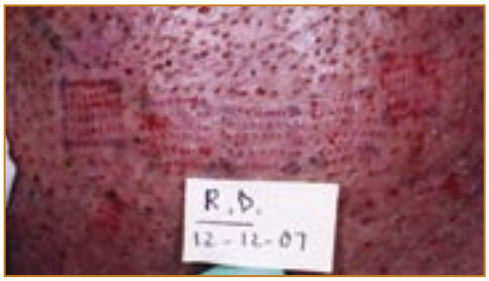


Photo 2. Close-up shot showing tattoo dots and small slits. Slit sites for study have been made. Note tattoo dots marking off study boxes and also the bald "moat" around each box.


Photo 3. Study boxes are walled off with tape and ready for 19-month hair count.

## Discussion

A number of things are suggested by this study. First, my original conclusion and that of Dr. Seager that grafts trimmed leaving more tissue around them fare better than grafts "cut to the bone" seems to have been confirmed, however, the previously found very high survival rates were not duplicated. This might be partly due to the fact that those studies were done in open areas of the scalp, as compared to this study in which grafts were tucked within a fairly large transplant pattern.

The "skeletonized" grafts did very poorly in terms of survival, with the 1-hair FUs doing much worse than the 2-hair FUs. This is probably due to the fact that the 1-hair FU is more vulnerable, having the least tissue around it. Even a 2-hair FU necessarily has to include the intervening soft tissue between the two follicles making up the skeletonized graft.

The "chubby" 2-hair FUs did somewhat better than the "medium" 2-hair FUs, although not perhaps statistically significant. The biggest difference was between the skeletonized grafts and those trimmed medium and chubby.

Another interesting finding here was that the number of hairs surviving increased in the five months from 14 to 19 months post-operatively. This would suggest, similar to what Dr. Jennifer Martinick found in a previous study,[4] that some transplanted hairs don't appear until 18 or 19 months, and that perhaps our studies need to be taken out longer if we want to judge the final yield of transplanted grafts in a study.

Except for white-haired patients, in everyday practice I do not trim grafts "chubby." It requires recipient sites that are too large, which perhaps causes too much vascular and certainly precludes getting any kind of decent density of hair distribution. This study confirms for me that the best route to take regarding FU graft trimming is to take the "medium" approach, which creates relatively trim grafts, but with visible tissue surrounding the follicular structure all around and under the dermal papilla.

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4. Martinick, J. The results at 18 months of the longitudinal clinical research into the importance of transplanting intact follicular units vs. follicular units that have traumatized using a variety of methods including transaction at the bulge. 8th Annual Meeting of the ISHRS, Hawaii, December 2000.✧

### A note from Victor Hasson, MD *Vancouver, B.C., Canada*

Thanks again to Dr. Beehner for another interesting study looking at the very important issue of graft survival.

The marked difference between the poor survival of the skeletonized grafts and the much higher survival of the less trimmed grafts is somewhat surprising to me. I had expected survival of the skeletonized grafts to be in the high 90% range—similar to the results obtained by Nakatsui, et al. (*Dermatol Surg.* 2008; 34:1016-25).

I think that this study serves to highlight a very important issue in view of the great disparity of results achieved by different investigators: Surgeons should stick to the technique that they are familiar with and routinely perform. It is far more important for the doctor to have a high graft survival rate than to have the ability to pack at 50 FU/cm$^2$. There should be no concern about taking two passes to achieve the necessary density as long as the yield remains high.

For physicians who have the desire to use skeletonized grafts for dense packing, the technique should be learned slowly over months or years. This ensures that survival rates remain high and reduces the risk of achieving the kind of poor results that Dr. Beehner shows here.

**A note from Melvin Mayer, MD *San Diego, California***

In the 1997-1998 study "chubby" vs. "skinny" presented by Dr. Mike Beehner, there was a 30% difference, and Dr. David Seager's study produced a 24% difference. Both studies revealed significant improved production with "chubby" grafts. BUT with 113% and 133% survival with the "chubby" grafts, there had to be errors in counting the number of hairs that were transplanted; certainly more telogen hairs will be hidden in the "chubby" grafts, giving an erroneous higher percentage survival. Is it the increase in perifollicular tissue, the uncounted telogen hairs, or some other factor that increases hair survival?

There do seem to be some glaring conclusions in Dr. Beehner's current study that are difficult to contest. Skeletonized 1-hair FUs survive less than 50% as compared to the 19-month survival rate of the "medium" trimmed 1-hair FUs at 98%.

Most surgeons believe maximum production is achieved near one year; however, every study box had significantly increased survival at 19 months compared to 14 months. In fact, the average increase was 12%. No minoxidil or finasteride was used during this study.

At the 2005 ISHRS Annual Meeting in Sydney, Australia, Drs. Melvin Mayer, Sharon Keene, and David Perez reported a study using four 1cm$^2$ boxes, placing 20, 30, 40, and 50 2-haired FUs in the respective boxes. With a 19 gauge needle (1mm), lateral (coronal) incisional sites were made using a "stick-and-place" method. Grafts were neither "skeletonized" or "chubby," but "medium" trim. Hair counts were done at 6 and 12 months. The 12-month hair count survival rates were as follows: 20 FU/cm$^2$ = 95%, 30 FU/cm$^2$ = 98%, 40 FU/cm$^2$ = 90%, and 50 FU/cm$^2$ = 84%. This correlates well with the 2-haired FUs in Dr. Beehner's 50 FU/cm$^2$ box, which produced 80% survival.

Nakatsui, et al. published a study of survival of densely packed FU grafts using the lateral slit technique (*Dermatol Surg*. 2008; 34:1016-25). Densities in their single case study ranged from 23-72 grafts/cm$^2$. Grafts showing growth at 8 months in the 23 grafts/cm$^2$ box was 95.6%, and in the 72 grafts/cm$^2$ the survival rate was 98.6%. This is not comparing apples to apples, because they measured "graft" survival not "hair" survival. There is a huge difference. Take for example, if you plant 2-hair grafts and one hair survives in each graft, you can have 100% "graft" survival, but only 50% "hair" survival. This difference is critical, because the only way we can ever begin to compare studies is to have a standardized way of counting and reporting percent "hair" survival, not "graft" survival.

This is a very interesting study, but with the "single case studies," which a number of us have done, it is impossible to draw true scientific conclusions. We can, however, certainly observe trends that support hair transplant logic.