



HAIR TRANSPLANT forum INTERNATIONAL



CELEBRATING

20 YEARS

EDUCATION
RESEARCH
COLLEGIALLY

Volume 21, Number 6 • November/December 2011

Inside this issue

President's Message 182

Co-editors' Messages..... 183

Notes from the Editor Emeritus:
Robert Haber, MD 185

Regular expression of hair follicle
keratins as crucial factors in tissue
engineering of hair follicles..... 189

Practice Census finds more
people turning to hair restoration
surgery 190

Controversies: Is FUE a repair
technique or small case
technique rather than a first
option for MPB?..... 192

Day-by-day review of the 2011
ISHRS 19th Annual Scientific
Meeting 196

Message from the Program
Chair of the 2012 ISHRS Annual
Scientific Meeting 210

The Hair Foundation: joining forces
to bring hair health education and
information to the public 211

Cyberspace Chat: Part I—Beyond
genetics in AGA: are epigenetics
just as important in determining
and treating hair loss?..... 212

How I Do It: The use of the
blunt microcannula for
infiltrating anesthetics in hair
transplantation..... 215

Message from the 2012 Surgical
Assistants Program Chair 216

Surgical Assistants Corner:
Container method for graft
preparation makes it easy to
count and place 217

Classified Ads 218

CALL FOR ABSTRACTS



Submission Deadline:
March 1, 2012
[www.ishrs.org/
AnnualMeeting.html](http://www.ishrs.org/AnnualMeeting.html)

Scalp micro pigmentation (SMP): novel applications in hair loss

Jae P. Pak, MD, William R. Rassman, MD Los Angeles, California, USA;
Jino Kim, MD Seoul, South Korea wrasman@newhair.com

Scalp micro pigmentation (SMP) is a permanent cosmetic “tattoo” that mimics the short hairs of a closely shaved scalp. SMP offers a new treatment option for patients who are not hair transplant candidates and are willing to keep their hair very short or shave their hair to scalp level. There are a few medical conditions that may have clear applicability to this procedure including patients with alopecia areata, alopecia totalis, and a variety of scarring types of alopecia. SMP also offers excellent camouflage with a short hair style for patients who have old plugs, have had scalp reductions, or have scars from hair transplant surgeries that are disfiguring or not amenable to the individual’s styling needs. There is a segment of regular hair transplant patients who would like to cut their hair short but are limited due to hair transplant scars from various harvesting techniques. SMP also offers an alternative to men who do not want a hair transplant surgery.

Since 2010, we have been offering SMP to a select group of patients who are not hair transplant candidates or for those who have had disappointing hair transplant results from failed hair transplant procedures. The following are case presentations of such individuals and their personal stories.

Case 1 is a healthy male in his mid-30s who had been diagnosed with scarring alopecia in his teens. He is not a hair transplant candidate. SMP addressed the scarring by blending in the hypopigmented areas with the adjacent shaved scalp.



Case 2 is a 30-year-old male who has had alopecia totalis since his teens. He always wore hats (indoors and out) and the condition has significantly hampered his self-esteem and social life. SMP gave this patient a frame to his face and the look of a shaved scalp. While it may be a subtle look to others, this was a life-changing event for him.



Case 3 is a 55-year-old male, Norwood V, who had the 1980’s plugs with a series of scalp reduction surgeries. His donor area was limited. He gave up on corrective surgeries as he had a hard time trusting hair transplant surgeons altogether. After 25 years of wearing a hair system, he wanted the freedom of a shaved scalp. SMP filled in the hypo-pigmented plug scars and redefined a new normal hairline. He is considering a limited FUE by removing some of the remaining plugs on the front of his scalp and spreading those hairs in the bald area to create stubble that he can feel and others can see.



Case 4 is a 32-year-old male, Norwood V, with thin-quality brown hair who wanted to wear his hair short and wanted more fullness to the front, top and crown areas of his scalp. His donor laxity was not good and his donor density was low. His goal was to cut his hair short and keep his budget under control. An FUE solution would

Hair Transplant Forum International Volume 21, Number 6

Hair Transplant Forum International is published bi-monthly by the International Society of Hair Restoration Surgery, 303 West State Street, Geneva, IL 60134 USA. 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 USA. Telephone: 630-262-5399, U.S. Domestic Toll Free: 800-444-2737; Fax: 630-262-1520.

President: Jennifer H. Martinick, MBBS
Jennifer@martinick.com

Executive Director: Victoria Ceh, MPA

Editors: Nilofer P. Farjo, MBChB
William H. Reed, II, MD
editors@ISHRS.org

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

Cyberspace Chat: Sharon A. Keene, MD

Controversies: Russell Knudsen, MBBS

How I Do It: Bertram Ng, MBBS

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

Surgical Assistants Corner Editor:
Patrick A. Tafoya
patrickatafoya@yahoo.com

Basic Science: Francisco Jimenez, MD
Ralf Paus, MD
Mike Philpott, PhD
Valerie A. Randall, PhD
Rodney Sinclair, MBBS
Ken Washenik, MD, PhD

Review of Literature: Marco Barusco, MD
Nicole E. Rogers, MD

Meeting Reviews and Studies:
David Perez-Meza, MD

Copyright © 2011 by the International Society of Hair Restoration Surgery, 303 West State Street, Geneva, IL 60134 USA. 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

Jennifer H. Martinick, MBBS Perth, Australia Jennifer@martinick.com

Dear fellow physicians, thank you for the honour of electing me as your president for the next year. I look forward to working with you all towards achieving common goals for the betterment of the patients we serve, our profession, and the International Society of Hair Restoration Surgery.

While building on our long established and valued roles of promoting education, research, ethics, and camaraderie, I am committed to ensuring that the ISHRS remains both prominent and relevant in our changing and challenging economic and social environment.

Having been a member of the Society since 1994, I feel privileged to have been part of the changes that have seen surgical hair restoration evolve to today's completely natural looking hair transplants. These outstanding results are a direct outcome of many of our senior members selflessly sharing their experiences with other colleagues at annual scientific meetings. Our members who have contributed to this refinement of surgery, wider social acceptance of hair transplants, as well as ongoing research and education towards attaining excellence, deserve recognition.

Our new members reap the benefits of all their wisdom and can now rapidly learn to practice this procedure—a procedure that has come of age.

As with any branch of surgery, there is a learning curve; it is only natural to assume that the surgeon who has been practicing for 10 or more years is more experienced than one who has been practicing for 1 or 2 years. To this end, I hope to establish an ISHRS Fellow members' category at the Bahamas 2012 meeting.

Becoming a Fellow is something to which we can all aspire. Basic learning, regular attendance at scientific meetings, maintaining high ethical standards towards our patients, as well as various contributions to all that the ISHRS has to offer including articles in the *Forum*, presentations at meetings, and serving on committees over a period of years will pave your way to becoming a Fellow. Such an initiative, which requires united commitment, energy, and resources, delivers benefits for the patients we care for and for our valued members.

To supply relevant educational needs, we rely greatly on the feedback from members and over time these needs change and evolve. Today, many new doctors are concerned that while they are passionate about medicine, managing a practice is daunting. While achieving and maintaining high surgical standards are integral to a sustainable and successful surgical hair restoration clinic, practice management does not usually come naturally. This is why I am keen to explore the possibility of educating our members in practice management, which would help a physician to build a thriving, well-run practice.

Communication is a necessary component to every modern medical practice. Generation X and Y make up a significant portion of our practice; they use mobile phones, email, and social media to communicate. They also profoundly influence the interpersonal recommendation process. I aim to encourage ongoing skills transfer and greater mentoring of new doctors.

Successful transfer of technical skills, industry knowledge, and commercial skills can potentially make a huge difference to the viability, stability, and prosperity of our members' practices and ultimately the global relevance of the International Society of Hair Restoration Surgery.

I look forward to working together to build an even stronger Society and welcome your comments and suggestions. ♦



Co-editors' Messages

Nilofer P. Farjo, MBChB Manchester, United Kingdom editors@ISHRS.org



Once again we are back from a very exciting and stimulating annual conference. It is definitely the highlight of the year getting together with the friends and colleagues that you only communicate with by email during the rest of the year. Not only were there the usual debates on topics old and new, but also there was the chance to hear about new innovations and research. We hope to highlight some of the

talks that we found particularly well presented in the next few issues. We start off this time with our lead article that brings in a different option for patients with limited or no donor hair or scars that need to be disguised. Skin tattooing is not a new technique by any means, and when it is performed by an experienced operator, it produces good results that we should consider when we discuss options with our patients.

I am particularly excited about the new research that is going on around the world in hair biology. Gene technology

seems to be one of the fast moving areas and Dr. Sharon Keene will talk about some of these concepts in her Cyberchat column.

I felt that the conference center in Anchorage lent itself to a more compact meeting that made the different aspects to the conference more accessible. Having to walk through the exhibit area to get to the lecture hall was a bonus, as you couldn't miss out on anything. And although the numbers were slightly down from previous meetings, I felt it was more beneficial personally as you had the chance to speak with more people. The social program was excellent, and with little in the way of distractions you either joined in with the social events or you were left out in the cold—quite literally. It was nice to not have the usual conflicts with trying to get to 2-3 different events at one time.

There were some particularly good posters and presentations this year amongst up and coming physicians. I hope the “youngsters” take it upon themselves to make strides forward and innovate our specialty—and I hope to be reading about those advances in future issues of this journal. ♦

William H. Reed, MD La Jolla, California, USA editors@ISHRS.org



Listserv+ is LIVE! By now all of you should have received notice of how to log on to the Listserv+ discussions. Listserv+ enables members of the ISHRS to share opinions and, by doing so, to make the opinions appearing Listserv+ more robust with members either agreeing with, modifying, or disagreeing with a published opinion. It is an opportunity for someone in the discussion to invite someone whose

opinion would be valued for the subject being discussed. In addition to these immediate benefits of the discussions, the opinions stated will be archived for future retrieval when, for instance, one of us wishes to find the origins or see the evolution of what has become a prevailing opinion. It's digital immortality!

The subjects can be far ranging and can include subjects from many categories including, but not limited to, surgical technique, medical and basic bioscience topics related to hair restoration, and business or ethical issues. For example, I have posted my interpretation of the study about the risk of prostate cancer in

patients who are considering taking finasteride. The study can be found at www.nejm.org/doi/full/10.1056/NEJMp1106783. I think my reasoning is sound and I use it in all of my consultations when we are discussing finasteride use, but perhaps my reasoning will be made even better when run by the readers of Listserv+. I have written an authority in the field to ask him to comment on the subucct as well and I will post his response. This is but one example of how we can share ideas for the benefit of our patients and the refinement of our specialty.

Perhaps digital is not the kind of immortality that keeps us warm and fuzzy at night, but an open discussion of important topics in our field can make each of us think about our opinions on important subjects and can help our field become richer from the benefit of many minds sharing their thoughts with one another. It is another way for the ISHRS community to pursue its goal: “Education. Research. Collegiality.” Join Listserv+ today. If you can't find your invitation email that has your user name and password, or if you encounter difficulties, contact the ISHRS headquarters at info@ISHRS.org and they will be happy to help out. ♦

2011–12 Chairs of Committees

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: John D.N. Gillespie, MD
Annual Scientific Meeting Committee: Francisco Jimenez, MD
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: Robert P. Niedbalski, DO
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: Sharon A. Keene, MD
Past-Presidents Committee: Edwin S. Epstein, MD
Pro Bono Committee: David Perez-Meza, MD
Scientific Research, Grants, & Awards Committee: Michael L. Beehner, MD
Surgical Assistants Committee: Brandi Burgess
Surgical Assistants Awards Committee: MaryAnn Parsley, RN
Website Committee: Arthur Tykocinski, MD
Ad Hoc Committee on Database of Transplantation Results on Patients with Cicatricial Alopecia: Nina Otberg, MD
Ad Hoc Committee on FUE Issues: Paul T. Rose, MD, JD
Ad Hoc Committee on Regulatory Issues: Paul T. Rose, MD, JD
Subcommittee on European Standards: Jean Devroye, MD, ISHRS Representative to CEN/TC 403
Evidence Based Medicine (EBM) Task Force: Sharon A. Keene, MD
Task Force on Physician Resources to Train New Surgical Assistants: Jennifer H. Martinick, MBBS
Task Force on Finasteride Adverse Event Controversies: Edwin S. Epstein, MD

2011–12 Board of Governors

President: Jennifer H. Martinick, MBBS*
Vice President: Carlos J. Puig, DO*
Secretary: Vincenzo Gambino, MD*
Treasurer: Sharon A. Keene, MD*
Immediate Past-President: Jerry E. Cooley, MD*
 John D.N. Gillespie, MD
 Alex Ginzburg, MD
 Sungjoo Tommy Hwang, MD, PhD
 Bernard P. Nusbaum, MD
 David Perez-Meza, MD
 Arthur Tykocinski, MD
 Ken Washenik, MD, PhD
 Kuniyoshi Yagyu, MD
 Paul C. Cotterill, MD
 Russell Knudsen, MBBS
 *Executive Committee

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 editors@ISHRS.org.
- 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.
- Please include a contact email address to be published with your article.

Submission deadlines:

December 5 for January/February 2012 issue
 February 5 for March/April 2012 issue

INTERNATIONAL SOCIETY OF HAIR RESTORATION SURGERY

Vision: To establish the ISHRS as the leading unbiased authority in hair restoration surgery.

Mission: To achieve excellence in patient outcomes by promoting member education, international collegiality, research, ethics, and public awareness.



OPERATION RESTORE Thanks Its Surgeons

Since its inception in 2004, OPERATION RESTORE has provided \$411,000 worth of free hair transplants and travel expenses for thirty-seven (37) patients suffering from hair loss due to disease or trauma. We wish to thank the following physicians who have performed surgery on OPERATION RESTORE patients, contributing their surgical expertise, time, clinics, personnel, and supplies. Thank you!

Alan Bauman, MD
 Jerry Cooley, MD
 Paul Cotterill, MD
 Mark DiStefano, MD
 Edwin Epstein, MD
 Jeffrey Epstein, MD
 Bessam Farjo, MBChB

James Harris, MD
 Jerzy Kolasinski, MD, PhD
 Matt Leavitt, DO
 Tony Mangubat, MD
 Mel Mayer, MD
 Paul McAndrews, MD
 Daniel McGrath, DO

Parsa Mohebi, MD
 David Perez-Meza
 Carlos Puig, DO
 Paul Rose, MD, JD
 Marla Ross, MD
 Daniel E. Rousso, MD
 Tony Ruston, MD

Ron Shapiro, MD
 Paul Straub, MD
 Martin Unger, MD
 Robin Unger, MD
 Michael Vories, MD
 Franklin Weinstein, MD
 Craig Ziering, DO

Notes from the Editor Emeritus

Robert Haber, MD *Cleveland, Ohio, USA* habderm@gmail.com



I sit down to write this in the warm afterglow of the Alaska meeting, where as usual, friends from around the globe gathered to share ideas, food, song, libations, and merriment, not necessarily in that order. I am privileged to belong to a select group of 13 members who have attended every meeting, and I have thus been witness to the myriad advances in our field during the past 19 years. Each aspect of our field has been subject to scrutiny and improvement, from the preoperative phase through hairline design, donor harvest, graft preparation, graft implantation, and postoperative care. Each step has been argued and debated, studied, and ultimately improved.

Except, in my opinion, photography.

We have certainly successfully moved from the analog world of photography, with the attendant slide carousels and occasional melting slides, to the digital world, with the attendant sophisticated PowerPoint presentations. But as a group, our photographic skills have barely budged. My video presentation in Alaska was intended to help rectify this problem, as too many lectures suffer from images that are not capable of properly demonstrating a technique or a result. This lack of respect for the importance of high-quality images extends to the cover of one of our most important textbooks, where a series of images are used that could not possibly better illustrate examples of poor medical photography. Showing poor quality photos to your audience is like serving spoiled food to your guests. You know perfectly well that you're capable of better.

And it's not for lack of trying. Over the years, my colleagues have given a number of lectures and workshops devoted to photography, not to mention authored journal articles and chapters in textbooks. And yet, year after year, we see photos with distractions in the background, or poorly exposed or focused photos, or markedly different lighting or positioning in before and after views. These deficiencies at best are distracting to the audience, and at worst call into question the abilities or ethics of the surgeon.

And taking great medical photos is so very simple! A decent-quality camera, lens, and lighting setup as well as a basic understanding of the principles of medical photography is all you need to take consistently high-quality photos. Ironically, the advent of small, high-quality digital cameras has made matters worse, as these cameras demand no skill whatsoever, but whereas medical photography is indeed simple, it does require skill, and does not lend itself to these cameras.

So I challenge my colleagues to devote as much attention to your photographic skills as you do to your surgical skills. I'd like to give the following primer:

- **Camera equipment:** Buy a good-quality digital SLR camera body. Since manual settings will generally be used no fancy features are needed, and 12 megapixels provide more than enough image quality. Smaller cameras have small CCDs (the digital film) and therefore will not capture the same image quality, even if the megapixel size is the same.
- **Camera lens:** Buy a fixed 105mm lens, never a zoom lens. Zoom lenses can be inadvertently used at their wide-angle setting, and the wider the angle of the lens, the more facial distortion there will be, with an enlarged nose and other facial features. The 105mm lens is the choice of portrait photographers, and most of our medical photos are portraits.

- **Lighting:** Build yourself a small devoted photo studio, or convert an unused wall into a photo area. Movable boom arms can be mounted to hold strobes and diffusers, and when not in use, positioned out of the way. Strobe flash units with attached diffusers will give plenty of light for maximal depth of field and elimination of distracting shadows. A wireless trigger unit on the camera avoids messy wires.
- **Background:** Choose a background color that you will use for the rest of your career. Neutral grey or blue are the most popular, and either will properly enhance your subject. Do not use white or black because both will be a problem with subjects with similar hair color.
- **Standard views:** Select a series of 12-20 standard views that you take of each patient, so that a day, a week, or a year or more later you can repeat the same views.
- **Don'ts:**
 - Don't include distracting background clutter in your photos.
 - Don't use an inexpensive camera, which cannot produce the highest quality images.
 - Don't use a wide angle lens, which will distort your subject's face.
 - Don't use the camera flash, which can't give adequate depth of field.

So let's take greater pride in our work, and show greater respect for our audience, and begin subjecting our photos to the same scrutiny that we give all other aspects of our work. Please feel free to contact me for tips or to receive a list of links to some of the equipment discussed above. ♦

WE NEED YOUR SUBMISSIONS!

ISHRS CICATRICAL ALOPECIA REGISTRY

Nina Otberg, MD, Chair, Ad Hoc Committee on Database of Transplantation Results on Patients with Cicatricial Alopecia

Please contribute to this database for the collection of **hair restoration results on patients with cicatricial alopecia and hair diseases other than androgenetic alopecia.**

We are asking every ISHRS member to help to create a database of hair restoration results on patients with these difficult scalp disorders. The database will help us to optimize patient selection, treatment outcome, and patient satisfaction. It will help us to create guidelines for the surgical treatment of each scalp disorder and will allow us to be more confident in managing patients with cicatricial alopecia and other rare hair diseases.

You may obtain the details and download the registration form at:

www.ISHRS.org/cicatricial_alopecia_data_collection_form.php

SMP

from front page



have been outside his budget and it may not have adequately addressed his highly visible scar from two past FUT procedures. SMP addressed the scar and the thinning of the crown, and it smoothed out a hairline that he only dreamed about before.



Case 5 is a 22-year-old male, Norwood IIIv, with medium-quality brown hair. He had an FUE procedure believing it to be a scar-less surgery. His logic was that if the surgery did not give him the results he was promised by the doctor or if he continued to lose his hair, that he could just shave his scalp and accept his balding fate. He did not expect the FUE to produce hypo-pigmented scars nor the ridging on the front corners of the recipient sites. SMP addressed the hypo-pigmented scars as well as the visibility of the ridging in the front corners. This photo was taken immediately after the first SMP session so you can note the slight redness of the scalp, which usually lasts 2-3 days following the completion of the procedure.



Case 6 is a 45-year-old, Norwood VI, who always shaved his head. He hated the shadow that gave the classic Norwood class

VI/VII look. He was very clear that he did not want to undergo hair transplant surgery. SMP provided the patient with a non-balding hairline and an overall look of a clean shaved head.

The above patients all have their unique story and reason for choosing SMP. They all accepted the fact that SMP is not a substitute for real hair or a complete solution for their hair loss issues; however, for these individuals, the benefits of SMP outweigh its limitations.

The following are some of the limitations of SMP:

- The primary concern for SMP to potential patients is the potential change in the color of the pigment over time. The pigment used for SMP is chosen to match the color and tone of shaved hair underneath one's skin. Despite variation in hair color, most patients have a grayish (and greenish) tint after the hair is shaved from the dark roots of the hair showing through the layers of dermis and epidermis. Much like how blood vessels appear green under the skin, the increased absorption of the red spectrum of light gives rise to this phenomenon explained by the trichromatic theory of color vision (i.e., if you absorb red, you will perceive green). The light propagation through human tissue has also been modeled to show the greater decrease of red spectrum remission.¹ In short, there is no true perception of black when it is deposited beneath the skin. The greater the depth of pigment deposit, the greater the potential change in color perception. Thus, one must choose the appropriate SMP pigment color and control the depth of pigment deposit.
- There is also concern about the permanence of SMP. Like all tattoos and micropigments, the color of SMP will likely fade to a lighter shade over time. Exposure to sun will accelerate changes in color as well. At this point, we do not have a sample patient population large enough to judge the time it takes for a significant color change requiring a touch-up; however, from experiences of other clients who have undergone similar process as well as the collective tattoo clients over the world, we assume the longevity of SMP should be in the order of many years. Touch-ups may be a requirement for patients in managing their pigment changes over time. The alternative of complete SMP removal through laser ablation may also be an option, but there has been no case report of this that we can find. The laser ablation of SMP only remains a theoretical solution for those individuals who want to reverse the process.
- Bleeding of pigment from one spot to another is a real problem and may be technique dependent. Too many procedures tend to lead to the bleeding of pigment into the depth of the skin.
- Finally, many SMP patients ask about the graying of their hair over time. This is an important issue that must be addressed before a patient undergoes SMP. SMP should be considered a permanent lifestyle changing process. Patients must accept that they need to keep their hair short, to an almost shaved appearance. If this primary concept is accepted, the graying of hair with age should not be an important issue as SMP is applied over the entire scalp thus blending in with any grey stubble that may arise. In addition, the dying option for patients always remains.

The tattooing of the scalp is not new. This technique has been attempted by tattoo artists for years and has been used by hair transplant surgeons in the past.² Scalp tattooing is a well-

discussed topic on numerous hair transplant forums and it is offered in a niche segment of the permanent makeup industry in Asia, Europe, and the United States. In general, scalp tattooing is shunned by most physicians and potential patients because the results are highly variable and depend on the type of tattoo machine used, the needle configuration and design, the ink used, and the artistic style of the service provider. Internet chatter has been building over the past year. We have been slowly perfecting the SMP technique and we hope to standardize the techniques through more experience, continuously analyzing the results we obtain. As the process is permanent, patient deformities resulting from imperfect techniques by inexperienced operators who do not understand the subtle nuances of SMP may produce significant malpractice risks for the novice entering the field with no training. More information on this technique can be found at www.scalpmicropigment.com.

References

1. Kienle, A., et al. Why do veins appear blue? A new look at an old question. *Applied Optics*. 1996(March); 35(7).
2. Traquina, A.C. (2001). Micropigmentation as an adjuvant in cosmetic surgery of the scalp. *Dermatol Surg*. 2001(Feb); 27(2):123-128.

Editor’s note: In the right hands, SMP is a very useful technique; but I don’t believe it’s an easy technique to get right. I have seen a few cases where the hairline has been tattooed on, similar to Dr. Rassman’s patient 2, but the tattoo looks artificial, having a bluish tinge and a wide, low hairline. In another case, the dye just would not “take” in the scarred donor area even after several attempts. Having said this, there are many patients trying to hide scars using cosmetics, wearing hats, etc., who can have life-changing benefits from tattooing. But like any hair restoration procedure, the tattooist needs to understand the concepts of hairline placement and design and the changes that occur to hairlines

with age. The following are a couple of tattooing complications that I have come across.

The patient in Figures 1 and 2 is 33-year-old woman who had tattooing that started to change colour. She went for tattoo removal that left her with scars and hair loss to her eyebrows (Figure 1) that was worse on the left side. We performed eyebrow restoration bilaterally with 410 single-hair grafts (Figure 2) and she has recently had a second operation of 200 grafts especially for the left side where the growth was less successful. You will note in her Figure 1 that she has semi-permanent makeup to the upper eyelids. This has also changed to a greenish-grey color but the patient copes successfully by applying eyeliner over top (Figure 2).

The patient in Figures 3 and 4 is a 54-year-old woman with eyebrow tattooing (semi-permanent makeup) that changed color to a greenish-grey following laser tattoo removal. The area was surgically removed (Figure 3) by a plastic surgeon prior to coming to us for transplantation (Figure 4). Four hundred single-hair grafts were placed. —NF ♦

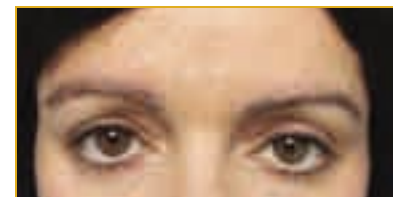


Figure 1. Eyebrow scarring following tattoo removal (background shows residual tattoo).




Figure 2. Five months post-op: less growth in left eyebrow.





Figure 3. Immediately pre-op showing bilateral surgical scars.



Figure 4. Immediately post-op.



WWW.COLEINSTRUMENTS.COM 800-368-4247 SALES@COLEINSTRUMENTS.COM

<p>Programmable Cole Isolation Device (PCID)</p>  <p>Only Programmable Power Extractor on the market!</p> <p>PCID is the fastest extractor with lowest transection rate</p> <p>Extract over 2000 grafts an hour</p> <p>Direct training and marketing available</p>	<p>Cole Instrument Punches</p>  <p>Hardened Steel for the sharpest cutting edge available</p> <p>Standard Punch for use with Cole Instruments Manual Handle for precise depth control</p> <p>Serrounded punch has serrated edge for use with the PCID - reduces friction and improves graft quality</p>
--	---

ISHRS ListServ^{PLUS} has launched!

If you are looking for an active way to be a part of the ISHRS community and interact with other members facing similar challenges, or perhaps, you just want to ask a question, then the ISHRS Listserv+ is a great member benefit for you.

Dear ISHRS Members:

Please contact the ISHRS staff at info@ishrs.org if you have not received your Listserv+ welcome letter via email.

**Exchange ideas
via the ISHRS Listserv+**



What is a listserv?

A listserv is a convenient way to contact more than one person at a time. When you subscribe to a listserv, one email address reaches every registered member. In other words, you send your email to the listserv email address and all subscribers receive the message.

Why is it "plus"?

We are calling it the Listserv "Plus" because topics and the threads of communication between subscribers are archived on the ISHRS website for future reference. With a standard listserv, this is not the case. In addition, you get to choose and manage your settings/digests, e.g., daily (receive daily message of all posts), weekly, excerpt, or none.

What is the ISHRS Listserv+?

With the ISHRS Listserv+, members who are interested in participating may subscribe to the **physician list** or the **surgical assistant list**. Once subscribed, members can easily communicate with others members. When an e-mail is sent to the listserv, the ISHRS Listserv+ automatically distributes copies to all list subscribers. The sender does not need to know the names or email addresses of all the subscribers, since that information is maintained by the ISHRS Listserv+.

How do I send a message to the Listserv+?

Open up a new email message. Compose your email in Rich Text Format (RTF) or HTML. Please note that plain text is not compatible with the ISHRS Listserv+. For the "To" line, enter the address associated with the list: physician-list@ishrs.org for the Physician list and/or surgicalassistant-list@ishrs.org for the Surgical Assistant list. Then send the message from your email address that we have set as your default that is associated with the listserv (this email address is noted in your Listserv+ Welcome email).

For more detailed directions, go to the ISHRS Members Only section to read instructions and view YouTube instructional videos.

What are the rules?

Rule and etiquette are reviewed when you sign-up. Here are few. Violators will lose listserv privileges.

- Do not challenge or attack others. The discussions on the lists are meant to stimulate conversation not to create contention. Let others have their say, just as you may.
- Do not post commercial messages on the ISHRS Listserv+. Contact people directly with product and service information if you believe it would help them.
- Use caution when discussing products or patients. Information posted on the lists is available for all to see, and comments are subject to libel, slander, patient privacy, and antitrust laws.
- All defamatory, abusive, profane, threatening, offensive, or illegal materials are strictly prohibited. Do not post anything in a Listserv+ message that you would not want the world to see or that you would not want anyone to know came from you.

International Society of Hair Restoration Surgery

303 West State Street, Geneva, IL 60134 USA Tel: 630-262-5399 Fax: 630-262-1520 info@ishrs.org

www.ISHRS.org