Official Publication of the International Society of Hair Restoration Surgery

FORUM

HAIR TRANSPLANT FORUM INTERNATIONAL

VOLUME 36 | NUMBER 4
JULY/AUGUST
2026

## IN THIS ISSUE

Resolution of Recipient-Site Necrosis Following Hair Transplantation in a Patient with Hemangioma: A Case Report and Management Approach

Retraction: "Exosome-Based Therapies for Alopecia: A Systematic Review of Clinical Efficacy and Safety"

# The N.A.T.U.R.A.L. Framework: A Conceptual Model for Visual Assessment of Hair Transplantation Outcomes

Leo Swee Liang Chong, MBChB | *Auckland, New Zealand* | chongsweeliang@gmail.com

## ABSTRACT

Despite the widespread performance of hair transplantation, there is currently no standardized assessment to define a satisfactory outcome. In clinical practice, discrepancies frequently arise between objective procedural success and patient-perceived satisfaction. Conventional outcome metrics such as graft survival rate, transection rate, and coverage value provide useful procedural data but fail to adequately capture the aesthetic and artistic component of hair transplantation.

The N.A.T.U.R.A.L. (Natural And Technically Undetectable at Realistic Assessment Levels) framework is proposed as an author-derived conceptual model for visual assessment of hair transplantation outcomes. The framework is based on recurring clinical observations that evidence of hair transplantation may become apparent under close scrutiny, despite appearing entirely natural during routine social interactions. It emphasizes four assessment conditions: interpersonal viewing distance (approximately 80–120cm), adequate hair length, natural hair presentation without styling manipulation, and undetectability to casual observers. An optional close-up assessment may be used to distinguish satisfactory from exceptional outcomes.

The framework is intended to provide a practical reference for postoperative evaluation, preoperative counseling, expectation management, and consideration of revision procedures. By emphasizing realistic viewing conditions rather than microscopic or highly scrutinized examinations, the N.A.T.U.R.A.L. assessment conditions offer a pragmatic approach to discussing naturalness in hair transplantation. As a conceptual model based on clinical observation, further validation studies are needed to assess its reproducibility, reliability, and relationship with patient-reported outcomes.

***Keywords:*** hair transplantation, patient satisfaction, treatment outcome, visual assessment

*This article is open access and may not be copied, distributed, or modified without written permission from the International Society of Hair Restoration Surgery. This article has not undergone external peer review and reflects the author's views and interpretations.*

One of the primary goals of hair transplantation is hair restoration in areas affected by alopecia, focusing on achieving a natural-appearing result.[1] However, the concept of "naturalness" remains poorly defined in the literature and is often interpreted subjectively by both surgeons and patients. Consequently, determining whether a surgical outcome is cosmetically acceptable can be challenging. It is not uncommon for objectively satisfactory results to be perceived as unsatisfactory by patients with unrealistic expectations, while suboptimal outcomes may be accepted by those with lower expectations.[2]

Outcome assessment in hair transplantation has traditionally relied on quantitative parameters such as graft survival rates and follicular unit (FU) density.[3,4] While these metrics provide useful procedural data, they do not fully capture the aesthetic aspect of surgery. Transplants may demonstrate adequate density (hairs/cm$^2$ or follicular units/cm$^2$) and coverage yet appear unnatural due to factors such as straight hairline designs, abnormal graft angulation, or highly regular graft placement intervals. Patient-reported satisfaction scores provide additional insight but frequently demonstrate discrepancies with objective aesthetic outcomes and are strongly dependent on patient expectations.[5]

Despite the widespread practice of hair transplantation, there is no consensus on a standardized method to assess aesthetic outcomes. Viewing distance and observational conditions, which are key determinants of perceived naturalness, are rarely defined. Therefore, the N.A.T.U.R.A.L. (Natural And Technically Undetectable at Realistic Assessment Levels) framework is proposed as a conceptual approach for assessing satisfactory hair transplantation outcomes in everyday clinical practice.

PAGE 118

FORUM
HAIR TRANSPLANT FORUM INTERNATIONAL
VOLUME 36 | NUMBER 4 | JULY/AUGUST
2026

## TABLE OF CONTENTS

113 The N.A.T.U.R.A.L. Framework: A Conceptual Model for Visual Assessment of Hair Transplantation Outcomes

115 President's Message

116 Co-Editors' Message

122 Resolution of Recipient-Site Necrosis Following Hair Transplantation in a Patient with Hemangioma: A Case Report and Management Approach

126 Retraction: "Exosome-Based Therapies for Alopecia: A Systematic Review of Clinical Efficacy and Safety"

127 Letters to the Editors

129 Hair's the Question: Hair Disorders in Art and History

132 Message from the ISHRS 2026 World Congress Program Chair

134 Literature Review

140 Classified Ads

141 Calendar of Events

***HAIR TRANSPLANT FORUM INTERNATIONAL***
is published bi-monthly by the
*International Society of Hair Restoration Surgery*

First-class postage paid Milwaukee, WI and additional mailing offices.

POSTMASTER Send address changes to:

*Hair Transplant Forum International*
*International Society of Hair Restoration Surgery*
675 Tollgate Road, Suite G
Elgin, IL 60123 USA
Telephone 1-630-262-5399

| | |
|---|---|
| President | Conradin von Albertini, MD, FISHRS<br>president@ishrs.org |
| Executive Director | Victoria Ceh, MPA<br>vceh@ishrs.org |
| Co-Editors | Vikram Jayaprakash, BM, FISHRS<br>Henrique Radwanski, MD, FISHRS<br>forumeditors@ishrs.org |
| Managing Editor & Advertising Sales | Cheryl Duckler<br>cduckler@ishrs.org |

**COLUMNISTS**

| | |
|---|---|
| ABHRS President's Corner | Shady El-Maghraby, MD, MSc, FISHRS |
| Controversies | Russell G. Knudsen, MBBS, FISHRS |
| Hair's the Question | Sara M. Wasserbauer, MD, FISHRS |
| Literature Review | Martha Gabriela Contreras, MD, PhD |
| Message from the ISHRS 2026 World Congress Program Chair | Maxim Chumak, MD, FISHRS |

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).

Copyright © 2026 by the
*International Society of Hair Restoration Surgery*
675 Tollgate Road, Suite G
Elgin, IL 60123 USA

Tel: +1-630-262-5399

Printed in the USA.

Official Publication of the
International Society of Hair Restoration Surgery

# President's Message

Conradin von Albertini, MD, FISHRS | *Zürich, Switzerland* | president@ishrs.org

## The Black Market Trap—A President's Perspective

In less than three months, we will convene at the ISHRS World Congress in Rio de Janeiro under the motto "Where Integrity Meets Excellence." This is more than a slogan—it is a call to action for our specialty. I want to recognize our Program Chair, Dr. Maxim Chumak, whose leadership is shaping a program focused on the highest standards in hair restoration surgery.

### THE FUE TSUNAMI

At the recent Live Surgery Workshop hosted by our Italian Society in Rome, I recalled their meeting in Venice 10 years earlier where I spoke about our profession's transition from FUT to FUE. Until 2012, I was a dedicated FUT surgeon. Then patient demand shifted quickly and almost completely to FUE. I expected that this "FUE tsunami" would reshape our surgical approach.

The reality was worse.

### THE RISING OF THE GREY MARKET

The FUE tsunami's first casualties were some of our best—surgeons who had elevated hair restoration to an art but would not transition to FUE. Many left the specialty, taking decades of surgical excellence with them.

Back home, the FUT clinics were soon replaced by what I call the "grey market": honorable physicians delegating FUE procedures to their techs. For example, a senior colleague encouraged my tech to replicate what she had seen in my OR—progressing her from the assistant she was to me to independently performing entire procedures for him.

The grey market spread quickly when physicians without any HRS training employed techs to perform FUE transplants. Critical roles—hairline design, graft handling, complication management—were delegated beyond appropriate competence. Outcomes declined, often without transparency.

### THE "TRAVELING TECH TSUNAMI"

Unfortunately, the worst was yet to come. During the pandemic restrictions, medical tourists couldn't travel easily to low-cost countries, so hair techs began traveling to patients instead. Fly-in, fly-out teams flooded clinics in Europe and other regions with cheap deals, enticing even more inexperienced physicians to offer technician-led hair restoration as an add-on.

However, the party didn't last. When free travel resumed, patients discovered they could access the same services abroad—with the same foreign techs—at a fraction of the cost. The grey market model, with physicians supervising techs, came under global pressure.

### THE RISING OF THE PITCH-BLACK MARKET

To survive, many clinics cut costs by moving even further into the shadows—not only replacing expensive local technicians with traveling teams, but also removing the presence of on-site licensed physicians, who remained only virtually present on their websites. This is what I call "pitch-black market clinics."

Here, marketers in white coats sell procedures performed by unsupervised traveling techs. There is no continuity, no accountability, no excellence. Contraindications go unrecognized, complications go unmanaged, and even critical steps like anesthesia are performed without medical supervision.

### EXCELLENCE AND INTEGRITY AS ADVANTAGES

The race to the bottom continues worldwide, though its intensity varies by region. Watching this unfold is painful but offers three valuable lessons.

Firstly, delegation of surgery to techs is often unsustainable. At first, it may seem comfortable for hair restoration surgeons to promote superior planning while handing over the surgery to techs. However, over time, this undermines the patient base: patients seeking value resist paying premiums for planning alone, while those satisfied with tech-led solutions will find cheaper providers using rotating teams or operating entirely from low-cost countries.

Secondly, delegation to techs threatens the specialty itself. Surgeons are more than operators—we are educators, mentors, and innovators. Stepping away from the OR is not only a safety risk—it breaks the chain of knowledge transfer. Without surgical involvement, mentorship declines, the number of surgeons shrinks, innovation slows, and long-term excellence fades. Instead of sharing knowledge, delegators share ignorance.

Thirdly, and surprisingly, integrity and excellence pay. Clinics led by highly qualified surgeons who perform procedures in accordance with ISHRS rules are less affected by the race to the bottom. Many of us in grey-and-black-market-land maintain long waiting lists and command premium fees. Our patients choose expertise, accountability, and, most importantly, safe healthcare, willing to invest in fully engaged, trained physicians.

This is why the ISHRS—and meetings like Rio 2026—matter. By emphasizing physician-performed surgery and rigorous patient safety standards, we reinforce a critical truth: innovation without integrity is not progress. Our field's future depends not just on new techniques but on who performs them and how.

### ISHRS: DEFINING THE FUTURE

As ISHRS President, I believe our mission is crucial. We are the global voice of high-quality hair restoration. Our standards protect patients, preserve our specialty, and create conditions for genuine innovation. We must educate, advocate, and lead before the window of opportunity narrows further.

To those who, in accordance with ISHRS rules, resist delegating surgery to technicians and uphold the highest standards of patient care: you are not the past—you are the future.

I invite you all to join us in Rio de Janeiro on October 15–17, 2026. There, we will have a unique opportunity to reaffirm these principles that will define the future of our specialty. ■

# Co-Editors' Message

Vikram Jayaprakash, BM, FISHRS | *Malvern, Australia*
Henrique N. Radwanski, MD, FISHRS | *Rio de Janeiro, Brazil*
forumeditors@ishrs.org

*Dr. Vikram Jayaprakash*

*Dr. Henrique Radwanski*

Welcome to the July/August issue. As we move into the final stretch before Rio, this issue reflects something we value in the *Forum*: the willingness of our community to look closely at its own work—at what we do well, at what we get wrong, and at how we put it right.

We want to flag one item directly, because we would rather our readers hear about it from us than stumble upon it. This issue carries a retraction, together with the letter to the editors that prompted it, the authors' response, and a comment from us explaining how the decision was reached. We would encourage you to read the full exchange. It is not a comfortable sequence to publish, but it is an honest one, and it is a reminder that the integrity of what we print depends on readers who are willing to check a claim against its source and tell us when something does not add up. We are grateful to the reader who did exactly that.

The rest of the issue speaks to the breadth of our specialty. Leo Chong opens with a thoughtful conceptual piece, the N.A.T.U.R.A.L. framework, which asks a deceptively simple question: under what conditions should we actually judge whether a hair transplant looks natural? By anchoring assessment to realistic viewing distances rather than the microscope, it offers a practical vocabulary for a conversation every one of us has with patients—the gap between a technically sound result and a patient's own scrutiny in the bathroom mirror. The author is careful to present this as a conceptual model rather than a validated instrument, and we publish it in that spirit. Frameworks of this kind earn their place by being argued with rather than adopted wholesale, and we would be interested to know whether the proposed distances and conditions match what colleagues find in their own consulting rooms.

Thalita Carlesso and colleagues contribute a candid case report on recipient-site necrosis following FUE in a patient with an underlying vascular lesion and well-controlled HIV. It is the kind of complication none of us wants to see and all of us can learn from, and we thank the authors for the openness with which they have reported both the course and their management of it.

Martha Contreras's "Literature Review" takes stock of where minoxidil is heading in 2026, and it repays a careful read. The interesting development is not that oral minoxidil works—that is now reasonably well established—but that the conversation has moved on to how it should be delivered, titrated, and combined. Individualised titration, rather than fixed dosing, emerges as the consistent theme across the evidence she surveys, with sublingual delivery an early and still-unproven prospect. For those of us who counsel patients on adjunctive medical therapy alongside surgery, this is a useful stocktake of a field that has changed considerably in a short time.

Elsewhere you will find our regular columns: Sara Wasserbauer's "Hair's the Question" turns its eye, entertainingly, to hair disorders in art and history; and President von Albertini offers a pointed reflection on the pressures facing our specialty as we approach the World Congress.

We would also draw your attention to something happening quietly alongside all of this. The ISHRS's Spanish-language webinar pilot has now recorded two sessions, with a third on regenerative medicine scheduled for December, and the 2026 CME series continues through the year. In Rio, live translation will be available to personal devices in more than sixty languages. Taken together, these are not small administrative details. They change who can take part in the conversation, and a society that describes itself as the global voice of hair restoration ought to sound like one.

That Congress is close. Maxim Chumak's update on the Rio program conveys how much thought is going into it—196 abstracts reviewed and formats deliberately chosen to suit the material rather than the other way around—and the motto, "Where Integrity Meets Excellence," feels apt for this issue in particular. Integrity is not only what we aspire to at the podium; it is what we practice in the quieter work of checking, correcting, and being straight with our readers when correction is needed.

One practical note for those still making arrangements. The Congress runs October 15–17, but there is a good deal happening before it. Pre-courses are scheduled for October 14, and the ABCRC's Live Surgery Workshop takes place on October 13 in Barra da Tijuca. Both are easy to miss when booking flights, but both are worth arriving early for.

We hope to see many of you in Rio in October. Until then, we hope you find much here worth your time. ■

# Spanish Language Webinars ISHRS

## *Webinars en español de la ISHRS*

Como parte de nuestro compromiso con la educación multilingüe, estamos ofreciendo webinars en español, un programa piloto, que abordan los fundamentos de la tricología médica, los avances tecnológicos y las estrategias clínicas para el tratamiento de trastornos capilares, entre otros temas.

*As part of our commitment to multilingual education, we are offering webinars in the Spanish language, as part of a pilot program, covering the fundamentals of medical trichology, technological advancements, and clinical strategies for treating hair disorders and more.*

## Calendario de los webinars

## *Webinar Calendar*

Trasplante capilar en mujeres y hombres transgénero: integración del abordaje quirúrgico, médico y psicológico
*Hair Transplantation in Transgender Women and Men: Integrating Surgical, Medical, and Psychological Care*

miércoles 26 agosto de 2026 (Wednesday, August 26, 2026)

moderador/Moderator: David Pérez-Meza, MD, FISHRS, Mexico

co-moderador/Co-Moderator: Víctor Vallejo-Meza, MD, Mexico

Medicina regenerativa en alopecias
*Regenerative Medicine in Alopecia*

sábado 5 de diciembre de 2026 (Saturday, December 5, 2026)

moderadora/Moderator: Marie Schambach, MD, FISHRS, Guatemala

co-moderadora/Co-Moderator: Martha Contreras, MD, PhD, Mexico

**Disponible a demanda / *Available on Demand***

IA en restauración capilar: aplicaciones prácticas, ética, diagnóstico e innovación
*AI in Hair Restoration: Ethics, Diagnostics, Surgical Innovation, and Practical Applications*

grabado/Recorded:
sábado 11 de julio de 2026 (Wednesday, July 11, 2026)

moderador/Moderator: Luis Nader, MD, FISHRS, México

co-moderador/Co-Moderator: Alejandro González Quiroz, MD, México

**Inscríbete: ISHRS.org/es/webinars-en-espanol**
***Register: ISHRS.org/spanish-language-webinars***