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The Use of Body Hair with Scalp Hair for "Combination Grafting" to Enhance Visual Density of Hair Transplantation and Increase Coverage in Advanced Alopecia

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ABSTRACT

Introduction: Hair transplantation is becoming the most common cosmetic procedure for men across the world with demand for higher density and treatment of extensive hair loss. This requires a higher number of donor follicles. Beard and body follicles can be used in addition to scalp hair as donor in suitable patients.

Objective: To demonstrate the use of body hair to increase the visual density and for better coverage for higher grades of androgenetic alopecia (AA).

Method & Material: Sixteen patients were selected due to the availability of body donor hair and consent for body hair harvesting was taken. The beard was the first preference and then chest and abdominal follicles were used in combination with scalp hair follicles to treat Norwood grade IV and above. Beard and body hair were harvested using the follicular unit excision (FUE) technique. Post-operative pictures were taken and patient satisfaction, doctor's observation, and global photographic evaluation was done.

Results: Following hair transplantation, patient photographs were taken at 4, 8, and 12 months. The results were assessed on the basis of global photography. The use of body hair combined with scalp hair greatly enhanced the visual density, leading to better coverage in even higher grades of hair loss. **Conclusion:** "Combination grafting" is a good method to use to treat higher grades of hair loss as well

as to enhance the results of hair transplantation in suitable patients.

Key words: combination grafting, FUE, Norwood grade

INTRODUCTION

Hair transplantation is becoming a very popular procedure. The demand for higher density coverage with a normal appearance is increasing. This requires a higher number of donor hair follicles. The biggest limitation of the hair transplant procedure is the discrepancy between demand and supply. Beard and body hair are a good source of donor hair follicles.^{1,2} We use "combination grafting" in which scalp hair follicles are transplanted with body hair follicles. Combination grafting is a similar procedure to mixed grafting in which multifollicular units (MFUs) are mixed with follicular units (FUs). This not only increases the total number of donor hair follicles but it also enhances results because of the higher diameter and visual density of beard hair. Although body hair other than the beard is thinner, it certainly adds to the coverage value and is better than scalp micropigmentation.

Beard hair typically is thicker and curlier, giving higher visual density, and is used in the forelock and mid-scalp area. Beard, chest, and other body areas are non-scalp sources of donor hair follicles and their growth is androgen-dependent, which is an advantage in androgenetic alopecia.

OBJECTIVE

We used a combination of body hair follicles and scalp hair follicles to enhance the visual density of hair transplantation and provide better coverage for higher grades of scalp hair loss.



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Official Publication of the International Society of Hair Restoration Surgery

President's Message



Arthur Tykocinski, MD, FISHRS | São Paulo, Brazil | president@ishrs.org

The Future of the Hair Transplant Industry

After continuous evolution in the hair transplant procedure over the past three decades, we are now facing a dilemma: super

high-quality clinics on the one side, offering an artistic and artisanal hair transplant that makes us really proud, and on the other side, we have the "industrial scale, assembly line" hair transplant clinics. The latter has been under the radar for a while, but now the bad results are surfacing...mainly in Europe and around the Mediterranean, but soon, they will be seen everywhere.

What we're seeing is just the tip of the iceberg; soon all this will be discovered by the public and can affect HT credibility worldwide. The low-quality HT has many faces: 1) the assembly lines—where 10, 20, or more HTs are done per day, and/or 2) the untrained doctors who supervise a procedure they don't know, which is entirely an unethical practice; yes, that's correct: a surgeon who is legally responsible for a procedure that he/she doesn't have expertise in and is blindly trusting the work offered by techs who are hired or offered by companies. This is a perfect example of the merchandising of medicine: unethical behavior and no care for the patient, which is ultimately our major goal as physicians. What a shame.

In response, the ISHRS has created our Black Market Awareness Campaign (BMAC), which received massive support from our members during the World Congress in Hollywood; thank you all! During the annual business meeting, we asked members about the campaign and of the 100 members who voted, 95% of them supported this campaign...remarkable!

To start, we recorded several interviews with members

1. Communicate to the public about what the black market is and the harm it can cause to unknowing patients. There is nothing better than getting information directly from the source: stories from patients damaged by the black market clinics. If you have patients suffering the consequences of a black market procedure, we encourage you to ask them to help us by sharing their story. Please email us at BlackMarketAwareness@ISHRS.org. We need to record these personal experiences. Please contribute!

- 2. Communicate to other medical societies. Most physicians around the world have no idea that this problem exists. We must inform them. The ISHRS is preparing a PowerPoint presentation for our members to use to share this information with any other medical society for which they will give a lecture. It is important not only to alert prospective patients but also to inform physicians "outside HT" so they don't unknowingly get trapped by companies irresponsibly offering them easy money through unethical behavior.
- 3. Advance legal efforts to combat this issue. Although it takes time, we are also trying this route.

This is what we can do now. At this point, anyone or any group that wants to join our BMAC is welcome—for the good of the patients, for the dignity of our profession. If you would like to support us and be involved, contact any member of the Board of Governors or Executive Committee as each and every one of us will be pleased to help you.

We are also accepting donations for our BMAC. We can only succeed with your full support!

Thank you so much.

about the BMAC, and there is much more to come. It is not an easy task to alert the public about these low-quality HT clinics that are only focused on money, are unethical and many times illegal, and that produce disastrous results such as donor area depletion, bizarre low hairlines, or poor hair growth.

If nothing is done, it will be the end of HT as we know it. This is not fair to the patients who are getting harmed. Now is the time for us to unite. We need to fight the black market on many fronts and are focusing on the following:



Co-editors' Messages

Andreas M. Finner, MD, FISHRS Berlin, Germany forumeditors@ishrs.org

The World Congress in Hollywood was a great success. Rachael Kay and her contributors wrote a detailed report, but each of us had many additional personal impressions, observations, and discussions during this well-organized meeting.

In this issue, Anil Garg describes how he is able to use scalp, beard, and body hair to increase the donor hair supply. In his Indian patient population, many patients have thick and dense scalp, body, and beard hair and darker scalp skin with less contrast.

Paul Rose obtained a histology from FUE dots demonstrating that they are actually scars extending into the deep dermis. And Walter Unger again emphasizes how these circular incisions add up to a huge incision length. It is unethical to call FUE scar-less and non-incisional.

As our specialty faces increasing challenges by unethical providers, the ISHRS's new Black Market Campaign will be important in our efforts to create public awareness and protect patients. New risks arise not only from medical tourism but also from inland suppliers of lower standards; they can easily attract and mislead patients through the internet.

It is *unethical* to do surgery on unsuitable patients and only aim for a short-term effect, to promise unrealistic outcomes, to play down the medical and cosmetic risks of the surgery, to deceive patients about physician qualifications, and to let non-medical, unlicensed staff do surgery.

It is *ethical* to manage the donor and recipient areas based on future hair loss progression, to inform patients about the realistic chances for success and risks of the surgery, to reject unsuitable patients, and to do no harm.

To ensure a high-quality level of hair restoration, we need to define guidelines based on scientific evidence and clinical experience. And we need to inform future patients how complex the procedure is and how they can distinguish an unethical provider from a trustworthy specialized physician.

This ePUB FORUM may become a source of information for an extended readership in the future. Your submissions of articles and ideas are important to achieve this goal and to reflect the level of expertise we have reached in hair restoration surgery. Please send them to forumeditors@ishrs.org.



Bradley R. Wolf, MD, FISHRS *Cincinnati, Ohio, USA* forumeditors@ishrs.org

Congratulations to all for another great meeting; to Paul Cotterill and Jerzy Kolasinksi for their Follicle awards, and a special congrats to a past *Forum* Co-editor and mentor, Mario Marzola, for his well-deserved Manfred Lucas award. The meeting

wouldn't have been possible without the hard work of Parsa Mohebi, Tommy Hwang, Victoria Ceh, and the ISHRS staff over the past year. It was great to see old friends and colleagues while learning from the best about the current state of our specialty.

The results shown in Anil and Seema Garg's lead article on combination grafting using scalp and body hair are very impressive and show an evolved technique. Harvesting and placing 7,000 grafts, 5,000 from the scalp and 2,000 from the beard and body, in two days is a gargantuan task requiring a large, well-coordinated, and experienced staff to accomplish.

The secrets of FUE continue to be revealed in articles by Paul Rose and Marie Schambach. I've used the Trivellini device and it seems a small amount of suction does facilitate contact of the skin to the entire circumference of the punch. This makes it easier and faster to incise the skin then advance the punch using different motion modes.

The enemy we face with FUE is the exposure of every extracted follicle and dermal papilla to potential trauma due to their proximity to the punch and tearing of the graft from the fat. With FUT, follicles between the strip edges are completely protected and insulated from trauma. FUE is a totally blind procedure while FUT is an open procedure where all follicles in harm's way are visualized. Wide strip scars can almost always be hidden by growing the hair above longer while the devastation we are seeing from FUE is unprecedented due to the destruction of so many follicles in the direct path of trauma.

It's ironic that FUE, a more difficult and blind procedure, is being entrusted to unlicensed assistants. And this isn't only happening in countries that turn a blind eye to the laws. A series of rogue clinics staffed by non-physicians is only one aspect of the black market. Reputable physicians, often plastic or cosmetic surgeons, who have no experience doing hair restoration surgery are buying machines and hiring experienced non-licensed technicians to perform the surgery. There are three clinics in my city and five in the state where I reside that use unlicensed assistants in conjunction with a turnkey FUE machine. All physicians and patients need to be made aware of the complicated nature of and the laws surrounding hair restoration surgery. I applaud the ISHRS for taking a strong stand against a trend that affects us all.

> CONTINUED FROM FRONT PAGE

METHOD

Scalp hair follicles were mixed with body hair and transplanted to cover the area of hair loss. In all 16 cases, combination grafting was performed. To assess the suitability of patients, all cases of male pattern alopecia of Norwood grade IV and above were examined and evaluated for donor availability of scalp and body hair. In India, many patients have very good beard hair. A detailed discussion was conducted with the patient and consent was taken for using the combination approach. In all cases, a scalp donor hair trichoscan pre-examination at five locations was performed. Scalp hair was harvested either by FUT or FUE, with the selection of the harvesting method made by choice of the patient after discussing each method's pros and cons. Body donor hair follicles were harvested using the FUE technique. Two surgeons harvested and planted simultaneously to reduce the surgical time. The total follow-up period was 18 months.

In **Norwood grade IV**, we planned 2,500-3,000 grafts. With consent, we harvested 20-30% of the total grafts/follicles from the beard (approximately 600-900).

In the first 2cm of the defined hairline zone, including the transition zone, only scalp hair follicles were used and placed as per the standard guidelines described by Shapiro and others.⁵ Then in the three rows behind the defined zone, we mixed scalp with beard hair in the ratio of 2:1 for a more natural look, while in the forelock area, we mixed scalp with beard 1:1 for more fullness. Similarly, in the mid-scalp area, we placed the remaining beard hair mixed with scalp hair follicles roughly in the ratio of 3:1. We did not cover the crown in younger patients, we advised them to initiate medical therapy. Figure 1A depicts scalp hair placement and Figure 1B depicts beard hair placement showing the planning of combination grafting. Figure 1C shows the actual plan drawn and executed on the patient's scalp.

In **Norwood grade V** baldness, 4,000-5,000 grafts were planned. In a single harvesting, either by FUT or FUE, we harvested 2,000-3,000 grafts from the scalp donor area and the remaining from the beard and/or chest. Planning of placement with mixing of the scalp to body ratio remained the same as explained in grade IV, only that the remaining

FIGURE 1. *A*: After hair follicle insertion in Norwood grade IV, *B*: after beard hair follicle insertion, *C*: planning of combination transplantation (scalp + beard)



body hair was placed in the mid-scalp area. The above procedure was done over two consecutive days. All scalp hair follicles were inserted on day 1 leaving space for beard/

other body hair follicles for the next day. On the second day, body hair follicles were harvested and inserted in the gaps left between the scalp hair follicles. (See Figure 2.)

In grades VI and VII, a detailed master plan of recipient and donor areas was done after discussion with the patient. The total amount of FUs to be transplanted were calculated and the number of follicles harvested from each area in multiple stages was planned as explained below (Figures 3 and 4):

Routinely,

FIGURE 2. Planning of scalp and beard hair follicles in Norwood grade V







FIGURE 4. Grade VII planning



we transplant 6,000-7,000 grafts for grade VI loss depending on donor availability and the number of grafts the patient desires. Out of this total, we harvest 4,500-5,000 from the scalp in multiple stages and the remaining from the beard and other

- body parts.
 In the first session, two consecutive days are planned. A total of 5,000 grafts are harvested to transplant from the hairline to the vertex transition point. Out of these grafts, 2,500-3,000 are harvested from the scalp and the remaining from the beard or other body parts. The planning of graft distribution in the front area remains the same as described in grades IV and V, and the remaining area of the scalp is done mixing scalp hair with beard hair.
- If a patient wants further sessions, a minimum 4-month delay is recommended. It may be a 1- or 2-day harvesting session. On any given day, we do not harvest from more than two body areas and all precautions are taken that the dose of anaesthetic agent remains within safe limits.

In **grade VII**, we transplant 7,000-8,000 grafts in multiple sessions. Planning remains the same as in Norwood grade VI.

RESULTS

See Figures 5-9 on the next page, which show overall results for each case.

FIGURE 5. Case I, Grade IV



FIGURE 6. Case II, DPHL/Diffuse Pattern Hair Loss



FIGURE 7. Case III, Grade VI



Discussion

The total scalp hair-bearing area is approximately 520cm² (Bernstein and Rassman^{6,8}), and from this, around 200cm² is usually the safe donor area (Cole⁷⁻⁹), the remaining area is approximately 300cm², which is androgen dependent and vulnerable to alopecia. To give the visual effect of reasonable density, we ideally need to transplant 30-40 grafts per square centimeter in this 300cm² area. For this, we need around 9,000 grafts. As per standard calculation, the total graft number in the safe scalp donor area is 12,500, and out of this, we can safely harvest 6,000 grafts. So there is a deficit of approximately 3,000 grafts to cover hair loss in the grade VII patient. This deficit can only be covered by using additional non-scalp hair follicles (i.e., body hair follicles). By presuming that any patient presenting at grade IV or above has the chance to progress to grade VII, we might need up to 9,000 grafts in total to cover the hair loss in the future. But certainly this calculation demands the search for non-scalp



FIGURE 9. Case V



donor area. Body hair of around 3,000 FUs and above can be harvested from the beard, chest, and extremities as per the requirement and availability. Even in patients who wish

the requirement and availability. Even in patients who wish to keep a beard, we design what shape of beard they would like to have and then harvest from the remaining area. We have not used donor hair from the extremities.

Alternatively, there are steps to make up the deficit, such as planning a higher anterior hairline, avoiding transplanting in the crown and temporal triangle, or using gradient density and scalp micropigmentation.

The term "mixed grafting"^{3,4} was used for a hair transplant procedure in which FUs along with multi-follicular unit grafts (MUGs) were implanted to increase density and reduce implantation and overall surgical timing. The main advantage was better density, but when not done properly there could be cosmetic compromise as proper planning of placement of MUGs with FUs is very important. This used to be a problem in the era of MUGs, but then micro-grafting was developed that improved the cosmetic appearance, so MUGs almost disappeared. Still, the need for higher density could not be overlooked. Recombinant grafting¹⁵ and high-density grafting^{10,11} have their own advantages and disadvantages: high-density grafting adversely affects graft survival and recombinant grafting needs a greater number of donor hair follicles.

The advantage of body hair follicles is that they are non-scalp donor hair follicles. Beard hair is thicker, giving a better illusion of density. Hair from other body areas certainly increases the density and is better than scalp micropigmentation.

We plan for body hair transplantation even at the first hair transplant procedure so a proper scalp and body hair "combination grafting" is planned and scalp hair is preserved for future use. In Norwood grade IV cases, as narrated, we transplant a total of 2,500-3,000 grafts, and out of this, we harvest 2,000 follicles from the scalp and the remaining from the beard and place them just behind the hairline, forelock, and mid-scalp. We have seen very encouraging results in terms of visual density.

Similarly, the use of chest hair is good for the mid-scalp and crown along with the beard and scalp hair. Chest hair is thinner compared to beard and scalp hair, but because of the curl of chest hair, the resulting visual density is reasonable and certainly better than doing scalp micropigmentation. Another area yielding good quality of hair is the pubic area, for which patients often opt if harvesting is done by FUE.

Studies by Kim,^{12,13} Hwang,^{12,13} and Lee¹⁴ show that when body hair is transplanted to the scalp, the thickness remains unchanged, but they become longer and the growth rate also increases. We have been harvesting body hair for more than three years using Cole Instruments 0.75 and 0.80mm sharp serrounded punches for beard, chest, and abdomen hair, but we have no experience with hair from the extremities. In the last two cases where chest and abdomen hair were very curly and long, we used a 0.9mm flared punch and this reduced transection. We evaluated beard and chest donor hair for density and thickness.

Patient satisfaction with body hair is very high. In our series, in almost all cases, body hair after transplantation did not go into anagen effluvium (no comparative study done). The transplants were frizzy and dry initially but improved over two years. In our experience, chest hair growth appeared to be slower (no comparative study, just an observation).

CONCLUSION

"Combination grafting" is a good method for treating extensive hair loss as well as enhancing the results of hair transplantation in suitable patients.

With experience, the physician can overcome technical challenges of body hair harvesting such as anesthesia, harvesting speed, and transection, and can perform body hair harvesting as a good adjunct to hair transplantation.

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Why I Switched to a Multiphasic FUE Device

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INTRODUCTION

I have been offering follicular unit excision (FUE) to my patients for the past 8 years. During this time, I have used several FUE devices but the extraction of healthy, chubby grafts has always been one of my challenges. Two years ago, I was introduced to Trivellini's Mamba device at the Latin-American FUE workshop and it has changed my practice. Excision of the grafts is no longer the most challenging portion of the procedure and my graft quality has improved as my overall procedure time has decreased.

Challenges of Graft Excision

FUE is not always easy and requires a great deal of handeye coordination. The thickness and resistance of the skin is not the same between patients. The skin has two distinct layers affecting the forces involved with the FUE extraction (Figure 1):

- 1. A firm layer consisting of epithelium and superficial dermis. This layer is also called anchor system and is responsible for most of the attachment of follicular units to the skin.
- 2. A soft layer below the epidermis consisting of the hypodermis, fat tissue, and areolar space. The anchor

FIGURE 1. Firm (red) and soft (blue) perifollicular layers



system also resides in the dermis. This layer requires less force to cut when dissecting the follicular units.

It is important to determine the depth needed in order to dissect the anchor system and partially liberate the graft. The deeper you cut, the more fat you can expect around the deeper aspect of the graft, but there is also a higher risk of transecting the hair shaft when the punch goes deeper.

The ideal type of excision for any follicular unit should be a very sharp cut only for the initial incision in the firm epidermis. This should be followed by a soft dissection for the dermis (to a determined depth) to cut the anchor system and to include fat around the dermal papilla. You should be able to excise and extract a complete healthy graft with enough surrounding tissue to protect the follicles and ensure maximum yield after placement. The ideal FUE device should have different phases to accommodate the differences in resistance among the layers of the skin with which we deal when performing FUE.

Common Problems with FUE

Some of the most common problems related to a variety of FUE devices or methods include transection, slow extraction, user dependability, and buried grafts. There are a variety of punches with differences in their sharpness, forms, diameters, and sizes. To correct for some of the noted problems, FUE device manufacturers addressed the following areas:

- *Rotation.* Cuts the tissue quicker and speeds up the procedure; the sharp edge of the punch causes a higher rate of transection, torque can cause rotational damage.
- *Oscillation*. Minimizes the sharp transection of grafts by minimizing the rotating incision; this method can slow down the procedure since oscillation is not the easiest method to use to cut through tough portions of skin.
- *Vibration*. Minimizes the cutting force and reduces the rate of transection; vibration has a very slow cutting effect and it can prolong the procedure time.

Each of these methods is designed to either speed up the process or reduce the transection rate. However, none alone has been able to produce a high-quality graft with minimal transection at a high speed.

My experience with a sharp punch, either oscillating or rotating, is that it helps cut the superficial and deep layers quickly and is easier and faster. But as the punch goes deeper at the same speed, there is a much higher risk of transection. Unlike a sharp punch, a dull punch can reduce the transection rate but it takes longer to cut the superficial, tougher portion of the skin. This means better-quality grafts at the cost of significantly slowing the speed of the procedure. Using a blunt punch also can increase the rate of buried grafts.

The Trumpet, Hybrid, or Flat sharp punches were good solutions that I could use with minimal transection. The Trumpet punch was much more forgiving when I could not follow the main axis of the follicular unit or when there was

a higher transection rate due to a high splay rate. But it slowed my excision rate and increased the number of buried grafts. With the Flat punch, I experienced a lower transection rate but the excision rate was significantly slower.

Another challenge I faced was coordinating my eye, foot, and hand movements. I had to properly center the punch on the targeted graft and press the foot pedal when I had a certain force applied over the follicular unit. It took me awhile to get that right, and since I always had to keep one foot on the pedal, my movement and positioning around the patient's head was limited (Figure 2). FIGURE 2. Graphic depicting the eye-hand coordination and the neurologic pathways. Red & yellow show all involved in pedal-using devices. Yellow shows all involved in this pedal-sparing device.



Pedal-dependent devices require eye-foot-hand coordination. The pauses among different stages, in addition to the latency period to coordinate eye, then foot, followed by hand movements, increases the overall time for each excision. It may seem like it only takes seconds to coordinate but, when you add these movements, it can significantly add to the procedure time.

MULTIPHASIC EXCISION The Trivellini Device

I found the solution in the Trivellini Device where a multiphasic system exists using different modes, strengths, and durations that can be set for different phases of graft excision based on tissue resistance (epithelium, superficial dermis, deep dermis, and fat). This system allows for the following choices (Figure 3):

- Modes (types of motion): oscillation, rotation, vibration, and Mamba mode
- Power: 10%-100%
- Time (for each phase): 100-800msec

FIGURE 3. Screen items on this device



I set the mode for each stage of the follicular unit excision along with the power and time. Since each patient has unique skin and hair characteristics, we can adjust precisely how long it takes to cut through the superficial layer with a preset strength and mode. The initial stage will be automatically and seamlessly followed by the second and third stages with different speeds and forces to dissect smoothly through the lower skin layers while protecting the hair follicles. This increases our efficiency.

If rotation is used for a patient who has a tight, thick superficial layer, we either use a more powerful rotation and/ or a longer rotation time than we would for a patient who has thin, fragile skin.

If the superficial layer is unusually thin and soft, we can change to the oscillation mode instead of rotation. The speed of each stage determines when the first phase is over. If the initial step is set to 200msec, once we reach the dermis after 200msec, the rapid rotation stops and we can modify the motion and the speed for a gentler dissection through the dermis to minimize the risk of trauma to the grafts. I often switch from rotation to oscillation for the softer dermal layer that offers less resistance. The device seamlessly switches from one mode to the other as it traverses the skin layers.

The most common parameters I use are 200msec of rotation at 60% speed followed by 300msec of Mamba movement (which is an asynchronic roto-oscillation). Nevertheless, I change time frames, speeds, and forces depending on the type of skin, the caliber of the hair, and the depth of the anchoring system. Other parameters I love using include 100msec rotation at 100% power followed by 300msec of oscillation at 120 degrees and 30% power. I always spend 30 minutes choosing the ideal sequence for the ideal graft and procuring a higher hair/graft coefficient.

Punches included

The device provides three types of punches: a sharp edged-out punch, a flared sharp punch, and a punch designed for long hair (Figure 4). These punches are made of a high-quality and strong material, allowing you to use one punch for several surgeries, and also come in different sizes ranging from 0.8 to 0.05 with differences between each. The sharp edged-out punch has the cutting edge on the outer part of the bevel to protect the graft inside the punch. The flared punch has the cutting edge also facing outward to protect the graft, but also creates a difference in pressure that helps the graft into the punch's lumen. The long hair punch has half of the perimeter as the edge-out punch and

the other half has blunt irregularities to capture the hair shaft during the excision without cutting it, therefore being able to excise long hair follicular units.



Suction assisted

The device is equipped with soft suction that ensures that the punch is stabilized on the skin precisely while keeping the tip of the punch tightly on the epidermis around the target. This eliminates the need to have traction on the skin that most other devices are dependent on. It also eliminates the need for tumescence. Thus, suction greatly reduces the risk of burying the grafts or sliding through the skin and damaging surrounding tissue. The time consumed by cleaning blood from the surgical field is also reduced by aspirating the blood in the area and this also increases visibility.

Smart React

The suction builds negative pressure within the system as soon as the tip of the punch is placed over the targeted graft. The Smart React System senses the drop in pressure and automatically starts the punch motion for each circular

FIGURE 5. Description of pressure difference and Smart React on device's screen



excision (Figure 5). The Smart React eliminates the need for a pedal, which saves a few seconds during each excision cycle. This helps maintain the efficiency of the FUE process throughout the procedure.

HOW IT WORKS

The Trivellini System is an FUE device that can be programmed for different modes of action, power, and duration for each phase of extraction. It is assisted by suction (negative pressure to hold and stabilize the skin) that helps start each cycle automatically after the punch touches the skin when using the Smart React option. The operators who might need more time to center the punch over the grafts may program a delay in initiation of the Smart React mechanism, so they can have time to properly position the punch over the follicular units.



ADVANTAGES Speed

Since I started using the Trivellini with Smart React, I have cut my excision time in half due to the ability to find the perfect excision phase (on average 300-400msec per

excision cycle) and the 50msec of delay in automatic start without using the pedal. (See Figure 6.)

FIGURE 7. A: Graft quality can be evaluated as seen pulled only by one forceps. B: Properly excised grafts will be seen popping out of skin; these are easily removed.



Graft quality

Despite reducing my graft harvesting time, my graft quality has improved. The excising punch can travel deeper into the skin without the risk of burying or transecting the grafts while the grafts are almost com-

pletely loose allowing the technicians to remove them easily and effortlessly (Figure 7).

Patient comfort

Reducing the time of the procedure means I don't have to stay in a fixed position for a very long time. This also makes it easier for the patient to better tolerate the FUE portion of

the procedure. Decreasing procedure time and improving graft quality improves our patient satisfaction. Since I am not dependent on the pedal for the extraction of each graft, I can be more mobile around the patient's head and minimize the straining that I used to have with the fixed positions I had to maintain when using pedal-controlled devices (Figure 8).



SUMMARY

My overall hair transplantation time has decreased significantly while the level of patient satisfaction has increased. I can harvest more grafts or simply reduce the overall procedure time if I choose. The Trivellini multiphasic FUE excision system has a very short learning curve; I achieved my current speed a few weeks after I started using it. In addition to improving the quality of the grafts through its multiphasic mechanism, the readily available grafts minimize the trauma that technicians apply to the grafts while pulling them forcefully from the skin. The system is very easy to set up. The operator can easily change the modes, power, and time of each phase depending on the type of skin and hair with which they are working. Improving the ergonomics of the procedure is achieved by cutting down the excision time and keeping the operator more mobile and less dependent on a fixed position that has to do with the use of a pedal in other types of FUE devices.





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Case Report: Those pesky dots. What are they?

Paul T. Rose, MD, JD, FISHRS | *Miami, Florida, USA* | paultrose@yahoo.com; Michael Morgan, MD | *Tampa, Florida, USA*

INTRODUCTION

The follicular unit excision (FUE) harvesting process has continued to gain in popularity. The primary advertised value of this technique is that the surgery does not result in a linear scar.

As the harvesting technique involves punches of one type or another, a round hole is the result of the tissue removed. Hole sizes can vary from approximately 0.75mm to 1.2mm at the time of surgery. These holes are allowed to heal by second intention. The resulting defect is a disciform, often hypopigmented area of scar tissue. The defect is at times larger than the original punch diameter. Some advocates of the FUE technique have suggested in various forms of media and presentations that the technique leaves no visible scars and that the hypopigmented dots are not actually scars.

Here, we detail our observations of the histological appearance of removed tissue that included two of the "dots" in a patient who had undergone a prior FUE procedure.

FIGURE 1. View of the donor area. The biopsies were taken adjacent to the red dots, where an obvious FUE wound was evident.



CASE REPORT

The patient was a 27-yearold Hispanic male who previously had FUT (strip) in 2005 and then underwent an FUE procedure of 1,000 grafts in 2016 with roboticassisted surgery using an 18g punch (Figure 1). One year after robotic-assisted FUE, the patient consented to the removal of two of the hypopigmented dots that resulted from his surgery. Two hypopigmented circular

areas consistent with the FUE harvesting sites were marked

and then cleansed with betadine and alcohol. The areas were anesthetized with 1% xylocaine with epinephrine 1:100,000.

Using a 2mm punch, the specimens were excised and placed in formalin. The tissue was then sent to a dermatopathologist. The tissue was stained with H&E (hematoxylin and eosin), Trichrome, Reticulin, and Elastin stains. The results indicated that the tissue obtained was consistent with scar tissue (Figure 2).

DISCUSSION

This case report should serve to demonstrate that the wounds created by the FUE process result in scars. These scars are particularly evident when the entire follicular unit is removed, as they are void of hair. They are the "pesky" dots we observe after FUE healing takes place.

FIGURE 2. Histology: Note the presence of dense pink (organizing) collagen juxtaposed to and above the follicle and punctuated by an arcuate array of capillaries. The latter features in particular, the location and vessel density should alert the microscopist to the possibility of a scar associated with a previous procedure (transplant) in lieu of the typical intrafollicular stelae that accompanies catagen/telogen follicles or broad interfollicular scarring seen in conjunction with scarring alopecia.



As the surgeon harvests subsequent grafts and some grafts are obtained adjacent to one another, there is the creation of prominent visible scarring due to the increased area of bald skin. As more grafts are removed, there may be thinning of the donor area. As thousands of FUE grafts are harvested, one can reason and calculate that the area of scarring from FUE could easily exceed that of a linear scar.

Some critics of the pathology report may point to the use of the robot that, at that time, was using an 18g needle, and argue that the robotic-assisted surgery made bigger defects than a surgeon would using a 0.9mm or smaller punch. However, we would point out that we have observed the same scar defects in patients who have undergone FUE with smaller punches. It should be emphasized that it is not unusual for the diameter of FUE scars to be larger than the original punch diameter. We attribute this to a lack of contractile forces on the tissue when a great many punches are made in the donor area.

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Medical and Professional Ethics

Gregory Williams, MBBS, FISHRS | London, England, UK | dr.greg@farjo.com Spotlight on Cosmetic vs Non-Cosmetic Hair Transplant Surgery

For the purpose of this article, the words "cosmetic" and "aesthetic" will be used interchangeably.

At the 26th World Congress in Hollywood, the results were presented of a poll that was sent to all European ISHRS members regarding whether there were laws or medical guidance in their country clarifying whether Strip Follicular Unit Transplantation (Strip FUT) and Follicular Unit Excision (FUE) are considered to be surgical procedures and who is allowed to perform them-only doctors, only doctors from certain training backgrounds, or other professionals. If it was thought that neither laws nor medical guidance existed, then opinion was sought. Forty-three responses were received from 16 of the 34 European CEN member countries. Since not only was there a great deal of variation in the responses between countries but also opposing answers from respondents within individual countries, it is clear that there is widespread lack of clarity by ISHRS members regarding current European regulation. This poll was devised and distributed to help inform a debate on whether hair transplantation should be included in a European standard for surgical or non-surgical aesthetic procedures.

However, in last month's editor's note to this column (Vol. 28, No. 5; p. 193), Dr. Andreas Finner raised the valid point about whether hair transplant surgery should be considered a cosmetic procedure at all.

For example, Medscape defines androgenetic (or pattern) alopecia as "a genetically determined disorder characterized by the gradual conversion of terminal hairs into indeterminate, and finally into vellus, hairs. It is an extremely common disease that affects men and women."¹ The International Classification of Diseases (ICD) 2018-2019 American version ICD-10-CM has a diagnosis code for androgenetic alopecia that is L64.9, and a back reference to L00-L99 that is disease of the skin and appendages.²

So is hair transplant surgery really a cosmetic surgical procedure if it is used to treat a disease? Cosmetic surgery is defined in England by the Royal College of Surgeons as "an operation, or invasive medical procedure, to alter one's physical appearance for aesthetic rather than medical reasons."³ Shouldn't treating a disease be considered a medical reason for doing surgery?

The American Society of Plastic Surgeons lists hair transplant surgery as a cosmetic procedure,⁴ however, the American College of Surgery states that "the goal of the cosmetic surgeon is to make changes in body shape or rejuvenate areas that have been affected by aging."⁵ Androgentic alopecia is not an intrinsic part of aging. Yes, it becomes more common with age, but it is not an inevitable part of



Do I consider androgenetic alopecia to be a medical condition rather than an aesthetic one, and if so, do I therefore consider hair transplant surgery for male pattern hair loss to be a noncosmetic surgical procedure?

Are there hair loss conditions where I am uncertain whether surgical hair restoration is cosmetic or non-cosmetic?

aging like wrinkles and sagging skin. Cancers become more common with increased age, but one would not say they are part of aging, and so in the same way, losing hair from androgenetic alopecia is not part of aging. By the definition above, if hair transplant surgery is not used to rejuvenate areas that have been affected by aging, is it really the remit of a cosmetic surgeon?

It is accepted that androgenetic alopecia is a progressive condition that is genetically determined and is mediated by male hormones, hence the name. This is different from male beard hypotrichosis that, although it is genetically determined and hormonally mediated, is not progressive and could hardly be considered a disease. A congenital high hairline is also genetically determined but not progressive and is not a medical condition. It is hard to justify hair transplant surgery to thicken low density, patchy beards or to lower hairlines as anything other than a truly cosmetic procedure.

What then about traction alopecia from weaves, braids, tight hairstyles, or turban wearing in Sikh men? Should treating these with hair transplant surgery be considered cosmetic or non-cosmetic?

What about treating hair loss from trichotillomania, which is clearly a psychological condition?

If you agree that hair transplant surgery for compulsive hair pulling is not a cosmetic procedure, then what about overplucked eyebrows, which is a form of hair pulling but not usually from an obsessive-compulsive disorder?

There is likely to be little argument from those within the field that hair restoration surgery to areas of secondary scarring alopecias from burns, trauma, and surgery is a reconstructive and not a cosmetic procedure.

So why is any of this relevant?

In some countries where there are publicly funded health services, some treatments are not covered. In the UK, for example, cosmetic surgery is not publicly funded and hair transplantation for all indications, including burn scar alopecia, is generally considered to be a cosmetic procedure so is not funded.

Also, in some countries, a tax is added to surgical procedures that are considered cosmetic or aesthetic in nature. In the current climate of health tourism with patients traveling abroad to seek cheap hair transplants where standards and safety may be suboptimal, if additional costs are applied to reputable hair transplant clinic procedures through taxation, then this trend is likely to increase.

The World Health Organization defines health as a "state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity."⁶

If someone is distressed by their hair loss, then this can cause them significant psychological morbidity that is treatable. In restoring hair loss, a doctor is treating them to restore their mental health regardless of whether the procedure is regarded as cosmetic or non-cosmetic.

In those countries where, for certain conditions, hair restoration could be provided by public funding, this should not be prevented by a misconception that it is a cosmetic procedure.

In regions where patients have to pay for hair restoration, it should not cost them more because there is a misconception that it is a cosmetic procedure and therefore attracts taxation.

In several areas where there is controversy, the ISHRS has issued position statements that can aid its international members with local regulation and legislation and also help to guide public awareness. Perhaps declaring in which circumstances hair transplant surgery should be considered a cosmetic procedure is also an area that merits debate in order to gain consensus.

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New ISHRS Website Offers Improved Design, Functionality

Sharon A. Keene, MD, FISHRS, Chair, ISHRS Communications & Public Education Committee *Tucson, Arizona, USA*; Ken Washenik, MD, PhD, FISHRS, Vice Chair, Communications & Public Education Committee *Beverly Hills, California, USA*



The ISHRS recently launched its new and improved website. Designed to propel the ISHRS into position as the most highly recognized source of information for consumers seeking advice on hair loss treatments, our new site also serves as the most comprehensive resource for hair restoration surgeons—bolstered by a fresh look and several novel and improved functions to make navigation easier and faster.

Among the new and improved functions are the following:

- Mobile-friendly
- More intuitive "Find a Doctor" feature
- Improved navigation
- Cleaner design and more industry-accurate imagery
- More robust Member's Only portal
- Improved organization of patient information and resources

The improved "Find a Doctor" search function helps consumers find ISHRS members in their area. Now, the more intuitive feature allows consumers to select from three different tabs to find a doctor: Find by Location, Advanced Search (which includes the ability to search by procedures performed), and Find by Country. Another important component of this section is content to help consumers make an informed decision when choosing a qualified hair restoration surgeon.

Members will also find a more robust Member's Only portal with up-to-date information on meeting news and educational resources, such as poster and video presentations. This newly designed web page includes a section of recent posts, an enhanced search function, and links to all ISHRS social media platforms.

Consumers looking for patient information and resources will find them here as the new website includes more organized, easier-to-find materials. From Patient Stories and Frequently Asked Questions to a Consumer Advocacy section that warns consumers about false advertising claims and the dangers of unlicensed technicians performing hair restoration surgery, consumers will find comprehensive and timely information on hair loss and hair restoration treatments.



Through increased marketing outreach in the coming months, we will be driving even more traffic to the ISHRS website and will share analytics with you in member communication vehicles.

We hope you will enjoy the new site!





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BLACK MARKET AWARENESS CAMPAIGN UPDATE

Dear Colleagues,

We are facing an ever present and growing problem with unlicensed and unregulated activity in the field of hair restoration surgery. The ISHRS is continuing efforts to enhance the **Black Market Awareness Campaign** to educate patients about the risks of these practices and how to identify them while maintaining a positive message for those seeking treatment for hair loss. At the meeting in Hollywood, a survey of ISHRS members revealed the majority supported the efforts of educating the public about the fraudulent and illegal activities that occur. Based on member input, we are exploring different alternatives for the logo. Many doctors and many in the community seem to understand and support the terminology "black market" to describe the harmful practices involved with technicians, in many cases unsupervised, to perform surgery. As this campaign evolves, we are open to new and different ideas and slogans aimed at better educating the public on this issue, so we encourage you to share your ideas.

Here is a glimpse of what we have planned:

- 1. We are creating international landing pages on the ISHRS website. We have added the ability to create separate international pages on our website to focus on the issue in your native language. We are currently developing the content so you can link directly to it.
- 2. We are working with several marketing groups to determine better strategies to achieve our goal.
- 3. We are looking to develop relationships with academic training centers to spread the word and educate young doctors about how to properly perform Hair Restoration Surgery.
- 4. We are looking to improve our social media posts to spread the message in a more focused manner.
- 5. We are planning to distribute simple tools and a template PowerPoint presentation to ISHRS members so they can lecture on and talk about the issue as well as hyperlink to the ISHRS website.
- 6. We are requesting that you submit more patient stories and testimonials—especially in your native language—for the international landing pages.
- 7. We are considering future dates to organize and promote the International Hair Transplant Hero Day and Operation Restore where all ISHRS doctors will be operating on patients victimized by these types of clinics. These same patients have been courageous enough to share their story so that other patients avoid similar harm.
- 8. We are looking for the best means by which to spread this message internationally. The ISHRS does not have the budget to compete with many of the illegal clinics marketing machines. However, we all agree we must find the most efficient and cost effective ways to get out our message INTERNATIONALLY, which is why #9 is so important.
- 9. We are requesting financial donations to supplement the ISHRS's Black Market Awareness Campaign worldwide. We are asking for your donations—\$500, \$1,000, \$2000, or \$5,000—less or more, any amount helps. During the 2019 Membership Dues payment process, you can easily donate along with your dues. Simply check the box that notes the donation should be used specifically for the Black Market Awareness Campaign.

Without your help our efforts are limited, but with your help, our efforts are limitless.

Sincerely, ISHRS Board of Governors & Ad Hoc Committee on Issues Pertaining to the Unlicensed Practice of Medicine

Letters to the Editors

Re: Damkerng Pathomvanich's Review of the 6th AAHRS Annual Scientific Meeting and 3rd CAHRS Annual Congress (*Hair Transplant Forum Int'l.* 2018; 28(4):162)

Walter P. Unger, MD New York, New York, USA

I believe Dr. Pathomvanich is one of the finest and most knowledgeable hair restoration surgeons in the world, but while attending my introductory lecture at the above meeting, he somehow misunderstood arguably the two most important things I wanted to convey to the audience, and unfortunately highlighted those misunderstandings in his review for the *Forum*. The first was in regard to FUE harvesting and the second to the creation of recipient area incision sites:

 In his summary, he wrote that I had suggested that FUE "had better wound healing and meets the public demand for minimally invasive surgery." I actually said "minimal incision surgery," and, unfortunately, native English speaking physicians could point out that there may be an important difference between the words "incision" and "invasive" in that the latter may also have a component of incision depth, which could increase incision length. (More about that below.)

In my lecture, I had tried to be fair by listing some of the well-known advantages of FUE, including that post-surgical discomfort was usually less than that of Strip Harvesting, but I emphasized that far more importantly, the often repeated claim of "minimal incision surgery" for FUE was mathematically absurd and grossly misleading. The attached Figure 1 was presented; it showed, for example, that given comparable surgeon skill, the total incision length of 2,000 FUE recipient sites created by a 1mm diameter trephine was 628cm, while a 24cm-long Strip excision could often produce the same number of grafts, while typically creating a total incision length of only approximately 48cm (depending on the width of the strip and its tapering ends and surgical technique, especially the use of the Pathomvanich "skin hook" or the "Haber spreader" techniques, which in Strip Harvesting can equalize any incision depth difference between FUE and Strip excision and thereby in this respect can eliminate any difference between the words "incision" (mine) and "invasive" (Pathomvanich's) noted above). Smaller diameter FUE punches would result in somewhat smaller differences between FUE and Strip total incision lengths, but would never remotely bridge that enormous difference shown in Figure 1. As U.S. Senator Patrick Moynihan once said: "We are all entitled to our own opinions but not to our own facts."

2. Damkerng understood me correctly when I said that "the recipient incision angle (and direction) should follow the angle (and direction) of existing hair," but then unfortunately he went on to write that I also said that "hair anterior to the vertex transition point should point forward with the angle becoming more acute FIGURE 1.

Which is more "Minimal Incision Surgery"?

	DONOR		
	Punch (2,000 1mm diameter)	Strip (24cm strip length)	
Total Incision Length	2πr × 2,000 sites (2 × 3.14 × 0.5) × 2,000 = 628cm	24cm × 2 (sides) = 48 cm	
Area of scar	$ \begin{aligned} &\pi r^2 \times 2,000 \\ &(3.14)(0.5^2) \times 2,000 = 1,750 mm^2 \\ &\text{or } 17.5 cm^2 \end{aligned} $	$24 \text{cm} \times 0.1 \text{cm} \text{ (at most)}$ $= 2.4 \text{cm}^2$	

as it moves anterior. At the hairline the hair should lie horizontal to the ground, regardless of the slope of the forehead." The latter was actually shown in Figure 2 and was in fact created by Robert Bernstein and Bill Rassman for an article in *Dermatologic Surgery* in 1997 and was included in a more recent chapter Dr. Bernstein wrote.

FIGURE 2. From Bernstein, R.M. Surgery of the Skin: Procedural Dermatology, 3e, 3rd ed. 2015; Chapter 30, p. 495.



Hair direction

"Hair should be placed into the scalp at the angle at which it originally grew, not in the direction that it is to be groomed......In general, hair anterior to the vertex transition point should point forward, with the angle becoming more acute as it reaches the anterior hairline – where it is essentially horizontal to the ground – regardless of the slope of the forehead."

I agreed with their advice if the recipient area was alopecic or nearly alopecic, but I presented the slide only for the purpose of strongly disagreeing with their advice IF there was a significant amount of persisting original hair still in the recipient area-which in my practice is very often the case but I believe is far less common in theirs-and recipient area incisions were angled and directed differently than those original hairs. In the latter instances, following their advice would result in very high hair transection rates and therefore would cause substantial but mislabeled "shock loss" and death or miniaturized of the transected hairs. The authors carry enormous respect and credibility in our field (that includes this author), and I have always worried that not making the above more clear might result in less experienced operators following their advice for all patients regardless of how much original recipient area hair persisted there.

As noted earlier, I feel deeply about the importance of both of the above surgical factors and was using my lecture to make those views known to the audience, yet both of the above misunderstandings were probably due to the very long length of my lecture that was being given in English and probably too quickly for a mostly non-native-English-speaking audience. I apologize for having confused highly knowledgeable hair restoration surgery surgeons as well as any relatively new practitioners attending my lecture, but hopefully this commentary will keep that from happening to the readers of the *Forum*.

Re: Use of unlicensed practitioners

Roy B. Stoller, DO New York, New York, USA

The recent column on the use of unlicensed practitioners in hair restoration procedures by Dr. Gregory Williams is timely (Medical & Professional Ethics: Spotlight on Surgery by Unlicensed Practitioners. *Hair Transplant Forum Int'l.* 2018; 28(5):192-193). In the United States, every healthcare professional group is petitioning for rights and privileges to practice medicine. In Louisiana, a psychologist taking on-line pharmacology courses is now able to prescribe psychotropics. Psychologists receive no medical training. None! Dr. Williams benevolently refers to these unlicensed technicians performing surgery as "unlicensed practitioners." In years past, we would have called them criminals and the physicians supporting them, accomplices. Hair restoration surgeons are contributing to this frenzy every time one of us allows unlicensed technicians to extract FUE grafts.

But what about the acceptance of licensed mid-level providers, especially physician assistants (PAs), performing surgery and diagnosing patients? PAs attend two years of an abridged medical school curriculum. On average, they receive 2,000 clinically supervised hours. They work directly with a physician who is supposed to oversee them. In contrast, the average American physician attends 4 years of medical school and has an estimated 12,000-16,000 supervised clinical hours before being allowed to see patients independently.

Over the years, many physicians have become lax in overseeing PAs. Although they are licensed healthcare professionals, their training is more algorithmic. But not all patient care—and especially decisions made during a surgical procedure—follow an algorithm. Physicians practice deductively. At times I have had to change my anticipated plan during surgery as the case progressed. As more physicians believe they can "train" mid-levels to perform surgery because of technicalities in the governing laws, we are creating a group of PAs that believe they are equal to physicians. PAs are now fighting for a change in their title from Physician Assistant to Physician Associate. They argue that they do not assist us, but practice medicine alongside of physicians. They claim specializations without anything more than the master's degree they initially received and on-the-job training.

Recently, legislation has been introduced to allow PAs to practice without any physician supervision or oversight in some states. They are creating an on-line doctorate program, the Doctor of Medical Science (DMS), which does not include any additional clinical hours. The result will be a Physician Associate with the "Dr." title who has no legal requirement for a physician's supervision. They will argue that in the past physicians were attending to another patient or performing a procedure elsewhere instead of supervising them. Besides having their own clinics, they will change the way medicine is practiced. The algorithmic paradigm "just get it done" will prevail. It will lower the standards of healthcare for all. In the end, we will be allowing the co-pilot to fly the plane. Alone!

Conclusion

All mid-level and non-physician scope of practice expansion is occurring through legislation (not education). Many elected officials are impressed by these healthcare workers but don't realize that their education and experience pales to that of a physician. What can we do?

- 1. In the U.S., join state medical societies. Internationally, physicians should join their organized medical societies that represent them on a legislative level.
- 2. The ISHRS should consider formulating political committees divided by state and country. In the U.S., we have focused too much on national organizations such as the AMA when the real fight is occurring at the state level.
- Consider joining physician grassroots organizations. Two in particular have been instrumental is alerting physicians to upcoming legislative issues. They organize physicians to write and call their legislators and have actually stopped bills from passing that would have expanded mid-levels' practice authority. They are Physicians for Patient Protection (www. physiciansforpatientprotection.org) and Physicians for Patients (www.physiciansforpatients.org).



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*In a clinical study by Dr. Harris in over 150 patients and more than 100,000 harvested grafts. General user transection rates may differ.

VFW!

Review of the 26th World Congress of the ISHRS Hollywood, California • October 10-14, 2018

Rachael Kay, MBChB | *Manchester, UK* | rach.kay80@gmail.com *Contributing authors:* Edward A.M. Ball, BMBS, DPD, MRCS | *Portsmouth, UK*; Gregory Williams, MBBS, FISHRS | *London*; Christopher M. D'Souza, MBBS | *London*

This year's meeting took place at the Loew's Hotel in Hollywood, California. The hotel was located close to many famous Hollywood attractions, including the Hollywood Walk of Fame and the Chinese Theatre.

The ABHRS exam was scheduled for Tuesday, October 9, with the ABHRS exam board meeting the day before for calibration session.

WEDNESDAY/OCTOBER 10

The following courses ran simultaneously on Wednesday.

Advanced Board Review Course

Chaired by Ali Emre Karadeniz and Daniel McGrath, this course provided an opportunity for more experienced surgeons to refresh their knowledge, whilst also serving as an



educational event for those considering taking the ABHRS exam in the future.

Basics Course

This course was designed to provide an all-round introduction to hair transplant surgery. It was chaired by Steven Gabel and co-chaired by M. Humayun Mohmand and Mauro Speranzini, and was comprised of a combination of didactic lectures, hands-on workstations, and panel discussions. Practical

hypotension. Russell Knud-

following the rule of thirds

is a considerable variation

for hairline design, there

in the middle third, and

third measurement as a

hairline height.

he tends to use the lower

guide for the upper third/

sen reflected that when

Dan McGrath

tips included Jerry Cooley's dosing regimen for oral minoxidil—using one-quarter of a 2.5mg tablet (0.625mg) daily to minimise side effects such as facial hair growth and postural



Basics Course

Mini Courses

Mini courses included Trichoscopy, SMP, Making Decisions in Difficult Cases, Manual and Motorised FUE, and Decision Making: FUE vs FUT vs Combination.

The Trichoscopy course, with more than 100 attendees, was co-directed by Antonella Tosti and Ratchathorn Panchaprateep with faculty members Alessandra Juliano and Nina Otberg. Lectures covered the features of magnified normal and abnormal scalp and hair follicles, as well as the anatomical, morphological, and physiological factors that influence hair follicle appearance and growth. The course focused on common dermatological conditions such as lichen planopilaris, alopecia areata, seborrheic dermatitis, and psoriasis.

Every hair transplant surgeon should own and be competent using a device that provides a magnified view of the scalp and hair. Recognising hair follicle and scalp abnormal-

ities is critical for hair transplant surgeons in order to avoid operating on inappropriate patients.

Surgical Assistants

The Surgical Assistants Core Skills Workshop was led by the surgical assistants vice chair, Deanne Pawlak. It was designed to teach basic skills to those new to assisting, and it included stations covering slivering tissue, graft dissection, graft placement, graft removal after FUE harvesting, and continued learning. This was followed by the Surgical

Assistants Program, led by Surgical Assistants chair Aileen Ullrich and co-chaired by Samuel Lam. This course was designed to "inspire excellence," and did so by delivering lectures from speakers from ten different countries.



2018

WORLD

CONGRESS

OCTOBER 10-14

HOLLYWOOD

www.ISHRS.org

Aileen Ullrich, Surgical Assistants Program

THURSDAY/OCTOBER 11

For those new to hair restoration surgery, the morning Newcomers Breakfast encouraged mentorship and collegiality.

The General Session opened with a warm welcome to Hollywood and program chair, Parsa Mohebi, reflected on his personal 10-year evolutionary journey, starting with his invaluable mentorship with William Rassman and culminating with the exciting future we are facing as hair restoration surgeons. We were reminded that efficiency is key; simultaneous graft extraction and placement can reduce surgery time significantly. The Trivellini device was noted as his preferred FUE tool. An essential take-home message reinforced the importance of moving with the times and keeping up with changes within the field and acknowledging that our patients are increasingly more educated and well-informed.

In his president's message, Sungjoo (Tommy) Hwang thanked everyone for coming. The audience was reminded that the term Follicular Unit "Extraction" has been replaced with "Excision." Dr. Hwang introduced the Black Market Campaign, meant to educate the public about non-ethical and unlicensed hair transplant providers, and he also reminded us that together nothing is impossible.

Dr. Rassman delivered an inspiring talk on becoming an

> PAGE 240



Newcomers Program

being sufficiently brave not to pursue those that are failing. He offered many inspiring quotes, including President Franklin D. Roosevelt's, "Happiness lies in the joy of achievement and the thrill of creative effort."

Jim Harris, Robert True, and Bradley Wolf postulated "What is next?" across the field of hair restoration surgery. Evaluating graft survival, utilising new technologies, ethical considerations, reporting illegal practices, and how to sell PRP were discussed. Informing the ISHRS when unlicensed personnel are performing surgery is required. As PRP treatments are becoming increasingly popular, it is our duty as clinicians to ethically educate our patients to ensure they



make an informed decision. This topic provoked a lively discussion!

entrepreneur in hair transplantation along

with his many other

holds several dozen

fields, and he mused

that nothing prepares

you for this business,

noting the importance

of filtering ideas and

patents in multiple

business ventures. He

Apostolos Pappas gave the Norwood Lecture and spoke about the relationship between lipid pathways for the health and development of the hair follicle. It was noted that it is a monounsaturated fat that in part is responsible for the integrity of the hair follicle. Since different types of fatty acids are pivotal in hair growth,

Apostolos Pappas

can we optimise lipid absorption by incorporating probiotics into the diet?

Paco Jimenez presented the new anatomical model of the human scalp follicular unit, where the eccrine sweat glands are located close to the hair follicle. Isolating this gland may enable future research into the function of such glands. The "chubbier" graft may be more likely to include the eccrine gland, which is embedded in the dermal adipose tissue, since it is not immediately visible without staining. Their role is unclear. Dr. Jimenez later delivered a promising talk on the role of the transplanted hair follicle in thermal injury. Unusual patterns of hair growth were observed. Transplanting into psoriasis may cause resolution; Dr. Mohebi presented many patients with active chronic psoriasis that cleared histologically following hair transplantation.

Dr. Sungin Cho studied the influence of gender, age, and pattern alopecia on donor hair shaft diameter and discussed how considering this pre-operatively can improve transplant outcome. When measuring donor hair diameter, terminal hairs range from fine <65nm to medium >65nm, and coarse >80nm.

The FUE advancement committee led by Dr. Harris reflected how the committee has been working on new FUE guidelines and encouraged new physicians to join. The session was orientated around graft survival and preparation in FUE.

Conradin von Albertini reminded us how minimal punch depth reduces transection. Different devices and punches

were reviewed as was the sharp/dull/hybrid evolution. Solving the fundamental FUE dilemma of minimising scarring with small diameter punches while harvesting healthy grafts is the end goal. Newer systems can take us closer to these goals; optimizing the punch engagement with pedals/ reactive systems can reduce transection. Long hair FUE is now possible using the oscillating mode on some devices. Prioritising the patient and not operating when dermatological issues arise pre-operatively was also discussed.

Although it is accepted that there is potential for follicles to regrow if transected, they often may not. Akaki Tsilosani referred to his study 15 years ago supporting this theory.

It was mentioned that there is less transection during a second procedure when the first procedure was FUT and not FUE.

Kapil Dua discussed FUE revision surgery can be challenging due to local perifollicular fibrosis and angle changes affecting all of the donor, which increases the total graft transection rate. This is less of an issue post-FUT as changes are more localised. Gholamali Abbasi mentioned that buried grafts are more likely in supra-auricular and nuchal areas. Too much tumescence in FUE can increase total graft transection as follicles can become too rigid. It is important to apply only minimal axial force after the skin has been punctured.

David Josephitis reported his study findings, looking at three cases of graft survival in patients who underwent 1,000 strip and 1,000 FUE grafts side-by-side in the frontal scalp. None of the men were taking medications. At 1-year post-op, FUE/FUT graft survival was equal, which included patient's objective assessment and Hair Mass Index.

Walter Krugluger spoke about how cellular stress, ischaemic/traumatic, induces altered protein transcription. It was found that there was a reversible change in the expression of cellular stress related genes on the hair follicle. Studies showed no difference with FUT/ FUE grafts *in vitro* (i.e., one type of graft did not express more significant change in the expression of stress related genes).

Paul Rose reviewed his study that looked at anti-apoptotic gene BCL-2 to see if holding solutions might influence the degree of apoptotic activity and thereby enhance graft survival. Higher levels of anti-apoptotic genes were noted when using HypoThermosol + ATP and in HypoThermosol alone (less so). These markers were more relevant for the first few hours of graft storage. Saline showed the lowest level of anti-apoptotic activity. Whether having anti-apoptosis gene markers does increase survival will be a subject for future studies.



Graft Survival & Graft Prep Panel

Seema Garg reduced the out-of-body time for grafts to under 1 hour, by using a buddy extraction and implantation technique simultaneously, or two doctors extracting together. Excision is performed only for an hour at a time. His grafts are stored in plasma left over from PRP, and there is a "no touch to root" implantation policy.

Gorana Kuka Epstein discussed autologous fat transfer from liposuction into the recipient area 3 months prior to transplanting into an area of scarring alopecia, which induces angiogenesis. Interesting cases of paediatric eyebrow transplant were demonstrated using this technique. It was noted to ensure the disease has been stable for the preceding 2 years. However, lichen planopilaris (LPP) may be triggered by surgery.



Lecturing on diagnostic methods, Antonella Tosti and Carolyn Goh, our featured guest speakers, each delivered excellent lectures on the value of

Diagnostics Methods Panel

trichoscopy pre-transplant and identifying conditions that mimic AGA. Examining the frontal and occipital areas is essential pre-operatively. Scarring alopecias can be diagnosed by the absence of ostia. Arborising vessels can be seen in seborrhoeic dermatitis. Red dots may be seen in early DLE, which may provide an opportunity to intervene and prevent scarring. Enlarged and tortuous vessels can represent connective tissue disease. Red dots may also be present in psoriasis. Broken hairs and vellow dots are seen in alopecia areata. Trichoscopy can be useful to differentiate between AGA and telogen effluvium. There will be no miniaturisation evident in TE as all of the hair shafts will be of a similar diameter. In early AGA, more than 20% of hairs will be of a variable thickness. Patterned LPP can present with a mixture of miniaturised hairs with perifollicular scale and strong terminal hairs. Differential diagnosis of AGA with bitemporal recession may rarely include Sisaphio pattern of alopecia areata. (This often has occipital involvement, too.) Dr. Panchaprateep reinforced the use of dermoscopy as an essential diagnostic tool helping us to improve patient selection. Leila Bloch proposed a new method of imaging analysis to measure hair growth based on the principle of calculating the square centimeter of the bald area.

The body hair transplantation session followed, moderated by Jeff Epstein. Akhilendra Singh emphasised the strategic use of beard and body hair as donor hair, particularly in patients with Norwood VI-VII loss who may be able to undergo a "mega session." The hair, eyelash, and eyebrow transplantation session showed some impressive correction cases. Jufang Zhang uses post-auricular donor hair for eyelash transplantation. Consideration should be given to treating the donor area for 6 weeks prior to surgery with 5% minoxidil; when using body hair, shaving the donor 7-10 days before might enable easier identification of anagen hairs. Sebastian Yriart shared his experience in complex eyebrow transplantation cases.

FRIDAY/OCTOBER 12, 2018

Friday started with the Breakfast with the Experts round table session where 28 tables were positioned in the main ballroom and each delegate was free to sit and listen to pearls and tips about different subjects from experts of their choice. It was an invaluable opportunity to ask questions and learn

from colleagues and experts alike.

Friday's opening general session. moderated by Robert Bernstein, allowed the panel to share ideas and experience on the how to best create a natural hairline that might transcend



Breakfast with the Experts

decades and appear natural in the future. The strategic and artistic placement of grafts for optimal, natural aesthetic results was discussed. Think about how your patient will be wearing their hair post-operatively, where will the part line be and how this might influence variable placement density, particularly if graft numbers are suboptimal. Prioritising facial framing at the temporo-parietal areas is essential. Transplanting into the crown must not end abruptly; instead, it must be graduated into surrounding existing hair. It was highlighted that sometimes the "irregularly irregular" peaks on the frontal hairline can look like isolated plugs if they are too dense. Patrick Mwamba suggested we let patients create their dream hairline and then modify it using our learned principles. He reminded us that beauty is subjective. It is imperative the patient is happy with the hairline pre-operatively. Anil Garg discussed his technique for locating where the hairline should be.

Damkerng Pathomvanich spoke about the use of dilators for placing grafts to minimise trauma and reduce handling. New devices are in development that will expedite placing, such as multi-graft loaders and slit making devices. Excessive trimming pre-implanter loading can cause bulge injury and dehydration. Jean Devroye has created an implanting device that can be loaded with multiple grafts improving speed and efficiency.

The FUE instrumentation session followed, moderated by Mario Marzola. It showcased a number of devices and approaches to FUE surgery. The video presentations were exceptional: both educational and entertaining. Luis Roberto Trivellini reviewed how the punch edge interacts with the surrounding tissue. Pearls included stretching the skin to

make the graft more perpendicular and easier to extract. Blunt punches may reduce transection by up to 45%. The interesting concept of a surgeon's dominant hand influencing the transection rates on each side was raised. Dr. Yriart reviewed the Trivellini multiphasic device, which avoids axial displacement of the punch using a combination of oscillation, rotation, and suction. Dr. Dua showed his video of non-shaven FUE enabling a visible cosmetic outcome immediately post-operatively.



Marsheila DeVan

Marsheila DeVan, a featured guest speaker, delivered an

▶ PAGE 242

engaging lecture on the importance of communication and developing individual presentation skills using posture, vocal content, and eye contact, which can engage the audience more readily.

Workshops

Friday afternoon began with a wide variety of workshops covering a vast subject range enabling delegates to pursue areas of particular interest. PRP and FUE donor area limitations were two of the workshops available. Carlos Puig had spoke earlier in the conference about the ISHRS PRP committee, which included a summary of literature they reviewed. There will be a proposed protocol published in the near future.

The PRP workshop was extremely well attended. Focusing on individual approaches enabled a comparison between current treatment strategies currently yielding positive results. Open and honest communication with patients was a common theme throughout, with particular emphasis on the timelines of expected changes and post-treatment statistics (e.g., hair count and hair diameter). Dr. Unger uses the Angel System with simultaneous micro-needling, massage, and ACell. The higher percentage of miniaturised hairs, the more effective the response. Dr. Cooley's exciting approach with the Regenera System integrates stem cells, PRP, and ACell, giving earlier results in some instances.

The workshop "Donor area limits in FUE: taking it too far" was excellent with an emphasis on knowing when to be cautious with FUE harvesting by calculating the baseline donor follicular unit density. Planning excision density appropriately (depending on hair characteristics and desired styling length) is then possible. Ensuring adequate residual donor follicular unit density is imperative in preventing an unnatural donor zone appearance. Tips were given on how to deal with repeat FUE cases with decreased donor density and examples of donor overharvesting were shown.

The Marketing workshop, directed by Sam Lam, covered social media and marketing, and delivered marketing advice focusing on using the internet search engines and social media to build your profile. Essential advice included being active on social media rather than passive, using Google reviews (audio, visual, and written), and solving a problem as a concept for an advertising strategy rather than selling a product.

Afternoon General Session



Following the workshops, the general session resumed with Difficult and Challenging Cases. Discussion of post-operative complications with both the patient and the surgical team should include a description of events and what to expect in the short- and long-term futures. Proactive implementation of a post-operative care plan can have a fundamentally positive effect on the situation and help to restore patient confidence.

Xingdong Li

In terms of medical issues, it was

suggested that should the patient's pulse exceed 120, a blood pressure check should be performed. Bradycardia and hypotension might suggest an imminent vasovagal episode. Beta blockers may be continued if they are beta 1 selective. Xingdong Li presented impressive results from transplanting into cicatricial alopecia at 1-year post-op. Felix Popescu followed with an extraordinary presentation. Multiple victims of the Colectiv nightclub fire in 2015, in Romania, had successful corrective surgery. Dr. Popescu has performed a staggering 100 FUE pro-bono sessions and his talk was truly inspiring, reminding us that the skills we have can make an enormous difference in our patients' lives.

Dr. Devroye recounted an interesting repair case of beard transplantation where 2- to 6-hair grafts were placed into the beard by a previous doctor. He removed, divided, then replaced them at the correct angles; some of the grafts went back into the donor area!

A severe post-operative eczema herpeticum case that required intravenous acyclovir highlighted the necessity for prophylactic acyclovir for those vulnerable to herpes infection.

The Morbidity and Mortality meeting organised by Konstantinos Anastassakis and Marco Barusco provided an opportunity for physicians to present complications and learn from them.

SATURDAY/OCTOBER 12, 2018

Featured Guest speaker Mario Lacouture reported that up to 30% of patients may develop permanent alopecia following cancer treatment with radiotherapy or chemotherapy. Hairdex scores have shown relatively mild chemotherapy-induced alopecia can affect quality of life as significantly as severe androgenetic alopecia. In those



Mario Lacouture

patients who may be suitable for surgery, a 6-month trial of treatment with minoxidil 5%, with spironolactone \pm PRP is advisable; 71% of pre-menopausal women have hair loss with tamoxifen.

Ratchathorn Panchaprateep compared different treatments for female pattern hair loss (FPHL), concluding (in terms of target area hair count) minoxidil 5% was the most effective, followed by LLLT, PRP, and minoxidil 3%, respectively. Shadi Zari discussed the use of non-surgical therapies in addition to hair transplant surgery and how this can optimise the outcome.

Ken Washenik moderated an exciting session on future medical therapy for androgenetic alopecia, evaluating many emerging therapies and reflecting on current research. Ed Epstein spoke about topical finasteride. Studies have shown topical finasteride may lower scalp DHT similarly to oral finasteride with fewer systemic side effects. There may be greater efficacy with topical finasteride and minoxidil together. Dr. Vekris's study suggested that we may be able to predict a patient's response to minoxidil by looking at the SULTT1A gene. Clascoterone, a synthetic androgen receptor antagonist, has a favourable safety profile. The role of prostaglandin analogues and inhibitors were reviewed; prostaglandin D2 is in higher concentrations within the balding areas. PG D2 has an inhibitory effect on hair growth in mice and so it has been postulated DP2 inhibitors (currently in use as rhinitis treatments) could have future clinical



applications in hair loss. Jak inhibitors (tofacitinib, ruxolitinib) conventionally used to treat rheumatoid arthritis and alopecia areata are thought to induce human dermal papillae and hair follicle activity. Topical trials

General Session

are in evolution that will have a reduced side effect profile.

Managing the donor area including techniques used to estimate donor density, avoiding overharvesting, and specific patterns of FUE were reviewed during the next session, moderated by Paul McAndrews. The baldness aggressiveness index (BAI) was introduced by Russell Knudsen earlier in the conference. Lower scores suggest future donor reserves will be more likely to be adequate. Higher scores should prompt us to consider FUT first. Homogenisation of excision sites is important in order to avoid a thick band between harvested donor and existing hair in the crown/ upper occipital areas.

The ethical and financial implications of using hair outside of the "safe zone" were discussed along with whether or not we should be charging the same prices for these grafts. Accurately assessing the lifetime harvest potential was discussed by Dr. Devroye and the relevance this has for planning a surgical strategy for each individual patient. Documenting pre- and post-operative density in the occipital area should be common practice. Kuniyoshi Yagyu showed a method to evaluate the excision density of previous procedures. He suggests the lifetime excision density should be no more than 40% of the pre-operative baseline density. Should we be adding that SMP may be required in the future to our consent form?

Interfollicular distance reduces significantly with increasing depth, which has a bearing on reducing hidden transection rates. Dr. Harris discussed his rosette pattern of follicular unit excision during the first pass harvesting, and suggested the second pass should extract in a more vertical manner leaving residual lines of FUs behind. Extracting adjacent follicular units may be part of the excision strategy, which is against traditional wisdom.

Live patient viewing took place over lunchtime enabling an interactive experience for the delegates.

The organisation and quality assurance session shared some invaluable learning points, from the importance of assessing graft quality and quantitative evaluation techniques by Steven Gabel, to improving the overall logistical operation of our theatres. Marie Schambach discussed the synergistic effect of improving intra-operative ergonomics, with the use of an anaesthetist to ensure the patient remains lightly sedated, improving efficiency. Her preferred method of FUE excision was the Trivellini device, which in her hands, she noted, saves time.

Overlapping tasks can significantly reduce time. Emina Vance shared valuable thoughts on how to critically evaluate the surgical process in order to prevent errors and continually improve standards. The Saturday evening Red Carpet gala dinner was a dazzling array of sparkling dresses and handsome suits, paying suitable justice to its location in central Hollywood. With the warmth and collegiality for which the ISHRS is so well recognised, our very own Oscar ceremony was held before the dancing and merriment ensued.

SUNDAY/OCTOBER 14, 2018

Dr. Williams moderated the session on maximizing patient comfort. Pearls from this session included that reducing post-operative pain with long-acting Ropivacaine can improve the patient's experience post-FUT. Using a blunt micro cannula to infiltrate the local anaesthetic can significantly reduce patient discomfort. Using nitrous oxide during PRP administration or short dermatological procedures can be a useful anaesthetic tool if used safely and appropriately.

Interesting topics moderated by Dr. Dua saw Jeff Epstein talk about the role of hair restoration surgery for transgender patients and the significant benefit this can provide. Male to female transition may include



General Session

hairline advancement, creating a more feminine hairline, eyebrow, and pubic hair reconstruction. For the female to male patient, beard, chest, and pubic hair may be used.

Wen-Yi Wu spoke about non-vitamin K oral anticoagulants (NOACs) and advised that they be stopped 3 days before surgery due to their shorter half-life, or 5 days if there is a degree of renal impairment. Asim Shahmalak reflected on the difficulty of transplanting into acid burns due to extensive fibrosis and scarring. Julieta Peralta Arambulo discussed how micropigmentation can help to create the appearance of a transplant; choosing the correct instrument and depth of pigment is essential for this.



The ISHRS is the leader in high-quality education for hair restoration surgeons. The ISHRS has achieved the highest level of accreditation to organize education for physicians from the renowned Accreditation Council for Continuing Medical Education.

2018 World Congress Planning Committee

Congratulations to the 2018 World Congress Planning Committee!



Members of the 2018 World Congress Committee

L to R: Sungjoo Tommy Hwang (President), Steven Gabel, Aileen Ullrich, Marc Dauer, Craig Ziering, Moonkyu Kim, Marco Barusco, Sam Lam, Parsa Mohebi, Timothy Carman, Kapil Dua, Konstantinos Anastassakis, Humayun Mohmand, Ratchathorn Panchaprateep, Emorane Lupanzula, and Mauro Speranzini



Course Prep Team

Thank you to the many Surgical Assistants who helped to prepare the hands-on courses in Hollywood!

L to R: Melanie Stancampiano, Program Manager, Sungjoo Tommy Hwang, Emily Buntjer of Dr. Steve Gabel's office, Diana Carmona of Dr. Timothy Carman's office, Biljana Djordjevic of Dr. Michael May's office, Cheryl Malit of Dr. Robin Unger's office, Salome Vadachkoria of Dr. Vazha Vadachkoria's office, Aileen Ullrich, CMA of Dr. Steve Gabel's office, Deanne Pawlak of Dr. John Gillespie and Joseph MacDonald's office, Tina Lardner of Dr. James Harris's office, Rita Kordon of Dr. Robert Dorin's office, Emina Vance of Dr. Sam Lam's office, Julie George, Heather Stretch, Sara Roberts and Michelle Wormald from Drs. Bessam and Nilofer Farjo's office



ISHRS Meeting Staff

L to R: Kimberly Miller (HQ & Administrative Manager), Davin Ayarzagoitia (Administrative Coordinator), Amy Hein (Meeting Planner), Jule Uddfolk (Meeting & Exhibits Manager), Victoria Ceh (Executive Director), Katie Masini (Membership Manager & Registrar), Melanie Stancampiano (Program Manager) and Sheri Valskis (Project Manager)



Parsa Mohebi, MD, FISHRS, Chair

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President Sungjoo Tommy Hwang presents Parsa Mohebi an award of appreciation for serving as Program Chair.

Aileen Ullrich, CMA, Surgical Assistants Chair Samuel M. Lam, FISHRS, Surgical Assistants Co-Chair Craig L. Ziering, DO, FISHRS, Workshops Chair Jean M. Devroye, MD, Immediate Past Chair Timothy P. Carman, MD, FISHRS, Committee Member Kapil Dua, MBBS, MS, FISHRS, Committee Member Moonkyu Kim, MD, PhD, FISHRS, Committee Member Gorana Kuka-Epstein, MD, Committee Member Emorane C. Lupanzula, MD, Committee Member Ratchathorn Panchaprateep, MD, PhD, FISHRS, Committee Member

ISHRS Leadership & Committees

October 10-14, 2018 / Hollywood, California, USA



ISHRS 2017-2018 Board of Governors

Front Row, L to R: Arthur Tykocinski, Nilofer Farjo, Sungjoo Tommy Hwang, Francisco Jimenez, Paul McAndrews, Victoria Ceh (Executive Director)

Back Row, L to R: Jean Devroye, Ricardo Mejia, Marcelo Pitchon, Robert True, Ken Washenik, Melvin Mayer, James Harris, Paul Cotterill and Kapil Dua



Global Council of Hair Restoration Surgery Society Members



The "Notorious 9" ISHRS Members Toast to Having Attended All 26 World Congresses

L to R: Ivan Cohen, Paul Cotterill, Robert Leonard, Russell Knudsen, Robert Haber, John Gillespie, Mario Marzola, Edwin Epstein and Bessam Farjo



ISHRS 2017-2018 Executive Committee

L to R: Paul McAndrews, Arthur Tykocinski, Ken Washenik, Sungjoo Tommy Hwang and Francisco Jimenez

2018 Research Grant Recipients

Congratulations to the 2018 Research Grant recipients!



Reconstructing Hair: An Exploration of the Experiences of Children, Young People and Their Parents Before and After Reconstructive Hair Transplantation (The Hair Study)

Bessam K. Farjo, MBChB, FISHRS (pictured)

Research team: Majid Alam, Catherine Wilkinson. MSc, PhD, Samantha Wilkinson, MSc, PhD, Partha Vaiude, MBBS, MSc, MRCS, Sian Falder, MBBS, BSc, and Bernie Carter, PhD



Efficacy of Non-Surgical Treatments for Androgenetic Alopecia: A Systematic Review and Network Meta-Analysis Aditya K. Gupta, MD, PhD, FISHRS (pictured) Research team: Kelly A. Foley, PhD, Rachel R. Mays, BSc, and Sarah Versteeg, MS



Intrafollicular Changes in the Expression of Hair Follicle Mesenchymal Markers During the Human Hair Cycle Ex Vivo Francisco Jimenez, MD, FISHRS (pictured) Research team: Majid Alam, PhD, and Amanda Benet



A Randomized, Placebo Controlled Trial Comparing the Efficacy of a Combination of Oral 5mg Finasteride and 5% Minoxidil Solution versus 5% Minoxidil Alone in Treatment of Post-Menopausal Women with Pattern Hair Loss (PHL)

Ratchathorn Panchaprateep, MD, PhD, FISHRS



Understanding the Nature of Stretched Scars Gregory Williams, MBBS, FISHRS (pictured) Research team: Claire A. Higgins, PhD

Hair Growth Enhancement with Epidermal Growth Factor in Hair Transplantation

Chinmanat Tangjaturonrusamee, MD (not pictured) Research team: Pimpa Tanthanasrikul, MD, Phanpen Srisuwan, RN, Ploypatcha Wutthitornkiatkul, RN, and Penny Pimonrat



2018 Poster Winners 2018 Poster Winners with Victoria Ceh, Executive Director, and Carlos J. Puig, DO, FISHRS, Chair, Scientific Research, Grants, & Awards Committee

2018 Awards and Recognition



2018 GOLDEN FOLLICLE AWARD

PAUL C. COTTERILL, MD, FISHRS For outstanding and significant clinical contributions related to hair restoration surgery



2018 DISTINGUISHED ASSISTANT AWARD

SARA ROBERTS, RN

Presented to a surgical assistant for exemplary service and outstanding accomplishments in the field of hair restoration surgery



2018 PLATINUM FOLLICLE AWARD

JERZY R. KOLASINSKI, MD, PhD, FISHRS For outstanding achievement in basic science or clinically-related research in hair pathophysiology or anatomy as it relates to hair restoration



2018 MANFRED LUCAS AWARD MARIO MARZOLA, MBBS For lifetime achievement in hair restoration surgery



BOARD SERVICE AWARDS

Dr. Ken Washenik presents Dr. Sungjoo Tommy Hwang with the President's Award. Dr. Sungjoo Tommy Hwang thanks Dr. Arthur Tykocinski for his service as Vice President, Dr. Francisco Jimenez for his service as Secretary, and Dr. Sharon Keene for her service on the Board of Governors as a Past President.

2018 ISHRS Poster Awards

Congratulations to the 2018 Poster Award winners!



1st Place Poster Winner

Additional Report on Successful Eyebrow Transplantation in a Patient with Inactive Ulerythema Phryogenes with Hypothyroidism

Wipawan Vathananai, MD

Take Home Message: Eyebrow transplantation can be performed on patients with inactive ulerythema ophryogenes. However, more long-term follow-ups and studies are needed in order to confirm that the result of eyebrow transplantation on patients with inactive ulerythema ophryogenes is permanent.

		The efficacy and safety of	of the combination of low	level laser therapy and
		pulsed electromagnetic field therapy on the androgenetic alopecia		
		F		
		Byung Cheel Paiz, MD, PHD ¹ ; Sung Joo Tommy Hwang MD, PHD ³ [[Department of Demmankagy, Dankosk University Hospital] [DCH-Hang is Hair-Hair Chinc]		
	ABSTRACT			
	Abstract	OBJECTIVE	4. Efficacy and Safety evaluation	RESULTS
	The efficacy and safety of the combination of low level laser therapy and pulsed checkenses the field therapy on the automatic classics.	We tried to evaluate the efficacy and safety of the combination of	1) Hair Count Assessment	3. Global Photographic Assessment
	BACKGROUND:	LLLT and EMF therapy (A-GATE# ; Innogen co. ; Seoul, Korea) for the treatment of androamatic alongcia(AGA) with randomized	Hair density in the target area (1cm ²) was measured at baseline	1) Investigator's evaluation
	Low level laser thempy(LLLT)appears to be safe and effective in hair loss treatment, and the multitue helping affect on hair memorie of a called above.	controlled clinical trials.	(Folliscope Leed) Secol Republic of Korea)	AGATE Device, n=35 Sharn Device, n=36 95%
	magnetic field therapy (PEMP was induced by the comparative, controlled study. There has been no shady about the chriscal effect on the hair of the combination of	METHODS	2) Global Photographic Assessment	0.6 (0.74) 1 (-2, 2) -0.19 (0.52) 0 (-1, 1) (0.49, 1.1)
	LLLT and PEMF		The investigator and two independent specialists assessed the digital	2) Two independent expert's evaluation
	We tried to evaluate efficacy and safety both LLLT and electromagnetic field	1. Participants and Demographics	photographs at the baseline and 24-week visits with a seven point scale	AGATE Device, nr35 Sham Device, nr36 95% mean (SD) med (min, max) mean (SD) med (min, max) hon-sided (CI
	METHODS:	the treatment ensure and 26 in control ensure	(from -3 to 3 including 0) 2) Assessment of contribution of biotics	0.41 (0.62) -1.5 (1.5, 0) > 0.07 (0.45) -1 (1, 0) 0.09 0.6
	This study was designed as a 24-week, randomized, double-blind, sham device- controlled trial. We recruited 80 persons with androgenetic alopecia (male and	Demographics and baseline variables as follows	The survey (5 different questions) for subjective satisfaction	3) Comparison of clinical photos (Baseline: 24weeks treatment)
	female) and they were guided to visit and receive treatment every week for the 1 st three months, every other week for the 2 st two ments and one visit for the last mostly 2 st 1 st 1 st 1 st .	Characteristic AGATE Device, r=40 Sham Device, r=40	conducted using a 7-point scale at the baseline, and 24-week visits.	Compared with baseline, hair density increased on vertex at 24 weeks
	mW) and 808 nm (50mW) and conducted for 15 minutes. PEMF was done for 10 minutes using 76.6 Hz and 60 Hz observational	548 Female, n Obi 922.50 12000 Male, n Obi 3107751 2000	4) Evaluation of Safety and Adverse reaction	
	RESULTS	Age 40,18 ± 4,77 39,55 ± 7,75 Height, cm, mean ± SD 170,21 ± 7,5 147,43 ± 8,09	Objective and subjective symptoms or adverse reactions were recorded	
	The baseline har density was 114.57(±218.75) error and 113.51(±30.07) in both treatment and control group. After 24 weeks of treatment, the mean hair density isomeout to 120.129(±3).45(weeks) from heading (114.52)(weeks) in the instrument of the statement of	Weight, kg. mean ± SD 68.5 ± 10.76 73.35 ± 12.82 Smoking history	every visit intoign 24weeks	Baseline At 24 weeks Baseline At 24 weeks
	group while the mean hair density only increased to 119.78(±31.92) from the baseline (113.31/cm2) in control group. The difference between treatment and	Correct smoker 11(27.5) 9(22.5) Formar smoker 9(22.5) 2(17.5)	RESULTS	4. Participant's subjective satisfaction
	control group was statistically significant (p<0.05). In the global photo resessment, a 7-point scale (-3 to +3) was used. In the independent expert panel's	Drinking history Never Drinker 6(15) 8(20)	1. The compliance of participants	Variable A-GATE(n=35) Sham Device(n=36)
	global photo assessment, the score was 0.41(±0.62) in the treatment group and 0.07 (±0.45) in control. The degree of improvement between the two groups was	Former Drinker 30(025) 30(25) Former Drinker 1(25) Hair Dennike/err maan + 50 113 + 22.9 113 88 + 28.67	A.GATE Device, n=40 Sham Device, n=40	General Scalp 0.51(1.17) 0.28(0.72) P<0.05
	significantly different (p ⁽¹⁾)(5), in the analy assessment, very thin reputera or invitation were reported but these are temperary and reversible. No serious adverse positions were remoted during the study.	2. Treatment Protocol and Specification of the A-GATE @	mean (SDI med (min, mad mean (SDI med (min, mad 87.94 (19.67) 94.12 (5.88, 100) 88.68 (17.54) 94.12 (11.76, 100)	Hair density on 0.49(0.92) 0.22(0.72) P<0.05
2nd Place Poster Winner	CONCLUSIONS	A-gate 8 has hundreds of optic fibers which consist of laser diodes		Vertex 0.000027 0.1200 TU Proto
The Efficacy and Safety of the	A combination of LLLT and PEMF could be valid and safe optional or alternative treatment for AGA.	emitting wavelengths of 660 nm (80 mW), 808 nm (50mW) and	2. Change of Hair Density	loss 0.40(0.95) 0.19(0.71) P<0.05 Increase of Hair 0.24(1.02) 0.36(0.64) P=0.05
Combination of Low Level	BACKGROUND	PEMF using 76.6 Hz and 60 Hz electromagnetic.	both treatment and control group. After 24 weeks of treatment, the mean	thickness 0.6(0.51) 0.77(0.51) Pr0.05
Lesser Theorem and Dalard		. In one session of treatment, LLLT was delivered for 15 minutes and	hair density increased to 139.37(±31.4)/cm2 from baseline (114.57/cm2)	The grown rate (0.000 r) Construction of the second
Laser Therapy and Pulsed	For the treatment of androgenetic alopecia (AGA), finasteride and	PEMP for 10 minutes consecutively.	in the treatment group while the mean hair density only increased to	5. Adverse reaction or complications All adverse reactions are
Electromagnetic Field Therapy	Administration, Although these drug are effective and safe for the	24 wask randomized double blind chem during controlled trial	119:78(£31.92) from the baseline (113.31/cm2) in control group. The difference between treatment and control group was statistically	Pruritus 4 2 recovered
on the Androgenetic Alonecia	treatment of AGA, there still be some patients who were not	Receive treatment every week for the 1" three months	significant (p<0.05).	Erythema 2 1 completely. Pain 1 0 There was no
on the Anthogenetic Alopecia	responsive to them. In addition, due to their underlying general	. Receive treatment every other week for the 2 nd two months	Variable AGATE Device, nº35 Sham Device, nº36 95%	Buring 3 1 serious adverse reactions.
Byung Chool Park	health condition, some patients could not use these drugs. So, a lot of off-label medications, cosmetics or nutrients have been	. Receive just one visit for the last month.	mean (SD) med (min, mag) mean (SD) med (min, mag) two-sided CI Baseline 11457 (2875) 114 (70, 186) 11331 (3007) 111 (45, 175)	CONCLUSIONS
byung Cheor raik	introduced but their efficacy and safety is lack of evidence based	Magnaser	Post-treatment (19937 (314) 135 (91, 221) 119.78 (31.92) 121.5 (48, 165)	CONCLUSIONS
Take Home Message: A com-	study and controversial. Recently, it is introduced low level laser		Percent increase (Baceline-23Ws) 2393 (20.45) 17.42 (-588, 88.17) 6.15 (9.51) 5.49 (-15.5, 32.43) (10.13, 25.43) ⁴	A combination of LLET and PEMF
Take Home Wessage. A com-	therapy(LLLT)appears to be safe and effective in hair loss treatment, and the positive biological effect on hair represents of a			(A-GATE ®) could be valid and safe
bination of LLLI and PEMF could	pulsed electro-magnetic field therapy (PEMF)was induced by the		Phototrichogram : Hair density increased after 24weeks treatment	optional or alternative treatment for AGA
be a valid and safe option for the	comparative, controlled study.	In marnaser, hundreds of	An appendix and the second	For additional information please contact:
treatment of ACA	There has been no study about the clinical effect on the hair of the combination of LLUT and PEME	Application of the A-GATE (0 - Patients lean		[Name] Byung Cheol Park
treatment of AGA.		on the soft couch during the treatment. to the scalp directly Magnaser conducts 111T& PFME. during the treatment	Baseline 12weeks 24week	Institution or organization] Dankook University Hospital IE-mail addressi 4exodus@claum.net
L	I –	during the ovalutent		

2018 ISHRS Poster Awards



Best Practical Tip

Property Improvements of Metallic-Glass Coating on Hair Transplant Needles: A Comparison Study

Yi Jung Lin, MD

Take Home Message: Property Improvements of Metallic-Glass Coating on Hair Transplant Needles, after this comparison study, the new coating on needles can bring many advantages for several aspects. Not only improve the wound recovery, grafts survival rate, reserved fine hair surrounding and also the feeling of pain by patients after surgery. With controlling the increase of the cost, we hope to provide for more patients in the future.

CONGRATULATIONS FISHRS CLASS OF 2018!

Glenn Charles, DO, FISHRS Jeffrey Epstein, MD, FISHRS Rana M. Irfan MBBS, ABHRS, FISHRS Jennifer Martinick, MD, FISHRS Osman T. Oguzoglu, MD, FISHRS Muhammad Nasir Rashid, MD, FISHRS Akaki Tsilosani, MD, PhD, FISHRS

Since 2012, 114 members have earned the designation Fellow of the ISHRS, with the privilege to use the prestigious acronym "FISHRS" behind their name.

FISHRS was established to recognize members who meet exceptional educational criteria. In order to be considered, the hair restoration surgeon must accumulate a specific number of points in a system of various educational parameters that includes such accomplishments as serving in leadership positions, receiving American Board of Hair Restoration (ABHRS) certification, writing scientific papers, or teaching at scientific programs, among others.

It is a great honor for a member to achieve the FISHRS designation. This recognizes the surgeon who strives for excellence in this specialized field. To maintain this status, the surgeon must continue to meet established educational criteria over time.

We encourage all Physician Members to consider applying for Fellow status.

Qualifications and process can be found in the Members Only section of ISHRS website at: https://ishrs.org/members-resources-miscellaneous/ishrs-fellow-category/



The full list of Fellows may be found at: https://ishrs.org/fishrs/

FREE RECORDED SESSIONS FOR ISHRS MEMBERS Select Hollywood Sessions Recorded for Members to View

Several general sessions and workshops were recorded at the Hollywood Congress and are being provided to members to view. This is a value-add for all ISHRS members. There is no extra charge and is offered as an additional benefit of being an ISHRS member.

To view, go to the Members Only section of www.ishrs.org.

It is easy to navigate; simply click on the lectures or discussions you would like to view. Watch from your computer, tablet, or phone.

Sessions:

General Session 1: Opening Session General Session 2: Hair Follicle Physiology and Growth Factors Workshop 105: PRP for Hair Restoration Workshop 115: Hair Care Products and the Science Behind Them General Session 8: Difficult & Challenging Cases General Session 9: Chemotherapy Induced Alopecia & Female Pattern Hair Loss General Session 12: Organization & Quality Assurance

General Session 1: Opening Session

Welcome & Moderator Introduction Parsa Mohebi, MD, Program Chair | USA

President's Message Sungjoo Hwang, MD, PhD, President| South Korea

The Hair Transplant Entrepreneur William R. Rassman, MD | USA

Panel Discussion: What Is Next in Hair Restoration Surgery? James A. Harris, MD, FISHRS | USA Robert H. True, MD, MPH, FISHRS | USA Bradley R. Wolf, MD, FISHRS | USA

Navigating the Conference App & Housekeeping Notes Victoria Ceh, MPA, ISHRS Executive Director | USA

General Session 2: Hair Follicle Physiology and Growth

Factors: New Discoveries and Better Understanding Moderator Introduction and Significance of Norwood Lecture Nilofer P. Farjo, MBChB, FISHRS | UK

Norwood Lecture

Understanding the Importance of Lipid Pathways for the Existence, Health, and Development of the Hair Follicle FEATURED GUEST SPEAKER Apostolos Pappas, PhD | Switzerland

Questions & Answers

The New Anatomical Relationship Between Eccrine Glands and Follicular Units Permits an Efficient Eccrine Gland Isolation from Human Scalp Francisco Jimenez, MD, FISHRS | Spain

The Influence of Gender, Age and Pattern Alopecia on the Diameter of the Occipital Donor Area Hair Sungin Cho, MD, PhD | South Korea

Rapid Healing of a Thermal Burn Injury Using Hair Transplant Grafts: a Case Report with Unexpected Hair Growth Pattern Francisco Jimenez, MD, FISHRS | Spain

Hair Transplant for Treatment of Psoriasis Parsa Mohebi, MD, FISHRS | USA

ISHRS PRP Committee—What Has Been Learned Carlos J. Puig, DO, FISHRS | USA

Controversy for PRP Use Christine Graf Guimaraes, MD | Brazil

Questions & Answers

General Session 8: Difficult & Challenging Cases

Moderator Introduction Damkerng Pathomvanich, MD, FISHRS | Thailand

Complications and Difficult Cases Marco Barusco, MD, FISHRS | USA

Common Medical Problems During a Hair Transplant and What a Hair Transplant Surgeon Can Do Kuniyoshi Yagyu, MD, FISHRS | Japan

Challenging Cases in Hair Restoration: Revision Cases, High Grade (NW V/VI/VII) of Baldness, Cicatricial Alopecia Akhilendra Singh, MD | India

Scalp Expansion Combined with Hair Transplantation in the Treatment of Large Area Cicatricial Alopecia Xingdong Li, MD | China

FUE Surgery as First Option for Scalp and Face Burns, Skin Plasty Scars and Eyebrow Reconstructions Felix Mircea Popescu, MD | Romania

Required FUE Beard Transplant Repair Because a Doctor Delegates His Work to a Technician Jean M. Devroye, MD, FISHRS | Belgium

A Very Rare Case of Hair Transplantation Complication TsaiChing Chou, MD | Taiwan

Questions & Answers

General Session 9: Chemotherapy Induced Alopecia & Female Pattern Hair Loss Moderator Introduction

Wen-Yi Wu, MD, FISHRS | Taiwan

Chemotherapy Induced Alopecia (CIA) and Endocrine Therapy Induced Alopecia (EIA) FEATURED GUEST SPEAKER Mario Lacouture, MD | USA

Female Pattern Hair Loss (FPHL): Efficacy Comparison Among Various Treatment Options, A Retrospective Analytic Study Ratchathorn Panchaprateep, MD, PhD, FISHRS | Thailand

Combining Non-surgical Therapies with Hair Restoration for the Treatment of Female Pattern Hair Loss Shadi Zari, MD | Saudi Arabia

Questions & Answers

General Session 12: Organization & Quality Assurance Moderator Introduction Glenn M. Charles, DO | USA

2018

WORLD

CONGRESS

OCTOBER 10-14

HOLLYWOOD

LOEWS HOLLYWOOD HOTEL

www.ISHRS.org

Organization in Hair Restoration Marie A. Schambach, MD | Guatemala

Immediate Quantitative Graft Analysis During Hair Restoration Surgery Steven P. Gabel, MD, FISHRS | USA

What Went Wrong: Critical Thinking for Quality Control Emina Vance | USA

Questions & Answers

105 Workshop: PRP for Hair Restoration

Director: Robin Unger, MD | USA Faculty: Jerry E. Cooley, MD, FISHRS | USA Chiara Insalaco, MD, PhD | Italy Daniel G. McGrath, DO | USA and James E. Vogel, MD, FISHRS | USA *Description:* Platelet Rich Plasma has only recently begun to be used for the purpose of hair growth, but the science for this promising technology has not matured as quickly as the market has grown. This workshop will review both the known and unknown aspects of effective PRP treatment for hair loss, the possible advantages of adding ACell (matristem) or other factors to PRP, the different methods of PRP application and dosing strategies, and will review the ongoing and established science for hair growth with PRP treatment.

115 Workshop: Hair Care Products and the Science Behind Them

Director: Nicole E. Rogers, MD, FISHRS | USA Faculty: Sara L. Salas, MD Meena Singh, MD, FISHRS *Description:* Patients always want to know what products they should use on their hair. In this workshop we will discuss the science behind the hair care products on the market today, what to recommend and what to stay away from.

DINNER/DANCE & AWARDS CEREMONY

In the spirit of the Academy of Motion Picture Arts and Sciences in Hollywood, a.k.a., the Academy Awards or Oscars, the ISHRS presented its own "ISHRS Oscar Awards" at the Gala. The actual room the Gala (and General Session) was held in, the Dolby Ballroom, is where the actual annual dinner takes places after the true Academy Awards. Below are the categories, nominees, and winners. The idea was to present fun, unique, and not so serious awards. Also acknowledged were all AGF donors and physicians who volunteer in ISHRS's Operation Restore.

1. Most Operation Restore Cases Award: Jerzy Kolasinski, MD, PhD, FISHRS

Nominees: Mark DiStefano, MD, FISHRS Jim Harris, MD, FISHRS Tony Mangubat, MD

Jeff Epstein, MD, FISHRS Jerzy Kolasinski, MD, PhD, FISHRS

2. Most ISHRS Volunteer Roles Award: Bob Haber, MD, FISHRS

Nominees: Ed Epstein, MD, FISHRS Nilofer Farjo, MBChB, FISHRS Russell Knudsen, MBBS, FISHRS

Bessam Farjo, MBChB, FISHRS Bob Haber, MD, FISHRS Arthur Tykocinski, MD, FISHRS

3. Best Dressed Male of All Time at the Gala Award: Vance Elliott, MD, FISHRS

Nominees: Conradin von Albertini, MD, FISHRS Kapil Dua, MBBS, MS, FISHRS Robert Leonard, DO, FISHRS

Timothy Carman, MD, FISHRS Vance Elliott, MD, FISHRS Emorane Lupanzula, MD

4. Best Dressed Female of All Time at the Gala Award: All below

Nominees: Irene Gambino Anne Knudsen, RN Sara Wasserbauer, MD, FISHRS Vance Elliott, MD, FISHRS

Tina Lardner Brandi Watts Aman Dua, MBBS, MD, FISHRS

5. Highest Donation to Annual Giving Fund of All Time Award: All below Nominees: Mark DiStefano, MD, FISHRS John Gillespie, MD, FISHRS

Vincenzo Gambino, MD, FISHRS Ken Washenik, MD, PhD, FISHRS John Gillespie, MD, FISHRS Kuniyoshi Yagyu, MD, FISHRS

6. Golden Microphone Award: Bill Rassman, MD Nominees:

Anil Garg, MBBS, MS.MCh, FISHRS M. Humayun Mohmand, MD, FISHRS Paul T. Rose, MD, JD, FISHRS

Sharon Keene, MD, FISHRS Carlos Puig, DO, FISHRS Bill Rassman, MD

Damkerng Pathomvanich, MD, FISHRS

7. Seen At Every Meeting Award: Marina Pizarro, MD Nominees:

Melvin Mayer, MD, FISHRS Ahmed A Noreldin, MD, FISHRS Paul Straub, MD, FACS, FISHRS

8. ISHRS Hard-Working Staff Award: All below

Nominees: Victoria Ceh, MPA Kimberly Miller Jule Uddfolk Sheri Valskis

Melanie Stancampiano Katie Masini Amy Hein Davin Ayarzagotia

Kenny Moriarty

Marina Pizarro, MD

9. ISHRS Faithful Leader Award: Tommy Hwang, MD, PhD, FISHRS



Robert Haber celebrates his win of "Most ISHRS Volunteer Roles Award" Oscar with a badge full of ribbons.



William Rassman addresses the audience as the winner of the "Golden Microphone" Oscar.



The best dressed women of the ISHRS



The hard working staff of the ISHRS



Victoria Ceh and Ken Washenik emceed the ISHRS Oscar Awards.

November/December 2018

FAITHFUL LEADER

2018 World Congress/Hollywood



2018 World Congress/Hollywood



2018–2019 ISHRS Board of Governors

Congratulations to the 2018–2019 ISHRS Board of Governors!



President Arthur Tykocinski, MD, FISHRS São Paulo, Brazil



Vice President Francisco Jimenez, MD, FISHRS Las Palmas, Spain



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Board Member Kapil Dua, MBBS, MS, FISHRS New Delhi, India

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CALL FOR COMMITTEE VOLUNTEERS

Dear ISHRS Members,

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

Call closes: December 3, 2018

http://registrationreports.com/ishrs/committees/

Go to the link to learn more about the committees and don't miss your chance to apply to serve on a committee.

Best regards, Arthur Tykocinski, MD, FISHRS, President Francisco Jimenez, MD, FISHRS, Vice President



2019 Qualifying Meetings for Member Educational Maintenance Requirement

As a reminder, there is an educational maintenance requirement for the membership categories "Member" and "Fellow Member." This does not apply to membership categories Associate Member, Resident Member, Emeritus Member, or Surgical Assistant Member.



EDUCATIONAL MAINTENANCE REQUIREMENTS

ISHRS Member and ISHRS Fellow Member membership categories must attend one ISHRS-approved meeting every 3 years, otherwise that member will be changed to Associate Member. The impacted member may revert back to their previous category after attendance at an ISHRS-approved meeting.

2019 QUALIFYING MEETINGS

August 2-4, 2019 Hair Transplant 360 Cadaver Workshop & FUE Hands-on Workshop St. Louis, Missouri, USA http://pa.slu.edu

November 13-16, 2019 27th World Congress & World Live Surgery Workshop of the ISHRS Bangkok, Thailand www.27thannual.org

The qualifying meetings are also listed at

https://ishrs.org/physicians/list-ishrs-approved-meetings-meet-additional-minimum-educational-requirement/

Plan your 2019 meeting,

schedule!



Message from the ISHRS 2019 World Congress Program Chair

Robin Unger, MD | New York, New York, USA | drrobinunger@yahoo.com

It was wonderful to spend time with colleagues from around the world in Hollywood at the most recent Annual Meeting. Congratulations to Parsa Mohebi and

Tommy Hwang on one of the best meetings ever!

I am excited to start planning this upcoming Triple Crown ISHRS Annual Meeting in Bangkok. Bangkok is an exciting and vibrant city and we will have state-of-the-art facilities for our meeting. I am very fortunate to be working with an amazing group of hair restoration surgeons including Drs. Kapil Dua, Tim Carmen, Ken Williams, and Damkerng Pathomvanich.

Our president, Arthur Tykocinski, has envisioned an innovative approach to this most important convention. The meeting is going to be structured to reflect the growing trend in our field: the combined approach to hair restoration, interweaving all the best techniques to achieve the most optimal results for our patients. There are many meetings open to hair restoration surgeons throughout the year that focus on more specialized aspects. The 2019 ISHRS World Congress will bring together world experts in scalp micropigmentation (SMP), follicular unit excision (FUE), and follicular unit transplantation (FUT) to create an exciting and advanced program: The Triple Crown. There are choices and options in the field today and we need to stay informed regarding the latest innovations and research in all these areas.

The main meeting is to be followed by an amazing Live World Surgery Workshop that also encompasses SMP, FUE, and FUT. This will be a two and a half day program that promises to be very exciting.

We are looking forward to see you in Bangkok in 2019!



Message from the ISHRS 2019 World Live Surgery Workshop Chair

Kapil Dua, MBBS, MS, FISHRS | New Delhi, India | drkapildua@akclinics.com

Dear colleagues, teachers, and friends:

Wishing you and your family a

the year with a unique scientific program from the ISHRS in the Far East.

This year's program will consist of the 27th World Congress & World Live Surgery Workshop (WLSW): The Triple Crown showcasing all the contemporary techniques of hair restoration—the Strip, the FUE and the SMP—in Bangkok, the capital of Thailand and a city known for its ornate shrines and vibrant street life.

I am excited to share that the preparations of the above program have already started. Drs. Robin Unger, Damkerng

Pathomvanich, Timothy Carman and Ken Williams have come up with wonderful ideas. We will try our level best along with our executive director, Victoria Ceh, and her team to put up a wonderful scientific program.

As envisioned by our president, Dr. Arthur Tycosinski, the theme of this year's WLSW is how to combine all the techniques of hair restoration (i.e., Strip, FUE, and SMP—the Triple Crown) to give our patients a full head of hair. Thus, the main aim of this workshop will be to educate us on when and how to use all these options. If we become proficient in the same, it will go a long way in improving patient outcome and in our fight against the unlicensed practice of hair restoration surgery.

The workshop will be a day and a half program with SMP procedure on Saturday, and a live demonstration of Strip and FUE on Sunday. The surgery will be conducted in a state-of-the-art hospital with the facility of live streaming the multiple surgeries in an auditorium. It will be a one of its kind program, and one that is certainly not to be missed.

So, at the start of this new year, I ask you to block the dates 13-17 November 2019 for attending the academic extravaganza and enjoying the beauty of Bangkok and the amazing beaches all over Thailand!

Meet Your WLSW Co-Chairs

 WLSW SMP Co-Chair
 WLSW FUT Co-Chair

 Timothy P. Carman, MD, FISHRS
 Damkerng Pathomvanich, MD, FISHRS
 Ken L, Williams, Jr., DO, FISHRS







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*HairMax Laser devices are indicated to treat Androgenetic alopecia, and promote hair growth in males who have Norwood Hamilton Classifications of IIa to V and in females who have Ludwig (Savin) I-4, II-1, II-2, or frontal patterns of hair loss and who both have Fitzpatrick Skin Types I to IV. The HairMax Laser 272 is indicated to promote hair growth in males with Androgenetic alopecia who have Norwood-Hamilton Classifications of IIa - V, or females with Androgenetic alopecia who have Ludwig-Savin Classifications I - II or Frontal and for both with Fitzpatrick Skin Phototypes I- IV.

HAIR LOSS DIAGNOSIS COURSE FOR THE NON-DERMATOLOGIST What You MUST Know If You Are Performing Hair Transplantation Surgery

COURSE DESCRIPTION



FREE VIEWING FOR ISHRS PHYSICIAI	NS
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- Over 3.5 hours of lectures and discussion
- Recorded at the ISHRS 2017 World Congress Prague
- No CME credits issued for watching this course
- Internet/online video files.
- LEARNING OBJECTIVES

Upon completion of this course you will be able to:

- scalp dermatologic conditions that the hair transplant surgeon may encounter.
- Discuss the diagnosis and treatment of many non-androgenetic alopecias.

The course covers all aspects of hair loss diagnoses, classification, treatment, and management. An emphasis is placed on understanding the anatomy and the hair growth cycle to better understand the pathologic consequences of hair loss. The course includes an in depth review of male and female pattern hair loss as well as diagnosing and managing cicatricial forms of alopecia. Common inflammatory scalp conditions is also reviewed to insure participants have a better understanding of managing Describe many hair loss disorders as well as common scalp disorders as well as recognizing benign and malignant scalp tumors that may arise in the consultation process. An emphasis on recognizing alopecia areata and managing hair loss in women

is discussed as well as understanding PRP and its



COURSE OUTLINE	running time
Welcome & Opening Remarks Ricardo Mejia, MD	06:01
Hair Loss Diagnosis, Anatomy and Classification René Rodriguez, MD	20:01
Alopecia Areata, Diagnosis and Management Ivan S. Cohen, MD, FISHRS	22:29
Cicatricial Alopecias Nicole E. Rogers, MD, FISHRS	29:08
Inflammatory Scalp Disorders/Lumps and Bumps Jennifer Krejci, MD	24:08
Q&A All Panelists	13:25
Dermoscopy/Trichoscopy Lessons Learned Aron Nusbaum, MD	20:12
Diagnosing Hair Loss in Women Neil S. Sadick, MD	36:01
Scalp Cancers Ricardo Mejia, MD	13:55
PRP Basics Neil S. Sadick, MD	24:10
	11.04

ISTANBUL ISHRS FUE APRIL 19-21 2019 **HANDS-ON CADAVER & LIVE SURGERY**



Faculty List

Kayihan Sahinoglu, MD, FISHRS Co-Chair

O. Tayfun Oguzoglu, MD Co-Chair

Ali Emre Karadeniz, MD Ekrem Civas, MD, FISHRS Ken Williams, DO, FISHRS Arthur Tykocinski, MD, FISHRS James Harris, MD, FISHRS

Vance Elliott, MD





- Donor Calculation & Planning
- Instrumentation (Punches, Blades, Needles Etc.)
 Stem Cell Therapies
- Donor Harvesting
- Recipient Site Creation, Design
- Graft Preparation & Placement





- Implanters
- Storage Solutions
- Complications
- General Office Setup; How To Select Instruments & Staff

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11th Annual

August 2-4, 2019 St. Louis, Missouri, USA

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Classified Ads

Seeking Hair Transplant Physician and Technicians

Anderson Center for Hair in Atlanta, Georgia is looking for a full-time hair restoration physician and full-time technicians. We are a state-of-the-art, brand-new boutique center. We perform one procedure per day, with emphasis on quality, ethics, and natural results...not quantity. On-the-job training available for physicians. Technicians will require experience, with references required. Outstanding, friendly working environment, salary, benefits, insurance, 401k, vision, dental, etc. Please email your résumé to jobs@andersonhsc.com.

Seeking Hair Transplant Surgeon

New start up clinic in St. Louis, MO is seeking an experienced hair transplant surgeon. Must be willing to travel to our clinic 2-5 consecutive days per month. This is a great source of supplemental income to your existing practice. Please email your résumé to gakreyling@hotmail.com.

Seeking Hair Transplant Surgeon

Busy Beverly Hills practice is seeking an additional full-time experienced hair transplant surgeon. We provide one of the most aggressive compensation and benefits packages.

Please contact immediately jobs@advancedhair.com.

For Sale: 2015 ARTAS Robotic System with Chair

2015 ARTAS Robotic System for sale including chair. Used only a few times. Originally purchased in 2015 for \$250,000 and only used a few times. Excellent Condition. Asking \$105,000 or best offer.

Send inquiries to artassale@gmail.com.

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Low overhead/high profit margin and growing San Diego location. Rare opportunity to buy into the medical hair restoration industry. Established FUE/FUT facility well equipped. Turn-key, fully staffed.

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Contact Randal McKenzie Associates – Bruce C. Keller: bruce@randahlmckenzie.com or 1-760-815-4767. Non-Disclosure Agreement required.

Seeking Fellowship Applications

Parsa Mohebi Hair Restoration is currently accepting applications for its fellowship program for 2018-2019. Candidates must be eligible for a California medical license. Full benefits offered including: Medical, Dental, 401k (provided during training).

Please send your cover letter and CV to info@parsamohebi.com.



Calendar of Hair Restoration Surgery Events

http://www.ishrs.org/content/upcoming-events

DATES	EVENT/VENUE	SPONSORING ORGANIZATION(S)	CONTACT INFORMATION
FEB 8-10, 2019	HAIRCON 2019 Indore, India	Association of Hair Restoration Surgeons – India ahrsindia.org	haircon2019@gmail.com
MAR 18-20, 2019	5th Latin American FUE Workshop Buenos Aires, Argentina	Paraguayan Society of Hair Restoration Surgery www.workshop-latc.com	lrtrivellini@yahoo.com.ar
MAR 23-24, 2019	Building Hair Restoration Working Relationships London, Olympia, UK	British Association of Hair Restoration Surgery (BAHRS)	office@bahrs.co.uk
MAR 26-29, 2019 MAY 14-17, 2019 (JUN 26—Exam)	University Diploma of Scalp Pathology and Surgery <i>Paris, France</i>	University of Paris VI Coordinators: P. Bouhanna, MD, and M. Divaris, MD www.hair-surgery-diploma-paris.com	Dr. Pierre Bouhanna, Course Director sylvie.gaillard@upmc.fr
APR 19-21, 2019	ISHRS Regional Workshop: FUE Cadaver Hands-On & Live Surgery Workshop Istanbul, Turkey	International Society of Hair Restoration Surgery Hosted by: Kayihan Sahinoglu, MD, FISHRS & O. Tayfun Oguzoglu, MD www.ishrsfueistanbul2019.org	info@ishrsfueistanbul2019.org +90 533 954 63 87
APR 24-27, 2019	11th World Congress for Hair Research Sitges, Barcelona, Spain	European Hair Research Society	www.barcelonahair2019.org info@barcelonahair2019.org
MAY 4-5, 2019	ABHRS Certification & Recertification Exams Chicago, Illinois, USA	American Board of Hair Restoration Surgery	www.abhrs.org
* AUG 2-4, 2019	11th Annual Hair Transplant 360 Cadaver Workshop & FUE Hands-On Workshop <i>St. Louis, Missouri, USA</i>	Saint Louis University School of Medicine, Practical Anatomy & Surgical Education In collaboration with the International Society of Hair Restoration Surgery http://pa.slu.edu	pa@slu.edu
³ NOV 13-17, 2019 NOV 13-16, Congress NOV 16-17, WLSW	27th World Congress of the ISHRS & World Live Surgery Workshop: Triple Crown Bangkok, Thailand	International Society of Hair Restoration Surgery www.27thannual.org	www.27thannual.org
MAR 19-22, 2020	ISHRS Regional Workshop: Cowgirl Hair Loss Workshop—Art & Perfection, Female Hair Loss <i>Houston, Texas, USA</i>	International Society of Hair Restoration Surgery Hosted by: Carlos J. Puig, DO, FISHRS	cpuig@hairdoctexas.com

* 2019 meetings that qualify for the ISHRS member educational maintenance requirement

REMINDER

ISHRS full **Members** and **Fellow Members** are required to attend 1 ISHRS-approved meeting every 3 years to maintain their member category.

ISHRS WORLD CONGRESS SCHEDULE

27TH WORLD CONGRESS

November 13-17, 2019 Bangkok I Thailand

28TH WORLD CONGRESS

October 21-25, 2020 Panama City I Panama 29TH WORLD CONGRESS

October 2021 Europe

INTERNATIONAL SOCIETY OF HAIR RESTORATION SURGERY

Vision: To establish the ISHRS as a leading unbiased authority in medical and surgical hair restoration.

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

2018–19 Board of Governors

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2017–18 Chairs of Committees

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Edwin S. Epstein, MD, FISHRS

Global Council of Hair Restoration Surgery Societies

Membership proudly includes: American Board of Hair Restoration Surgery American Society of Hair Restoration Surgery Arab Association of Hair Transplantation Argentine Society of Hair Recovery Asian Association of Hair Restoration Surgeons Association of Hair Restoration Surgeons-India Australasian Society of Hair Restoration Surgery Brazilian Society of Hair Restoration Surgery British Association of Hair Restoration Surgery China Association of Hair Restoration Surgery French Society of Hair Restoration Surgery German Society of Hair Restoration Hair Restoration Society of Pakistan Hellenic Academy of Hair Restoration Surgery Ibero Latin American Society of Hair Transplantation International Society of Hair Restoration Surgery Italian Society for Hair Science and Restoration Japanese Society of Clinical Hair Restoration Korean Society of Hair Restoration Surgery Paraguayan Society of Hair Restoration Surgery Polish Society of Hair Restoration Surgery Swiss Society for Hair Restoration Surgery Thai Society of Hair Restoration Surgeons



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.
- 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 forumeditors@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.
- 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).
- 11. Images should be sized no larger than 6 inches in width and should be named using the author's last name and figure number (e.g., TrueFigure1).
- 12. Please include a contact email address to be published with your article.

Submission deadlines: February 5 for March/April 2019 issue April 5 for May/June 2019 issue June 5 for July/August 2019 issue August 5 for September/October 2019 pre-meeting issue

October 5 for November/December 2019 pre-meeting issue

Please note submission address: forumeditors@ishrs.org

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