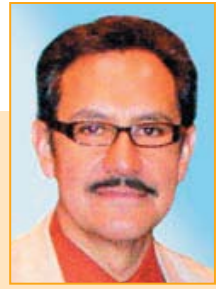


Meetings and Studies

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In this issue, we review highlights of the 2nd AAHRS Annual Scientific Meeting, the 16th Annual Meeting of the European Hair Research Society, and the XIV International Congress of the Italian Society of Hair Restoration. Each meeting offered a venue that promoted camaraderie and the sharing of information. Both beginner and experienced attendees were able to take away pearls of wisdom that they could use in their own practice.

Review of the 2nd AAHRS Annual Scientific Meeting Seoul, Korea • May 11-13, 2012

Bertram Ng, MBBS *Kowloon, Hong Kong*, Nilofer Farjo, MBChB *Manchester, United Kingdom*, Sanjiv Vasa, MD *Ahmedabad, India*, Bessam Farjo, MBChB *Manchester, United Kingdom* ngbertram@yahoo.com.hk

The 2nd Annual Meeting of Asian Association of Hair Restoration Surgeons was attended by 250 participants from 23 countries. This was a joint meeting with the KSHRS (Korean Society of Hair Restoration Surgery) at which 33 overseas faculty members and 10 local hair transplant surgeons were invited to share their wisdom and experience.



Faculty for the workshop at Dr. Hwang's clinic.

Friday/May 11, 2012

ABHRS Examination in Asia

This was the second time the ABHRS offered its certification exam in conjunction with the AAHRS meeting.

Advanced Review Course: Beginners and Experienced Surgeons

Dr. Tommy Hwang produced an excellent learning experience at his one-day workshop. The morning had beginners and intermediate talks by the faculty followed by a strip-harvesting surgery procedure on a middle aged Korean patient. During the surgery, the attendees were able to watch the technique including a demonstration of the graft sorting by Dr. Hwang's staff members (see Dr. Hwang's article in this issue). It was fascinating to watch the assistants slivering and cutting on hand-held wooden blocks with little or no magnification. Dr. Jose Lorenzo demonstrated his FUE technique with a small number of grafts on the same patient.

Visit to Korean Clinic

Topics covered in the morning session were Eyebrow Transplant (Dr. Jung-Wook Hwang), Female Hairline Correcting Operation (Dr. Jae-Heon Jung), and John Cole's FUE (Dr. John Cole). Afternoon session topics were FUT with Slit Method (Dr. In-Joon Lee), FUT with Implanter (Dr. Jung-Chul Kim and Dr. Ji-Sup Ahn), and Eyebrow Transplant (Dr. Jung-Wook Hwang)

John Cole's FUE

Dr. Cole gave a brief about his FUE technique describing the mechanical forces and resistance involved during the procedure. He explained how to overcome and minimize the transection problem with his innovative punches, instruments, and equipment. FUE harvesting without shaving was demonstrated using both manual and motorized techniques. He insisted that beginners start with the manual 3-step technique and move on to motorized as they go for higher numbers.

FUT with Implanter

Routine steps of trimming the donor, anesthesia, harvesting, and closure by strip method were demonstrated by different doctors from the KSHRS including Drs. Jung-Chul Kim and Ahn. Dissection of follicles was performed with naked eye (without magnification) under lamp light. Implantation with Choi type implanter was performed with great skill and speed

by only one person loading and one person planting. Follicles were implanted at the desired angle, direction, and orientation as per Korean design. The loading person was also counting the number of transplanted hairs.

Saturday-Sunday/May 12-13, 2012

General Session

The General Session consisted of Invited Lectures, Video Surgery Workshops, Panel Discussions, Hairline Design Interactive Panels, Free Scientific papers, and Breakfast with the Experts. Topics met the needs of both beginners and experienced surgeons. FUE was top on the list, followed by FUT-strip, hairline design, hair loss and treatment, basic science, safe practice, and personal techniques.

Opening Speeches

AAHRS President Dr. Tommy Hwang and KSHRS President Prof. Jung-Chul Kim opened the General Session. The relationship between the ISHRS, AAHRS, KSHRS, and AHRS-India was clarified. Next, ISHRS President Dr. Jennifer Martinick addressed the Congress asking, "Why are we here?" She congratulated the success of the AAHRS and emphasized the necessity of regional hair transplant groups. Numbers of hair transplant procedures worldwide per year have increased from 350,000 in 2004 to about 1,000,000. Faced with the increasing number of patients from different ethnic backgrounds, we have to understand and respect cultural differences as well as expectations.

FUE

Dr. Wen Yi Wu expressed his opinion that FUT will remain as the mainstream approach, unlikely to be replaced by FUE in the near future. He believes that hair transplant physicians should master both techniques because some patients are candidates only for FUT, some only for FUE, some for either one, and some for a combination of both.

Dr. Alex Ginzburg commented that hair surgeons have gone through a complete circle from punch to strip and back to punch. The major change is the size of the punch, from Dr. Norman Orentreich's 4mm to the new Harris Punch. He concluded that only by utilizing both punch and strip methods would outstanding results be achieved.

Dr. Ji-Sung Bang noted that some FUE cases are difficult to manage. He detailed 3 adverse factors: patient factors, instrument factors, and physical factors. With these determining factors in mind, surgeons should be able to better handle FUE cases.

Dr. Robert True reported that the depth to which a punch is inserted has a great influence on the FUE process. The ideal depth must be determined for each patient, and even for different donor zones in the same patient. The depth he measured ranged from 2.5-5mm. His FUE extraction method involves measuring the graft depth down to the point where the lower follicle splay and accordingly sets a plastic depth controller on the punch. This has enabled him to significantly minimize his transection rate and facilitate predictable extractions.

Dr. Jose Lorenzo showed a video of his insertion technique with implanters. He regularly uses 2 technicians and 4 implanters, with two of 0.80mm and two of 1mm punches. Achieving appropriate density and correct angle, according to Dr. Lorenzo, is a question of practice. Complications using implanters were also discussed. He then presented a talk regarding FUE complications and disadvantages on the donor site, on the patients, and on graft survival. He stated that FUE is still in its developing phase, and we have a long way to perfect the technique. Our one goal is to be the least invasive-aggressive and to get the most natural results.

Dr. Bertram Ng pointed out that though it is easy to start an FUE clinic, competition is fierce. Beginners should have a more realistic expectation on the monetary reward as there is "No easy money with FUE." He urged the presidents of both ISHRS and AHRS to protect their members against unethical competition.

Dr. Miguel Canales presented results from a multicenter prospective study regarding the safety and effectiveness of robotic harvest of follicular units. The session sizes performed on his 40 subjects were 728 to 1,876 grafts. He reported that the robotic system can harvest effectively with low transection rates even in patients with varying hair types. Overall, transection rates ranged from 2.9 to 21.4% (average 8.0%) and the average number of FUs generated per hour is 500 with a hair-graft ratio of 2.4. No adverse events or medical device malfunction were reported. One of the criticisms from the audience was that it cannot currently use smaller than 1mm punches but Dr. Canales announced that they working on smaller punches, which will be available in the near future.

FUT Strip

Dr. Mohammad Mohmand showed how to deal with the expectation of type VII MPB patients. He concluded that proper consultation and good technique are mandatory when handling these patients' unrealistic demands for full coverage and a lower hairline.

Dr. Jerry Wong lectured on how to prepare patients for megasessions. He explained how he asks his patients to do scalp exercises up to 3-4 months pre-op. This coupled with reducing

his strip widths in general by 2mm has resulted in donor scars being "invisible" in more than 50% of his cases. He made the point that a wide scar is more often improper technique, poor surgical skill, or a combination of both. According to his experience, mild to moderate closing tension will not produce a wide scar, and even tight closures can sometimes produce good scars. He recommended using absorbable suture as fine as possible in a 2-layer closure, so that the least amount of foreign material would be left behind. The wound edge should be kept moist at all times and any hair fragments removed. He noted that Asians are more prone to scarring so any little thing we can do to minimize this is worth the extra time and effort.

Dr. Parsa Mohebi talked on how to prevent donor wound closure under tension especially in a gigasession. He introduced his self-designed tool in measuring scalp laxity, as well as techniques of assessing the safe size of a strip. Hopefully this tool will soon be made available commercially.

Dr. Damkerng Pathomvanich presented a video of his Open Technique Donor Harvesting. The use of skin-hooks, small suction machine, moist gauze, at least 3.5 magnifying loupes, and good LED lighting were explained. He claimed a transection rate of less than 1% in the majority.

Dr. Dae-Young Kim expressed his opinion that hair transplant sessions with over 3,000 grafts needed 2-layered closure to minimize scar-

ring. He introduced the asymmetrical dermal-subdermal suturing technique. He claimed this would allow the tip of the upper lip to cover well with no tension the de-epithelialized lower lip edge in trichophytic closure.

Hairline Design

Dr. Jae-heon Jung divided the hairline into 5 parts—frontal midpoint, fronto-temporal line, temporal peak, infra-temporal line, and sideburn—and detailed how to deal with them when performing total hairline correction.

Dr. Jae-Hyun Park reported that female hairline correction surgery in East Asians is growing significantly and remarked on the quantitative and qualitative terms. He described some technical and aesthetical tips on how to match their oriental type of hair and facial features.

Dr. Ji-Sup Ahn proposed that dissatisfactory initial hairline reconstruction in females can be avoided by following the 4D's: artistic Design, Dense packing technique, Direction and angles, and Distribution of hair follicles.

Dr. Sung-Jae Yi presented how to get the optimal operative result when performing FUE in Asian females and the pitfalls and limitations. He pointed out that the key points are angle, hairline design, dense packing, and use of thin single hairline exclusively in front (this was consistent with Dr. Park's recommendation).

The interactive hairline panel allowed the audience to vote on various hairlines proposed by Drs. Tommy Hwang, Jerry Wong, and Sanjiv Vasa.

Hair Loss and Treatment

Dr. Jennifer Martinick described the prevalence, pattern, familial factors, and genetic factors of Asian pattern hair loss patients and discussed management based on algorithmic guidelines.



Dr. Hwang demonstrating hairline design in his Korean patient.

AAHRS

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Dr. Seok-Jong Lee also talked on female alopecia and the difficulty of diagnosis because of various patterns and presentations of hair loss. He stressed that hair transplantation as the treatment of choice should only be considered after making accurate differential diagnosis of the alopecia.

Dr. Won Soo Lee noted that Norwood class III was the most common stage in Chinese and Koreans, and that MPHL was less prevalent in Asians under 60 years of age compared to Caucasians.

Dr. Nilofer Farjo gave a clinical update on minoxidil, finasteride, and LLLT. She concluded that non-surgical treatments play a role in slowing the progress of androgenetic alopecia, either alone, in combination, or with surgery.

Dr. Paul McAndrews presented a case of frontal fibrosing alopecia (FFA) that mimics androgenetic alopecia. He reviewed the treatment options and commented that a hair transplant would not be appropriate and can lead to failure of the grafts to survive.

Dr. Jocelyn Panaligan described 4 cases of FFA. Two have received hair transplants with subsequent medical treatment including topical pimecrolimus and daily oral dutasteride. Though medical management seems to delay hair fall after surgery, the transplanted areas nevertheless showed progressive thinning. Further studies are required to discover more successful treatment plans.

Dr. Anil Garg reported his study on 1,456 cases of hair loss and results of medical treatment. He concluded that food supplements, life modification, and stress management play a definite role. His Rejuvenate Hair Regime includes multivitamins, nutrients, amino acids, minoxidil 2%, ketoconazole overnight, finasteride 1mg once twice a week for men, and natural anti-inflammatory herbs. Dr. Garg noted that all his patients on this regime showed improvement within 2-3 months of treatment.

Basic Science

Prof. Jung-Chui Kim gave an update on hair cloning and also discussed the regeneration of human scalp hair follicle after horizontal sectioning. He recommended that any transected graft containing at least 2/3 of the follicle should be transplanted.

Dr. Tommy Hwang gave an update of his award-winning Recipient Site Influence Theory. As the transplanted hair will eventually adapt its growth cycle to the new environment, the transplant of body hair into scalp should produce satisfactory results. For the same reason, scalp hair would require less trimming with time when moved to eyebrows.

Dr. Moon-Kyu Kim conducted a study to identify genes involved in the pathogenesis of MPB and identified several differentially regulated genes between frontal and beard dermal papilla cells. His study suggested that DKK-1 may be the baldness gene based on the findings that DKK1 is induced by DHT in the frontal scalp leading to MPHL, whilst EDAR2 (ectodysplasin) is induced by DHT in the beard stimulating hair growth.

Dr. Jae-Hak Yoo commented that AGA is characterized by decrease of mean hair density and diameter, shortening of anagen

phase, and an increase of percentage of thin hair. His quantitative analysis using phototrichogram also demonstrated that Koreans have lower hair density, larger hair diameter, and slower hair growth rate than Caucasians.

Dr. Robert Reese gave an excellent presentation regarding platelet rich plasma's role in hair restoration surgery. He commented on the current off-label use of PRP in conjunction with hair transplant, and the lack of standardized protocols. Consequently, there has been divergent results and confusion regarding the benefit. Dr. Reese himself has been working with PRP for a number of years and uses it mainly to promote wound healing in donor closure. He stated that claims of hair growth remain unproven. PRP end products can vary in cell population based

on the activation method and a large leukocyte population, for example, in PRP is not helpful. He advocated the development of a scientifically based accepted industry standard for the hair restoration community concerning the use of PRP.

Dr. In-Joon Lee noted that PRP contains several factors other than growth factors that act against the activation of growth.

This includes IL-1, IL-8 and TGF- β , which activate inflammation cascade. In fact, high concentration of PRP may cause cell apoptosis. He therefore recommended utilizing PRP to aid in the initial healing phase after hair transplantation. During the growth phase from months 2-4, you should change to the selective use of growth factors such as SCF (stem cell factor), β FGF (beta-fibroblast GF), IGF-1 (insulin like GF), KGF (keratinocyte GF), or VEGF (vascular endothelial GF).

Dr. Jino Kim introduced the concept of hyperbaric oxygen therapy in hair transplantation. The patient was entirely enclosed in a pressure chamber and breathed 100% oxygen at 130-150% of normal atmosphere pressure for 40-50 minutes immediately after hair transplant, and then daily for 4 days. There was less redness, swelling, postoperative effluvium, and pain according to his report.

Safe Practice

It is always better to be safe than sorry, especially in medical practice. Dr. Kuniyoshi Yagyu discussed the safe use of peri-operative beta blocker therapy in hair transplantation according to the 2009 ACCF/AMA guidelines. He recommended that maintenance dose of beta blockers should be continued before, during, and after surgery in patients with cardiovascular diseases such as arrhythmia and coronary artery disease. Safe hair transplant is possible with selective and non-selective beta blockers. On the other hand, the drugs should not be commenced just before surgery.

Dr. Golamali Abbasi commented that the main key for avoiding a wide scar in strip excision is the strip width, and the best maneuver to determine the optimal width is sliding and gliding.

Dr. Shelly Friedman suggested that the development of pimples or cysts post hair transplantation is more common in oily skin, and not necessarily recipient site incision-dependant or related to in-growing hairs. He has been adopting acne treatment protocol in these patients pre-operatively. Once the pimples have developed, his treatment regimen involves 2 days of shampooing with hibiclens to remove the sebum plug, warm compresses



Conference faculty.

for 30 minutes followed by wiping with alcohol. For those with very oily skin, a course of doxycycline or minocycline can be given for 8-12 weeks.

Dr. Wen Yi Wu talked on problem-oriented emergency diagnosis in hair transplantation. He formulated his management plan according to the observed changes in blood pressure, pulse rate, and some characteristic signs and symptoms.

Personal Techniques

Dr. William Rassman demonstrated scalp micro pigmentation in various types of hair loss. An important point to note is that the technician must redo the same tattoo dots on repeat treatments to avoid the dots amalgamating into each other and giving an artificial painted look.

Dr. Bessam Farjo explained that when transplanting the vertex, the large number of grafts required is usually not met by the limited donor supply. Guidelines were given regarding when, who and how the vertex should be restored.

Dr. Jack Yu showed his techniques in beard and eyebrow transplantation using FUE and some special tools he designed to facilitate his artistic approaches.

Dr. Jennifer Martinick spoke on hair transplants into scar. Her tip was to debulk some of the thick scar tissue with a 0.6-0.75mm punch instead of just making incisions with a needle or a blade. Minoxidil was applied to the recipient site 2 weeks before and 6 weeks after. She has been using this method for the last 8 years and has noted very predictable outcome in growth.

Dr. Kenichiro Imagawa presented his cases and strategies on hair transplantation in cicatricial alopecia.

Dr. Golamali Abbasi outlined the role of hair transplantation in scars in the face and scalp. His first step was to distinguish between traumatic scar and scar induced by inflammatory diseases. The latter case should be selected very carefully in case the condition flares up secondary to the procedure. A lower than normal density should be planned. Attention must be made to match the color, diameter, direction, and angle of the transplanted follicles with adjacent hairs.

Dr. Vincenzo Gambino discussed his experience with synthetic hair, which is banned in the United States though many countries still allow synthetic hair implantation. Some patients may choose to remove the synthetic hair and replace it with transplanted hair. He noted that there is no contraindication to hair transplant except that two sessions may be required to achieve the desired result.

Dr. Mojtaba Amiri commented that when considering hair transplantation in female pattern hair loss, the selection of good candidates, complete endocrine evaluation and dermatological examination, as well as high hairline design are the keys to achieving a high satisfaction rate.

Video Surgery Workshop

Dr. Damkerng Pathomvanich moderated two video surgery workshops and the zoom-in views of the operating field gave good details of what was going on. Dr. John Cole started the first one on FUE, detailing and rationalizing every step of the procedure from preparation to harvesting. Dr. Sanjiv Vasa showed his video of Strip FUT. The video thoroughly reviewed each part of the procedure. This was very informative for the beginners who mainly perform FUE and have never seen a strip excised.

Panel Discussion

The first panel compared the results of a well-done strip ver-

sus a well-done FUE. Drs. Bessam Farjo, Russell Knudsen, and Damkerng Pathomvanich were on the strip side; Drs. John Cole, William Rassman, and Jose Lorenzo were on the FUE side.

Dr. Knudson pointed out that FUE may utilize non-permanent hair. Dr. Rassman commented that there was so far no perfect FUE extracting device. On the other hand, Dr. Cole criticized the “cap phenomenon” when the donor hairs were not aligned properly on wound closure.

The next debate was whether to include the previous strip scar in a second donor harvest. Drs. Bertram Ng and Tommy Hwang preferred not to in order to harvest more grafts, whilst Drs. Jerry Wong and Golamali Abbasi opted to include the previous scar to achieve a better donor appearance.

The last debate was whether to do single- or double-layer strip excision closure. Drs. Mohmand, Vasa, and Pathomvanich preferred single-layer closure whilst the opposite view was held by Drs. Dae-Young Kim, Wen Yi Wu, and Parsa Mohebi. It seemed the choice was more of a personal preference.

Breakfast with the Experts

Early at 7AM the seats around the round tables were fully occupied. Gathered around the 14 experts, the participants sought every opportunity to ask questions. This session was so well received that by 8:20AM the moderator still had a hard time getting doctors back to the lecture hall.

Gala Dinner

Dr. Hwang expressed gratitude to all the invited speakers and participants. Dr. Pathomvanich was awarded the first AAHRS Award. Dr. Vasa was announced as the next president of the AAHRS.

Final Comments

It is very natural to compare this AAHRS meeting to the ISHRS meetings. Some attendees complained that there were not enough research papers for a scientific meeting. The ISHRS has been around for 20 years and surely the 2-year-old AAHRS has a long way to catch up. Trying to meet the needs of everyone is not easy: FUT vs. FUE, novices vs. experienced surgeons.... Language is another obstacle as English may not be the first language for many. The organizing committee, however, did a wonderful job in reaching such a balance, so that every participant had some message to take home. The success of the 2nd AAHRS meeting was not only just at the academic level—it also provided a platform for doctors from different geographic regions, and from different ethnic backgrounds, to come together and share their devotion in becoming a better hair transplant surgeon. ♦

Review of the XIV International Congress of the Italian Society of Hair Restoration

Roma, Italy • May 24-27, 2012

Vincenzo Gambino, MD Milan, Italy vincenzogambino@vincenzogambino.com

The 14th International Congress of the Italian Society of Hair Restoration was divided into two days (surgical and medical treatment options). Topics included the consultation, patient expectations, medical and surgical treatment options from FUT donor harvesting with donor strip and/or FUE techniques, and the use and preparation of quality platelet rich plasma (PRP). There were lectures on stem cells, scarring alopecia, and the hair cycle.

Thursday/May 24, 2012

Prof. Marco Toscani, president of the ISHR, opened the meeting by welcoming the attendees and introducing keynote speakers Drs. Rolf Nordstrom and Jennifer Martinick, President of the ISHRS, who spoke about the beginning and evolution of hair restoration. Dr. Martinick also gave the welcome from the ISHRS and noted the importance of national societies in contributing to the advancement of hair restoration. She detailed the importance of artistry—in angle, direction, and gradual density—in hair transplantation.

Prof. Toscani reviewed the history of hair restoration surgery. Dr. Bessam Farjo presented on patient consultations and among other things the importance of giving the correct medical and surgical information addressing patient expectations. He also spoke about crown transplantation and his philosophy to avoid transplanting crowns in patients under 30 years old and the use of single-hair grafts to re-create the whorl. Dr. Marcio Crisostomo presented on harvesting combining FUT and FUE in order to improve the number of grafts per surgery. Dr. Kenichiro Imagawa spoke on his protocols for primary and secondary cicatricial alopecia transplantation. Dr. Kuniyoshi Yagyu also addressed this topic focusing on how to create maximum density by smaller surgeries spaced apart.

There was a session on FUT and FUE with Dr. Vincenzo Gambino presenting a harvesting video using FUT. Dr. Masahisa Nagai spoke on scar avoidance in FUT. Dr. Piero Tesaro spoke on all phases of planning and execution of FUT surgery in order to prevent mistakes. Dr. Emina Kamanovski spoke on FUE, extraction, graft placement, quality control, and all phases to achieve a good result. Drs. Giuseppe Rosati and Luca De Fazio spoke about FUE state of art harvesting techniques. Dr. Alex Ginzburg addressed where FUE is most applicable and where it's not. He also said punches should not be larger than 1.0, or preferably 0.8. Dr. Miguel Canales spoke and presented

a video on the history of Robotics development and FDA approval—stressing precision, speed, and reproducible results and the physician control of all surgical phases. Dr. Michele Roberto closed that topic discussing the advantages and disadvantages of both FUT and FUE. Dr. Robert Haber discussed low level laser therapy as an adjunct treatment for hair loss and also presented a paper on eyebrow transplantation.

Dr. Franco Buttafarro presented advantages of a head mounted microscope. Dr. Gary Hitzig spoke of his experience using porcine derived UBM (urinary bladder matrix) to improve hair restoration results by itself or using enhanced PRP. Dr. Sharon Keene addressed treatment of bad scars from both FUE and FUT.



Faculty of the ISHR

Friday/May 25, 2012

Prof. Stefano Calvieri, keynote speaker, spoke about stem cells of the cutaneous system.

Prof. Andrea Marliani gave a presentation on the hair clock, cyclical hair growth—explaining the reciprocal interface between DHT, estrone, and glucose metabolism and how this relationship opens new avenues in tricological therapies. Dr. Roberto D'Ovidio spoke on the possible connection between growth failure in transplantation

and some scalp inflammatory conditions. Dr. Daniele Campo presented on the possible connection of depression and hair loss based on observations during a 29-patient study—a hypothesis of a new entity, psychogenic alopecia. Dr. Alfredo Rossi reported on his published study that established the safe use of finasteride (1mg) in patients with androgenetic alopecia.

A session on PRP included Drs. Fabio Rinaldi, Ciro De Cio, and Maria Santuli, talking on state-of-the-art use, reality, and prospects, and method of preparation.

Prof. Toscani closed the meeting with final remarks and awards presentation. ♦

Review of the 16th Annual Meeting of the European Hair Research Society: highlights relevant to hair restoration physicians

Barcelona, Spain • June 21-23

Thursday/June 21, 2012

Bessam Farjo, MBChB Manchester, United Kingdom

Dr. Ralph Trueb called for a more global approach to managing AGA not just addressing genetics and androgens, but also possible inflammation and fibrosis, microbial colonization, environmental stress and UV radiation.

Trisia Breitkopf and the Jerry Shapiro group noted that they found that somatostatin is up regulated in the hair follicles and plays a role in their immune privilege. This may have relevance in treatments for inflammatory conditions and even hair transplantation.

Friday/June 22, 2012

Francisco Jimenez, MD Canary Islands, Spain

On Friday there was a section devoted to genetic hair dysplasia. Regina Betz from the University of Bonn talked about the

genetics of hypotrichosis simplex (HS) and woolly hair. HS comprises a group of clinically and genetically heterogeneous forms of hair loss. The clinical classification of HS is based on the age when the patient first shows symptoms of the disease and the regions affected. Mutations in several genes have been identified for various forms of HS, such as LIPH, DSG4, LPAR6, CDSN, etc. Mutations in the lipid pathway (LIPH and LPAR) indicate that both the Wnt pathway and the lipid pathway play important roles in hair growth.

Dr. Rudolf Happle presented several very rare clinical genetic syndromes affecting the hair: the Ermine phenotype, which involves pigmentary changes (white hair with black tufts) and deafness; the Manitoba syndrome, whose symptoms include an aberrant temporal hairline in which hair grows and merges with the eyebrows, coloboma and anal abnormalities; and the Cantu syndrome, which comprises congenital hypertrichosis with osteochondrodysplasia and cardiomegaly. The phenotype is similar to hypertrichosis due to minoxidil. The mutation of this syndrome (ABCC9) results in an aperture of the K⁺ channels (acts also as K⁺ channel opener).

Dr. Desmond Tobin spoke on the regulation of melanin transfer in human hair follicles. He showed electromicroscopic images of the filipodia, which are dendritic-like extensions, where the melanin containing granules (melanosomes) are transferred to their neighbouring keratinocytes. Myosin X, a protein present at the tips of the filipodia is required, acting as the engine for this transfer process. BMP6 appears to stimulate melanogenesis by inducing the formation of Myosin X and filipodia, while BMP4 reduces melanogenesis.

Natalia Botchareva presented a free communication about the influence of microRNA-214 during HF morphogenesis and HF cycle. MicroRNA 214 is expressed in epithelial cells and

modulates the activity of Wnt and BMP signalling. The over-expression of microRNA-214 inhibits hair growth.

Kevin McElwee presented preliminary data of a phase I/IIa clinical trial using autologous dermal sheath cup cell injections to treat androgenetic alopecia. The idea is to take a biopsy from the scalp occiput, isolate the dermal sheath cup cells (the part of the dermal sheath that surrounds the dermal papilla), culture them, and reinject them into thinning hair areas. They have developed an injector device with depth control to introduce these dermal sheath cells into the skin. The clinical trial is ongoing.

There was a more clinically oriented section on androgenetic alopecia (AGA). Dr. Won-Soo Lee reviewed the current therapy of AGA, including the concerns about finasteride side effects. He was keen to remind us that the FDA's recent changes to Propecia® labelling was based on 421 post-marketing reports (1998-2011) rather than blinded studies. The relevant data is that

of the 421, 59 cases reported that sexual side effects lasted at least 3 months after cessation of the drug. He also mentioned that bimatoprost 0.03% will be undergoing trials whilst dutasteride 0.5mg daily is now licensed for AGA in South Korea.

Dr. Nilofer Farjo reviewed the entire hair transplant technique, showing a 6-minute video of the whole process including strip harvesting, trichophytic closure, FU dissection, creation of a natural hairline, creation of recipient sites, and FU implantation. She

also spoke about the indications and the pros and cons of FUE. Finally, one of the highlights of the day was a talk by Claire Higgins, from Angela Christiano's lab in Columbia University, on the inductive properties of human dermal papilla cells. After isolating DP from human hair follicles, they grow the human DP cells in spheroid cultures in order to retain their inductive potential. Then they place the dermal papilla spheres between the epidermis and dermis of neonatal foreskin and graft it onto the back of mice. Human HF neogenesis can be observed after 6 weeks.

Saturday/June 23, 2012

Bessam Farjo, MBChB Manchester, United Kingdom

Prof. Alfredo Rebora gave an excellent talk classifying telogen effluvium (TE) into 3 types: TE due to premature teloptosis from factors such as topical meds and UV light, TE due to collective teloptosis such as neonatal and post-partum hair loss and also following hair meds cessation, and TE due to premature entry into telogen, such as following treatment with anti-mitotic drugs.

Dr. Tobias Fischer studied new target genes for caffeine in male and female hair follicles. Four genes were found to be



Prof. Desmond Tobin (far left) and Dr. Andrew Messenger (far right) with members of the Institute of Trichology.

EHRS review

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most regulated by caffeine. DCD was up regulated in all hairs, whereas LTF was up regulated in males and PFKFB3 in females. The fourth gene was KYNU. He also noted that classic hair growth controls such as TGF β , Wnt, and IGF were also caffeine-regulated.

A study from the L'Oreal group in France focused on hypoxia and concluded that molecules that mimic hypoxic signalling, such as stemoxidine, can act as a hair kenogen phase shortener leading to increased visible scalp hair density.

There were talks on the mysteries of frontal fibrosing alopecia and the surprising finding that many of the audience were happy to refer for hair transplantation. However, at the ISHRS Annual Meeting

in Alaska, Drs. Francisco Jimenez and Bernard Nusbaum noted that there are severe doubts about the medium and long-term survival of the transplanted hairs in these cases.

The keynote John Ebling lecture was given by Angela Christiano of Columbia University. She enlightened us about two drugs under investigation that have high hopes in the treatment of alopecia areata and are nearing clinical trials. The first, Abatacept, is a CTLA-4 soluble protein already licensed for rheumatoid arthritis and in phase III trials for psoriasis as well as trials for type I diabetes. It works by inhibiting CD80 T-cell activation and can be administered subcutaneously. The second drug, Tofacitinib, is also being investigated for Rheumatoid arthritis as well as psoriasis, inflammatory bowel disease, and as an anti-rejection drug after organ transplants. It is an inhibitor of the JAK3 enzyme affecting the transmission of extracellular information into the nucleus and influencing DNA transcription. ♦



Drs. Nilofer and Bessam Farjo (center) with British dermatologists at the gala dinner.

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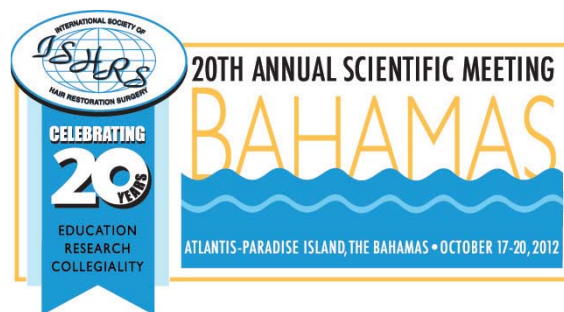
Course Director
Samuel Lam, M.D.

Assistant Director
Emina Karamanovski, M.D.

**Register Soon on-line
at <http://pa.slu.edu>**

20 Year Anniversary Commemorative Issue

In honor and celebration of the ISHRS's 20th anniversary, we are offering a gratitude section in the September/October 2012 issue of *Hair Transplant Forum International* where special advertisement space will be sold to members, partners, and supporters.



The intent of the section is to allow members and industry partners to wish congratulations, share memories, post photos or thoughts, or express what the ISHRS means to them. These ads must not be commercial (selling a service or product) and cannot promote one's own practice.

Click http://www.ishrs.org/PDF/F5_E-Form_Commemorative_Issue-FINAL.dotx to learn more and download the form.

To reserve your spot in the issue, you must return the form with payment by **Friday/August 3, 2012**. Artwork, photos, and ad text must be submitted by **Monday/August 6, 2012**.

2012 USA AUG 4-5 | DENVER FUEpalooza COLORADO

FUE Technology Workshop **The Hands-On Experience**

www.FUE-palooza.org



ISHRS Regional Workshop

Hosted by: **James A. Harris, MD**

Register today! You do not want to miss this one-of-a-kind hands-on experience to learn about and try various mechanized tools used for follicular unit extraction (FUE). Compare and contrast popular devices and decide for yourself which tool or tools suit you the best. Sponsored by the International Society of Hair Restoration Surgery.

Clinic sponsors: Hair Sciences Center of Colorado and Bosley

Target audience: Hair restoration surgeons from beginner to advanced, who desire the opportunity to learn about mechanized FUE devices

Learning objectives:

- Name and describe the mechanized devices for FUE that are currently available.
- Employ the different methodologies and instrumentation for FUE.
- Discuss the advantages and disadvantages of each device.
- Understand the basic aspects of FUE with these devices in order to successfully and safely perform this procedure.

Faculty and devices to be covered: James A. Harris, MD – ARTAS; Robert H. True, MD, MPH – Motorized sharp punch FUE system; Ken L. Williams, DO – Neograft; William D. Yates, MD – Powered SAFE System for FUE; John P. Cole, MD – Feller Motorized FUE punch; Scott Boden, MD and Bradley R. Wolf, MD – Hands-on lab/silicone models with various instruments; Ken Washenik, MD, PhD, Clinic Host

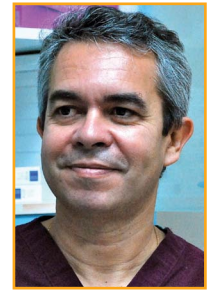
Registration: Go to: www.FUE-palooza.org

There are limited slots to register for this workshop. We anticipate a sold-out workshop, so if you are interested in registering, we encourage you to register early as enrollment is first-come, first-served.

Exhibits: Opportunities are available for tabletop exhibits.

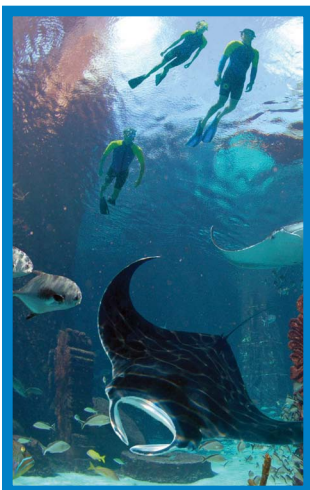
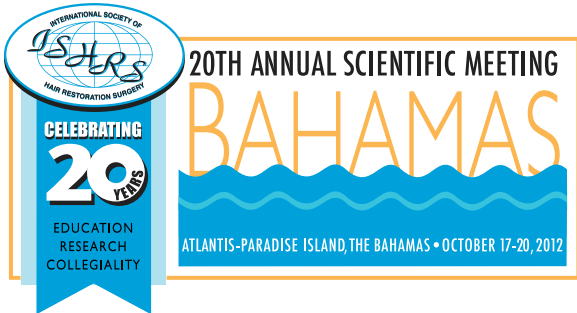
Message from the Program Chair of the 2012 ISHRS Annual Scientific Meeting

Francisco Jimenez, MD Las Palmas de Gran Canaria, Canary Islands, Spain fjimenez@clinicadelpelo.com



Ten good reasons to come to the next ISHRS meeting in the Bahamas

1. Newcomers to this field are always welcome to our meetings. We are delighted once again to offer them the opportunity to participate in the Meeting Newcomers Program, as well as to register for the Basics Course.
2. A new 4-hour hands-on workshop on FUE will be held the day before the meeting starts. It will allow those who attend the opportunity to practice with different equipment under the guidance of FUE experts.
3. If you are interested in finding out more about one of the hottest topics in hair research, you won't be disappointed. This year we have invited Professor Bruce Morgan from Harvard University as the Biology Lecturer. He will review for us the basic mechanisms that drive follicular stem cells to grow hair. His lecture is entitled "From Stem to Hair: Deciphering and Exploiting the Instruction Set That Guides Follicle Regeneration."
4. Do you want to know which new therapies under investigation might play a role in hair restoration in the near future? This year we are setting up an ambitious session/discussion panel with a number of guest speakers that will be moderated by the always brilliant Dr. Ralf Paus from the University of Lübeck (Germany). In this session there will be a critical analysis of different strategies to induce hair growth—including cell-based therapies, de novo hair follicle formation, scalp injection of growth factors, and so on.
5. We have been passive witnesses of an alarming negative campaign driven by the Internet forums about permanent side effects of finasteride: What is fiction and what is reality? Do we really need to be concerned about those side effects? Dr. Freedland, a world-renowned expert in this field from Duke University's Department of Urology, has kindly accepted our invitation to participate in a finasteride symposium, led by Dr. Dow Stough, that will debate these issues.
6. There is no better way to learn a technique than by watching how the procedure is done on real patients. For this reason, one of our priorities for this meeting is to show "How I Do It" videos, so that you can observe the application of hair grafting in unusual clinical situations, new devices/techniques that can be incorporated in your practices, and interesting surgical pearls that you won't find in textbooks.
7. To attend the session "Hot Topics in HRS." New technology and developments lead invariably to controversy. Topics such as robotic hair harvesting and donor area safety in FUE are just a couple examples of topics that will be debated in this session by speakers with differing viewpoints.
8. In order to build a successful HT practice, it is important to have knowledge of practice management and marketing. Internal/external marketing strategies, advanced Internet marketing, and how to run multiple office locations effectively are a few examples of the topics that will be covered in two lunch symposiums.
9. As usual, a variety of attractive topics will be covered in greater detail in the morning workshops. This year we have included topics as diverse as eyebrow hair transplantation and scalp microtattooing.
10. If the above doesn't seem sufficiently attractive, then just lay back, take off your shoes, and enjoy the beaches of the Bahamas and the incredible facilities that you and your family can enjoy at the Atlantis Hotel, Paradise Island. ♦



Registration is now open! <http://www.ishrs.org/AnnualMeeting.html>

Surgical Assistants Corner

Patrick Tafoya Orlando, Florida, USA patrickatafoya@yahoo.com

We are pleased when new ISHRS Surgical Assistant members contribute an article to the Assistants Corner. Welcome, Kerry.



The roles of a quality control technician and graft placement assistant

Kerry Brookfield, Farjo Medical Centre Manchester, United Kingdom info@farjo.com

Hair transplant surgery is constantly evolving and growing; therefore, we strive to develop within our increasingly popular speciality. This includes finding how our team can be productive and time-efficient while making sure the patient is comfortable and well cared for. In our clinic we continuously analyse the way we work as a team. We do this by having regular team meetings to discuss ideas and what productive changes we could make and how we could implement them. This makes our surgery run more efficiently and smoothly.

Our team introduced the role of a quality control technician to ensure an accurate reading of the number of grafts. This was because in several instances there was significant difference between how many grafts had been logged as cut compared to how many had been placed. Thus, we developed the roles of a quality control technician and a graft placement assistant.

Quality Control Technician

It is the job of the quality control technician to count the grafts in the petri dishes to ensure there are no discrepancies between how many grafts a technician counts and writes down to how many grafts are taken over to the placers (Figure 1). The benefit of having the quality control technician is that it ensures that the end number of singles, doubles, and threes are an accurate total.

Whilst the quality control technician is counting the grafts, the use of a microscope is essential so they can also ensure that the grafts are of excellent quality (e.g., not too skinny or too chunky) and also that there is nothing attached to the graft, such as fibres from the gauze or wood sliver from the tongue depressors. The body would treat these as a foreign body causing redness, swelling, or, in the worst case, an infection. The quality control technician also ensures that the grafts are sufficiently hydrated before taking them over to the placers.

Below is an example of a log sheet used by our quality control technician. The first four columns are what the technician says they have cut and the final four columns are what the quality control technician has actually counted. As you can see there are no discrepancies between how many graphs Tech A has cut, to how many Tech B has counted. However, Tech C has a discrepancy of 4 graphs in total.

Whilst in this instance the discrepancy appears low, if you end up with 10 technicians each being out by 5%, then on a

case of 2,500 grafts you would be out by 125 grafts. This would have a significant impact on the patient. We also found that inaccuracy in counting does not always show a negative discrepancy, for example. Very often when counting white hairs, which are obviously much harder to see in the petri dish, we notice that the technicians often under count the grafts again emphasising the value of the quality control technician who will highlight this on the second count.



Figure 1. Grafts being counted and checked under magnification.

Placing Assistant

While placing, technicians use a small disposable pot on their index finger to hold 60-100 grafts in normal saline. From the pot, they take out about 10 grafts at a time onto their forefinger. This increases productivity and speed (Figure 2).



Figure 2. Grafts in finger pots.

Once the cutting process is finished, it is the job of the placing assistant to load the pots and place them ready for the placer to pick up. The pots technician will ask the placers if they need singles, doubles, or threes, and will load 60 grafts per pot. Sometimes this can be 100, depending on how experienced the placer is. This means no time is wasted in stopping placing as the placers do not need to spend time loading their own grafts.

The pots technician can then get an accurate number of how many grafts are left to place and also how many have been placed and then inform the placers. The placing assistant can also pass anything to the placers that they might need (e.g., spray or the comb) thus saving more time for the placer.

Since implementing these roles, we have found that not only is the procedure quicker so patients are spending less time sitting in the chair, but that we are also more accurate in matching estimated graft totals to the number of incisions made. ♦

Technician	1's	2's	3's	QC Technician	1's	2's	3's
Tech A	50	130	30	Tech B	50	130	30
Tech C	63	142	41	Tech B	63	139	40

Classified Ads

To Place a Classified Ad

To place a Classified Ad in the *Forum*, simply e-mail cduckler@ishrs.org. In your email, please include the text of what you'd like your ad to read—include both a heading, such as “Tech Wanted,” and the specifics of the ad, such as what you offer, the qualities you're looking for, and how to respond to you. In addition, please include your billing address.

Classified Ads cost \$85 per insertion for up to 70 words. You will be invoiced for each issue in which your ad runs. Our 2012 rate sheet can be found at the following link: <http://www.ishrs.org/ishrs-advertising.htm>

ISHRS On-Demand Webinars

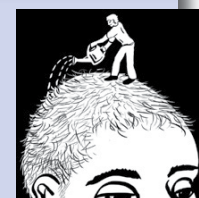
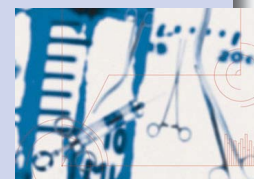
Going Viral: Unlocking the Secrets of Social Media for Hair Transplant Patient Education and Beyond

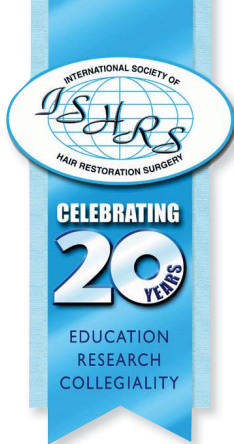
Intro to Biostatistics & Evidence Based Medicine

“Grow Hair Grow!”—Minimizing Poor Growth in Hair Transplants, and New Ways to Max It Out

<http://www.ishrs.org/for-hair-doctors.htm>

Under “Educational Products”, click
“On-Demand Webinars”.





20TH ANNUAL SCIENTIFIC MEETING

OCT 17-20
2012

BAHAMAS

New Trends in Hair Restoration: Surgery and Science

PLAN TO ATTEND!

The ISHRS's annual scientific meeting is THE premiere meeting of hair transplant surgeons and their staff. *You don't want to miss it.*

NEWCOMERS ARE WELCOME!

We will again offer a "Meeting Newcomers Program" to orient those who are new to the ISHRS annual meeting. Newcomers will be paired with hosts. We want to welcome you, introduce you to other colleagues, and be sure you get the most out of this meeting.

EMERGING THERAPIES Different Strategies to Induce Hair Growth

GRAFT SURVIVAL – FUT vs FUE

FINASTERIDE SYMPOSIUM "So tell me doctor, are there any side effects?"

TO TRANSPLANT OR NOT TO TRANSPLANT CASES

PRACTICE TIPS AND SURGICAL GEMS Top Pearls to Achieve the Best Results

ROBOTIC HAIR HARVESTING

ADVANCES IN HAIR BIOLOGY The role of follicular stem cells in hair cycle regeneration

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www.ISHRS.org/AnnualMeeting.html



ATLANTIS-PARADISE ISLAND, THE BAHAMAS



**Advancing the art and
science of hair restoration**

Upcoming Events

Date(s)	Event/Venue	Sponsoring Organization(s)	Contact Information
DIPLOMAS Academic Year 2012–2013	Diploma of Scalp Pathology & Surgery U.F.R. de Stomatologie et de Chirurgie Maxillo-faciale; <i>Paris, France</i>	<i>Coordinator:</i> Pr. P. Goudot <i>Directors:</i> P. Bouhanna, MD, and M. Divaris, MD	Tel: 33 +(0)1+42 16 13 09 Fax: 33 + (0) 1 45 86 20 44 sylvie.gaillard@upmc.fr
January 2012	International European Diploma for Hair Restoration Surgery	<i>Coordinator:</i> Y. Crassas, MD, University Claude Bernard of Lyon, Paris, Dijon (France), Torino (Italy), Barcelona (Spain). Department of Plastic Surgery www.univ-lyon1.fr	For instructions to make an inscription or for questions: Yves Crassas, MD yves.crassas@wanadoo.fr
August 4-5, 2012	FUE-Palooza ISHRS Regional Workshop <i>Denver, Colorado, USA</i>	International Society of Hair Restoration Surgery Hosted by James A. Harris, MD Clinic Sponsor: Hair Sciences Center of Colorado www.fue-palooza.org	jlmccasky@hscolorado.com
October 17-20, 2012	20th Annual Scientific Meeting of the International Society of Hair Restoration Surgery <i>Paradise Island, Bahamas</i>	International Society of Hair Restoration Surgery www.ishrs.org	Tel: 630-262-5399 Fax: 630-262-1520
November 15-18, 2012	4th Annual Hair Restoration Surgery Cadaver Workshop <i>St. Louis, Missouri, USA</i>	Practical Anatomy & Surgical Education (PASE), Center for Anatomical Science and Education, Saint Louis University School of Medicine In collaboration with the International Society of Hair Restoration Surgery http://pa.slu.edu	http://pa.slu.edu
November 22-23, 2012	17th Annual Congress of the Japan Society of Clinical Hair Restoration <i>Tokyo, Japan</i>	Japan Society of Clinical Hair Restoration www.jschr.org	Tel: 81-4-2995-1511 ext.3692 Fax: 81-4-2997-5156 Prof. Tomoharu Kiyosawa, MD xoo@ndmc.ac.jp
May 4-6, 2013	7th World Congress for Hair Research <i>Edinburgh, Scotland</i>	European Hair Research Society www.hair2013.org	hair2013@meetingmakers.co.uk

HAIR TRANSPLANT FORUM INTERNATIONAL

International Society of Hair Restoration Surgery

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Dates and locations for future ISHRS Annual Scientific Meetings (ASMs)

- 2012: 20th ASM
October 17-21, 2012
Paradise Island, Bahamas
- 2013: 21st ASM
October 23-27, 2013
San Francisco, California, USA
- 2014: 22nd ASM
November 2014
Bangkok, Thailand

