Hair's the Question

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*The questions presented by the author are not taken from the ABHRS item pool and accordingly will not be found on the ABHRS Certifying Examination.

Once I wrote a column with questions about gray hair, I became curious about other colors of hair. Did you know that the rarest hair color in humans is red? Other wacky facts about red hair also surfaced; the ancient Greeks believed that redheads would turn into vampires after they died! Admittedly, some facts are more relevant to the practice of hair surgery than others, but all of it is fascinating to those of us who are students of hair trivia. Enjoy!

Red Hair Questions

1. What percent of the Earth's population is estimated to have red hair?
   A. 1-2%
   B. 2-3%
   C. 4-5%
   D. 10%

2. When transplanting red-haired patients, which of the following might be a consideration?
   A. Increased difficulty with graft preparation
   B. Increased pain sensitivity (i.e., difficulty with numbing)
   C. Increased difficulty coloring the hair
   D. Increased risk of cancer (particularly skin cancers)

3. When transplanting red-haired patients, which of the following might be a consideration?
   A. Thinner hair diameter
   B. Slow rate of hair re-growth if shaved
   C. Decreased density
   D. Increased density

4. Which country has the highest percentage of natural redheads (i.e., the highest percentage of people carrying the gene)?
   A. Ireland
   B. England
   C. Scotland
   D. United States

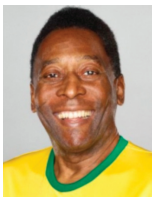
5. What is the genetics of red hair?
   A. It is caused by a recessive mutated melanocortin 1 receptor.
   B. It is an autosomal dominant trait.
   C. It is a Y-Linked trait.
   D. Both parents must be redheaded in order to have a "red-headed stepchild."

6. Which of the following facts about red hair is true?
   A. Redheads have a more fiery temperament.
   B. People with red hair are more often right-handed.
   C. True redheads cannot create their own vitamin D.
   D. Red hair will never turn grey; it simply fades to white.

7. Which of the following medical facts about red hair is false?
   A. People with red hair have twice the risk of developing Parkinson's Disease.
   B. Otherwise dark hair may turn red or blond in cases of severe protein deficiency due to starvation.
   C. Redheaded women bruise more easily than women with other colors of hair.
   D. Redheads have more hairs on their heads.

8. Which of the following celebrities was a natural redhead?
   A. Elvis Presley
   B. Marilyn Monroe
   C. Pele (Edson Arantes do Nascimento)
   D. Diana, Princess of Wales



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Answers

1. **A.** Red hair is RARE!
2. **B.** The gene that codes for red hair is apparently on the same gene that codes for pain receptors. Hence, some scientific articles posit the need for about 20% more anesthesia for your red-haired patients than for your patients with other hair colors. My staff has not had trouble with grafts from red-haired patients, either with FUE or FUT, so A is false as far as I know (but feel free to write me if your experience differs!). C is true—it IS more difficult to color red hair—but not really relevant to hair surgery. D is true as well, but again not particularly relevant. Of interest, I found a DECREASED risk of prostate cancer reported for redheaded males, but I just figured they were all taking finasteride… (only kidding; both finasteride and red hair seem to be independently associated with decreased rates of prostate cancer).
3. **C.** Redehads have thicker hair shafts with lower overall density. Their rate of growth is not different, however.
4. **C.** Prince Harry of Wales notwithstanding, C is true—the Scots have it at 13%! Look out all you hair doctors from Scotland! But the Irish are close at 10% and the United States has the highest population in terms of numbers of redheads in the world. Red hair apparently can occur with any ethnicity though.
5. **A.** A is true, D is NOT true, and the term "red-headed stepchild" is a silly reference to uncertain parentage due to the misunderstood and recessive nature of the genetic transmission. Both parents must be carriers of the recessive mutated melanocortin 1 receptor (MC1R) gene on chromosome 16 to be able to produce redhead offspring, but they themselves do not have to be redheaded. More specifically, "The mutation blocks the production of eumelanin (dark brown and black pigment), which causes a buildup of the phaeomelanin (red and blond pigments)." It is estimated that the gene mutation arose 20,000-40,000 years ago, although it was discovered more recently—in 1995!—by the researcher Jonathan Reese.
6. **D.** Although no real data exist about redheads and their emotional lability, redheads are more often lefties and CAN create their own vitamin D in low light conditions! That just seems like a superpower to Vitamin D deficient people like me…
7. **D.** Blondes have on average 140,000 hairs, black/brown haired people have 100-110,000, and redheads have approximately 90,000. The others are just fascinating little factoids. One false "fact" that did not make it into the question is the idea that redheads could become "extinct" in the next century. Given the up to 40% prevalence of the gene, this is unlikely.
8. **B.** Marilyn Monroe (aka Norma Jean Mortenson) was a natural redhead.

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Meeting Review

Review of the 2018 World Live Surgery Workshop March 8-10, 2018 • Dubai Healthcare City

THURSDAY/MARCH 8, 2018

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Dr. Conradin von Albertini opened the workshop with a personal story about the ISHRS introducing him to the world of hair and education, particularly the rich live surgery part. "No time to get bored in the OR" was his promise. Maryanne, his wife, is the "power behind the throne" for this workshop.

Dr. Ali Abassi then reviewed androgenetic alopecia. For those with early, sudden, or unusually patterned alopecia, Dr. Abassi reminded us additional investigation should be done. Mimics are common and varied; DUPA, alopecia areata, frontal fibrosing alopecia (FFA), and lichen planopilaris (LPP) will be pitfalls for the surgeon if they remain undiagnosed and subsequently transplanted.

Dr. Ratchathorn Pratapacheep reviewed the methods and clinical presentations of scarring versus non-scarring alopecia. Dermoscopy helps differentiate, as does a detailed history. Management depends on the specific diagnosis, but it is important to remember that surgery is contraindicated in active disease. It is now clear that anagen effluvium post chemotherapy can occasionally become permanent. Of the non-scarring alopecias, alopecia areata is the most common and as an autoimmune disease it affects 1.7% of patients worldwide. She offered a good algorithm for treatment of alopecia areata (email her at rpanchaprateep@gmail.com). Another important pattern to recognize is trichotillomania since transplant may not be successful.

Dr. Francisco Jimenez discussed the two types of scarring alopecias—primary and secondary—in which loss of follicular openings with shiny atrophic skin is typical. Although primary scarring alopecias, where the follicle is the target, are not good candidates for transplantation, secondary scarring alopecias are excellent ones. Primary scarring alopecias are difficult to diagnose and treat. Most dermatopathologists differentiate among them by the cells present (lymphocytic vs. neutrophilic). The two most common at this time are FFA and LPP, and they seem to have the same pathological features. He noted that an adequate punch biopsy should be taken from the active part at the periphery of the lesion, two biopsies are ideal for both longitudinal and horizontal sections, and you should include deep subcutaneous tissue parallel to the follicle direction.

Treatment options of primary scarring alopecias include antimalarials, finasteride/dutasteride, steroids, or a combination. Test grafting after 2 years of complete disease inactivity may be advised, but reactivation and destruction may occur even after several more years.

Dr. Jennifer Martinick reviewed the "dos and don'ts" of the consultation and patient selection. It is incumbent upon the surgeon to act in the best interest of the patient, so an in-person assessment of each patient by the doctor is critical. Consultations should also involve a truthful long-term plan concerning future hair loss including medical and surgical treatments, cosmetic treatments like hair fibers or SMP, or even a wig. She emphasized that patient selection is the physician's responsibility.

Dr. Emorane Lupanzula reviewed the safe donor zone and noted that it is absolutely critical to stay within the safe area. Many descriptions of this zone exist and general guidelines include the side margins as well as the back. He uses the densitometer to evaluate the miniaturization. If too many hairs are less than 45-50 microns wide, he does not feel comfortable performing any hair transplant. He does not recommend harvesting grafts any further than 4cm below the

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occipital bone or more than 2cm on the top of the occipital bone. Caliber and density can help to determine the safe areas to harvest.

Dr. Konstantinos Anastassakis reviewed the good practice of surgical planning. Projecting the eventual extent of alopecia is critical. Hair loss is relentlessly progressive, and the conservative approach is a good one although it is not ALWAYS necessary to be strictly conservative. Measuring the parameters of the donor area and color, caliber, contrast, wave, and frizziness are also important. He advises treating the hairline first and making it blend in and noted that you should "hear but do not listen to your patient" if he or she proposes an unrealistic or inadvisable surgical plan. Avoid the vertex if the patient is young. Know your strengths and weaknesses with your surgical technique, whether it is FUT or FUE. Do not waste your resources and do not overharvest the donor area. Side framing of the face will give the whole look in the long run. "Predict the opponent attacks" with aggressive hair loss. Use medications and other proven treatments to prevent hair loss, and use other cosmetic options to enhance your results.

Dr. Robert Haber reviewed the history of hairline design beginning with the poorly designed hairlines when "plugs" were popular in the 1980s. The 1990s were the heyday of hairline design. The FUE revolution focused attention on the donor area to the detriment of the hairline—which is where the real result is optimized overall and where an excellent surgeon's work should be assessed. Today's hairlines are sophisticated and the focus should be on making them look as natural as possible. He emphasized that the physician must become a lifelong observer of hairlines. You should try to accommodate the wishes—but not the dictates—of your patients. Even under close exam, a hairline should not look transplanted.

Dr. Haber broke down the process into several steps including choosing the location (trichion: MFP prior to onset of hairloss) versus the mid-frontal point, which is the surgical hairline you create. Several options to choose the starting point are available, including the "Rule of thirds," and ongoing hairline recession dictates a likely raising of the mid-frontal point. Build the mid-frontal point at 7-10cm above the glabella. When choosing the shape, realize there is a lot of variety. Symmetry should be attempted (can use mirrors, hash marks can help), although perfect symmetry is undesirable since irregularity adds naturalness. The last step is the creation of density with a transition zone at the hairline and random zones with mounds and central areas. Female hairlines and different ethnic groups, however, require a more targeted approach.

Dr. Greg Williams discussed anesthesia and optimizing patient experience and safety while minimizing pain. Plan long-acting and short-acting anesthetics along with optional buffering solutions, smaller needle sizes, smaller syringes, sensory distraction and vibration, warming of the anesthesia, and patient positioning since these can all help. Peripheral nerve blocks are useful though field block is the most common anesthesia method used. Sedation (either oral or IV for relaxation) is useful for the reduction in BP and for patients to stay still (with the optional amnesic effect). Complications include toxicity and bruising, and a surgeon should be familiar with the signs and symptoms as well as the emergency interventions. Staff should be fully trained and equipped for incidents requiring emergency life support

Dr. Conradin von Albertini reviewed follicular unit excision techniques. He noted two challenges of FUE are the multiple site cuts over a large surface and the fragile grafts that can be denuded, splayed, and transected at various levels. The fundamental dilemma of FUE is minimizing the punch size reduces donor damage, but increasing the punch size results in better grafts. A blunt punch may result in better grafts. Depth control (minimal depth control of 2.5mm) helps to reduce transection with sharp punches. Serrated punches can also help to harvest grafts. Hexagonal blunt punches may create a lower transection rate. Additional advances include the flared punch, which is a mix of the blunt and sharp, and different suction devices that allow you to be more precise during initial excision. There is no single ideal solution, so FUE surgeons should be familiar with the use several devices depending on the patient.

Dr. James Harris reviewed donor analysis, size, and limits as an extension of the Dr. Lupanzula talk. Donor capacity (the total number of grafts available from any patient's safe donor area) varies considerably. How many can be removed per square centimeter is an open question with much healthy debate. Several indices have been proposed including "Hair coverage value" and "Hair diameter index," which are conceptually the same and inform the surgeon of the capacity of the donor area. Donor capacity with the hair diameter index/coverage value for the average Asian and Caucasian donor is approximately equal.

Dr. Jean Devroye discussed FUE graft injuries. Chubby FUE grafts with FAT are the goal for optimum survival and growth. Injuries most often occur during excision and placing; transection is the worst, followed by capping (with or without hairs), plucked hairs (which may grow but not more than once), splitting (where one portion of the follicular unit is har-

vested and the other is left behind), and either paring or de-sheathing of one edge of the follicle (usually created with the sharp punch). Broken or fractured follicles along with distortion are a consequence of torsion (turning of the follicle by a motorized punch). Placing injuries include J hairs (also known as hooking) and decapitation.

Dr. Kapil Dua noted that FUE has its own set of complications and challenges in the donor area and reviewed both general complications and complications specific to FUE. One of the most recognized complications is pinpoint white scars. Darker skin types become more visible with shorter hair and overharvesting. FUE surgeons can minimize this complication by using smaller punches and zig-zag extraction patterns. Other complications include the familiar "moth eaten" appearance, donor area effluvium due to inadequate blood supply, and buried grafts (which can be avoided by not rushing the process). Folliculitis can occur if the grafts are not taken out completely. Necrosis of the donor area is associated with overharvesting. Visible thinning with patches of hair loss is usually due to larger sessions and high transection rates. If grafts are harvested from outside the safe zone, grafts may be nonpermanent and the excision sites may become visible.

Dr. Damkerng Pathomvanich spoke about calculations for strip harvesting and wound closure. FUT surgery is a more complicated and invasive procedure to perform than FUE, but it can obtain a higher number of grafts and thus requires more highly trained staff. Strip calculations may include number of grafts, length, and elasticity/laxity of the donor zone. Scalp laxity can be calculated by the Mayer-Pauls laxity scale and/or a laxometer. Donor density can be calculated via many methods. Measuring the safe donor zone in centimeters along with the width and density will give a simple calculation of the estimated number of grafts available. The strip should be divided into central and lateral zones where the lateral zone is less wide than the central area. Spreading during harvest after a superficial scoring incision can be used to reduce transection rates. The basic principle of wound closure is that the wound should be tension free. Young patients tend to scar more than the older ones (<30 vs >50). Double trichophytic closure will reduce the appearance of the scar. Double-layered closure is preferred since it helps reduce tension, and avoiding undermining will help avoid many complications. For the final closure, either nylon or staples are preferred for the best wound healing and a narrow scar.

Dr. Mohammad Humayun Mohmand provided an overview of FUT complications. Two of the most common are edema and post-operative pain, which can range from mild to acute. Post-operative altered sensations can be prevented with superficial incisions. Avoid incising vessels to avoid post-operative bleeding. AV fistulas are a rare complication of hair transplant surgery and happen mostly in the donor area. Post-op hiccups are not as much of a problem as a post-op tender scar. To avoid a tender incision and scar, place any superficial nerves you encounter deep into the wound and suture over them. Infection rates are very low. Skin necrosis is more common with smokers and diabetics or when higher tension levels exist after closure (and horizontal mattress sutures can help reduce wound tension). Ingrown hairs are common with trichophytic closures (or cysts). Hypertrophic and keloid scarring are rare complications even in prone patients. Physical pressure of sleeping on the wound can help prevent this reaction. Absorbable sutures can cause problems as can leaving stitches in too long (i.e., >14 days). In short, poor technique and planning are the main causes of FUT complications.

Dr. Bradley Wolf emphasized the importance of grabbing the Keratin instead of the dividing cells as he introduced the placing session.

Dr. George Zontos then reviewed the principles of good placing. He noted FUE grafts lack surrounding fat tissue, which makes them more vulnerable to dehydration, and physical trauma (squeezing or crushing) and increased time "out of body" also leads to problems. Popping can be avoided by reducing the density, using coronal incisions, or decreasing lateral pressure. The issues of piggybacking and bent grafts, can be minimized with good visualization and implanters. Grafts placed too deeply will cause cysts. Hemostasis is important for visibility and reducing popping.

Dr. Bessam Farjo gave an overview of placing techniques. He suggested that all grafts should be kept wet and to avoid holding grafts by the bulb (i.e., where the graft is not keratinized). Appropriate site depth, spacing, and site size are essential for proper placement of grafts. Graft placing with pre-made sites or "stick-and-place" are both good options. Forceps or implanters can be used with either technique. The pre-made site angles must be understood by the technicians involved or the grafts will be placed incorrectly. Placing using the two-person, or "buddy," technique (or one staff with two forceps) gently moves the graft into the site with minimal popping or trauma. The "stick-and-place" technique typically results in

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less bleeding since the graft is put in right away and "piggy-backing" is avoided. Sharp implanters basically behave like stick-and-place. Dull implanters allow technicians to assist with graft placement. The essential elements of graft placement include providing good magnification, maintaining hydration, handling gently, and ensuring proper graft sizing and appropriate spacing and depth.

Dr. Marie Schambach discussed placing disasters and how to avoid them. For scalp necrosis, which is due to decreased blood flow, use depth control, avoid dense packing, and lower the epinephrine concentrations. Avoid pitting by leaving the epidermis slightly above the epidermis. Cysts can happen when the graft is too low as well. Bumpy scalps can happen with sites that are too shallow. Ridging at the edge of the hairline can be avoided with site size control. Kinky post-op hair happens when hairs are jammed into sites causing kinking of the graft itself. Choose the site-making implement of your choice but make certain that it matches the size and length of the graft. Unnatural appearance is the most feared result for our patients, including the wrong angulation, direction, and poor density. Interlock your graft sites to improve the appearance of density and you can try site stamps to get an initial idea of where you are going to place a graft.

Dr. Melike Kulahci reviewed post-op care, pain management, edema therapy, and prevention. Her post-op instructions include antibiotics, washing, and scalp care. She noted the first 24 hours are the most worrisome for pain, and that acute edema and later swelling of the head can be helped by sleeping upright. Oral steroids can help up to 4 days post-op to reduce swelling. In her practice, they give written instructions and verbally review them. She also has her patients refrain from exercise and avoid alcohol. She advises her patients that 90% of scabs should have fallen off 10 days post-op. She instructs her patients how to wash their scalps and notes that moisturizing lotions helps make the scalp msofter. Patients are advised haircuts are allowed 3 weeks post-op, but to wait 4 weeks for hair dyeing. LLLT is advised 2 days after the surgery or simply as soon as possible and as often as possible. In her practice, check-ups are scheduled at post-op months 6, 9, and 12.

Dr. Kuniyoshi Yagyu spoke on operative risks in hair restoration surgery. He emphasized that fatal complications from hair restoration surgery are reported every year. The initial consultation is important to find any possibility of a history of adverse cardiovascular events. The heart should be monitored during surgery. Any unstable hemodynamic state means the surgery should be avoided. A heart rate of 50-130 is preferred, and if systolic pressure is maintained <180, it is safe to proceed. Antihypertensive drugs should be continued, including beta blockers, since high blood pressure increases the risk of bleeding. Conversely, low blood pressure increases the risk of cardiac arrest. If a patient has both hypotension and bradycardia, avoid surgery. If your patient is hypotensive, place them in Trendelenberg position and give fluids or ephedrine. Hypotonic sport drinks can help prevent hypovolemia. Risk factors like diabetes mellitus, hypertension, hyperlipidemia, obesity, smoking, >60 years of age, and hyperuricemia should all raise red flags. If a stent is present, maintain all the drugs your patient is on during the surgery. Anticipating cardiovascular risk will lead to a safer surgery.

FRIDAY/MARCH 9, 2018

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The sharp manual punch was reviewed by Dr. Lupanzula. The device is non-motorized and handheld. Tension on the skin makes the movement easier. The punch is held parallel with the direction of the graft. Rotation is 90-120 degrees.

Dr. Parsa Mohebi reviewed the history and advantages of the sharp motorized punch. "Splay" is a challenge for all sharp punches, and if the anchor system depth is high, you have to vary the type of punch you use. U punches, WAW systems, and the Trevellini systems can all be used to help. He reviewed that the faster any punch goes, the sharper it is. The lower the speed, the more it acts as a blunt punch. Oscillation, vibration, and rotation are all modes that assist with graft protection and excision.

Dr. Jim Harris reviewed the blunt hexagonal punch and how it introduces vibration of the skin to help loosen grafts. It is engineered to allow for a full depth penetration at 4.1mm. The leading edge is squared off and inside is polished to decrease risk of graft transection. Follicle curvature and splay are less of a problem with these advances. Traction and appropriate punch rotation help harvesting with this punch type. He does not use tumescence because it inhibits movement of the follicle into the lumen of the punch. He does use dilute epinephrine for hemostasis. When the leading edge is engaged into the

skin, the shiny tip is buried and the punch can be advanced. Common errors include improper engagement (which leads to burials) and inappropriate speed setting (when perfectly set the speed allows easy entry). The hexagonal punch produces lower transection rates and deeper engagement allowing a fuller excision.

Dr. Jean Devroye spoke about his WAW process. He noted the foot pedal is used to reduce muscular tension for the surgeon and give a precise movement. He is currently working on a wireless system. The goals of this system are to reduce damage and reduce scar size while harvesting chubby grafts with fat. He first tried to make a funnel as a punch in 2016. He demonstrated that the graft shrinks inside the lumen and thus the external size can result in a graft that is quite large considering the smaller internal size of the punch diameter.

Dr. Sansui Umar showed a video on his hybrid flare reactive punch. His design allows global hair removal (head hair, body hair, etc.) with low skill levels. The smaller tip widens to dilate the hole it is creating and uses both suction and saline flow to extract the graft from the punch tip. Grafts can also be extracted by wiping the skin surface.

Dr. T.K. Shiao demonstrated "multidimensional FUE." Typical machines use either oscillation or continuous rotation (which can cause torsion damage), but his machine performs rotation followed by oscillation. He sets the depth so that the transition happens at a precise chosen moment and the handpiece does the advancing for him. One advantage is that he can use his non-dominant hand and the handpiece can shift shapes to accommodate directions across the scalp.

Dr. Russel Knudsen reviewed the ARTAS Robotic System. Advantages include accuracy and the lack of fatigue for the surgeon. The machine uses both sharp and blunt technology at the same time with the inner needle and outer needle. Machine parameters require constant monitoring; the surgeon must rely entirely on visual clues since there is no tactile feedback from the robot. Key adjustable harvesting parameters include the punching and core depths, along with approach angle, site spacing, and the target offset (to make sure the graft is centered over the hair).

FUE complications were reviewed by Dr. Conradin von Albertini, who noted two challenges of FUE are donor issues and graft issues. Overharvesting of the donor area causes a see-through or "moth-eaten" effect. Management of this problem is to wear longer hair, use additional FUE to refill, or SMP. He recommended sparing the donor reserve in younger patients so that they are protected from this problem with future hair loss. Harvesting non-permanent hair can be prevented with conservative donor plans. Transient donor effluvium is rare but not always avoidable. Donor necrosis will appear as bruising during the operation and later will be scarring. Nitroglycerin can be applied and debridement, antibiotics, and wound care will be necessary. Local anesthetic overdose can happen and can kill your patient. Always calculate the maximum anesthesia dose. Graft injuries can happen at each stage of the surgery, so careful graft handling and more experience using implanters is necessary.

Dr. Georgios Zontos talked about transection of grafts and how completely or partially transected grafts have poorer growth. Torsion from the twisting motion of the punch can amputate the follicles within the lumen of the punch. Follicular splay can worsen the situation. Hidden transections can occur under the surface when the adjacent grafts are harvested. Transection also can diminish the growth of the remaining native hair in the donor area—a particular problem with a novice surgeon.

Dr. Damkerng Pathomvanich reviewed FUT harvesting techniques to avoid transection. Hair characteristics, including the color and curl, affect the risk for transection. The depth of the follicles varies with the racial origin of the patient, but it is good to keep in mind that most of the stem cells are 1-2mm below the surface. Skin hooks pulling at the sides of a scored incision for FUT can help curly hair become straight. The perfect removal will have zero to minimal transections and should include all the fat and subcutaneous tissue surrounding the grafts. Blind cutting will cause significant damage and should be avoided. Scoring incisions should be 1mm deep and you can visualize with skin hooks to separate the sides of the incision, good lighting, and tension. Small suction machines can help to eliminate bleeding. He noted that linear surgery is a time-consuming procedure that minimizes the scarring and damage and keeps the transection rate as low as possible.

Dr. Ahmed Noreldin discussed preventing FUT complications and described the current decline in numbers of FUT cases performed noting that the scarring from poor technique and lack of surgeons with optimal training is the major problem. He believes that keeping all the grafts harvested within the safe donor area will be one of the main advantages of linear surgery when future patients compare it to FUE. Skin laxity should guide the decision of how much tissue to take for the surgeon. Tight scalps can be addressed with vigorous massage. Examination of previous scars will allow the surgeon to know what risks they might face. Trichophytic closures with low tension and either one- or two-layer closures after the use of clamps to allow dissipation of tumescent solution can all help. SMP can improve scars remarkably as well.

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Dr. Konstantinos Anastassakis's presentation, "FUT, FUE, or Combo—The Art of Making the Right Choices," described the tribalism that seems to have taken over the hair world as misguided since using each technique in conjunction may actually give our patients the best of both worlds. "Patient terrorism" on the Internet has frightened those who might benefit from linear surgery. FUE can be more profitable due to delegation and has a lower barrier of entry. He suggests knowing both techniques for efficiency and for surgeons to have many tools at their disposal to help patients. He argued that it is common sense to move as much hair as possible. You also have to think about survival of the grafts since everyone's graft supply is limited. He suggests surgeons should also keep in mind that the scar surface area is much greater with FUE. He believes the hybrid/combo technique is useful when the most grafts are needed.

Jean Devroye, MD, FISHRS | *Brussels, Belgium*

Friday after the coffee break started with "Recipient Site and Surgical Plan." Dr. Greg Williams insisted on the importance of having and managing and a good long-term strategy. Dr. Jennifer Martinick presented nice tricks regarding hairline and cosmesis. Dr. Arika Bansal made a demonstration and noted that it's possible to have decent results with a minimum of hair if the strategy is well adapted. Dr. Vincenzo Gambino insisted on never transplanting the vertex in a Norwood VII. Dr. Anil Garg presented his original idea for using plasma as a substitute for a holding solution.

Next was "Implantation and Placing." Dr. Bradley Wolf gave two nice tricks: 1) avoid grabbing the dermal papilla, and 2) grab above Adamson's fringe. He also explained how he looks to the grafts during the placing and varies the localization in relation to the graft's qualities. Dr. Conradin von Albertini gave the results of his study regarding the injuries linked to the implantation by implanters. The good news was that they are very low. Dr. Tommy Hwang advised us on how to use his implanter with a depth control. Dr. Mauro Speranzini showed a video on the Dull Needle Implanter (DNI). Dr. Jean Devroye showed a video about a long needle implanter able to support 5-10 grafts at the same time. Dr. Muhammad Rashid demonstrated how he uses methylene blue directly on the blades.

SATURDAY/MARCH 10, 2018

Jean Devroye, MD, FISHRS | *Brussels, Belgium*

Satuday started with "Special Cases: Part 1." Dr. Melike Kulahci gave us an overview on female hair loss. Dr. Robert Haber showed many nice eyebrow transplants and insisted on the variability of the shapes. Dr. Jim Harris explained how he currently performs unshaven FUE. The donor area is prepared by the assistants the previous day, the hair is cut in advance, and the extract is done the following day. He can manage 2,000 grafts a day. Dr. Otavio Boaventura presented his long hair FUE technique.

Bradley R. Wolf, MD, FISHRS | *Cincinnati, Ohio*

The last section of the conference began with Dr. Parsa Mohebi moderating the FUE efficiency and dynamics session. He remarked he has decreased his graft out-of-body time to 1 hour using simultaneous extraction and placement. Dr. Bessam Farjo talked about introducing FUE into a practice. Due to the increased demand for FUE, he recommended that the surgeon attend live workshops and start by taking a few FUE grafts in the region of the strip during an FUT surgery and expand from there. It's important to learn the new basic skills needed for FUE including the use of higher magnification.

In "Good Practice of FUE," Dr. Arika Bansal recommended having multiple punch sizes and types available to be able to choose the correct punch. In the FUE donor, she only closely trims the safe donor area to clearly demarcate it from areas she doesn't want to harvest. Dr. Parsa Mohebi continued talking about FUE dynamics stating it is important to understand the follicular unit's exit angle and internal angle to be able determine the correct punch angle. Understanding splay and the depth of the anchor system is also important. Dr. Jean Devorye explored the ergonomics of FUE for the staff and patient. He noted that a questionnaire revealed 50% of respondent doctors performing FUE complained of musculoskeletal problems. It is extremely important for physicians, during FUE extraction, and assistants, during microscopic FUT dissection, to support their forearms to take the strain off of, and protect, the lumber area. While the patient in the prone position is best for the physician, it can be uncomfortable for the patient, therefore, multiple pillows and headrests should be available to the patient.

Dr. Ratchathorn Panchaprateep, the first speaker for the next session, "Red Flags and Contraindications," gave an interesting presentation on Dermoscopy and its importance in diagnosing alopecia areata, trichotillomania, and tinea capitus, as well as scarring alopecia and lupus. Magnification is 10-20× for the handheld function while video is up to 1,000×. Dr. Kapil Dua discussed patient selection and the limitations of FUE, which is contraindicated in diffuse un-

patterned alopecia (DUPA), Class VI-VII loss without body hair availability, poor or overharvested donor, and retrograde alopecia.

The concluding session, "Updates on Non-surgical Hair Loss Therapy," was moderated by Dr. Francisco Jimenez, who emphasized there are many miniaturized follicles remaining in areas of AGA, and if they could be revitalized, hair transplants might not be necessary.

Dr. Piero Tesaruo commented on non-surgical hair loss therapy, including how and when it can preclude or augment transplant surgery. He noted that less than 20% of his consultations ultimately had surgery performed. He prefers medical therapy first followed by surgery if indicated.

Dr. Russell Knudsen updated us on the limits of finasteride. He noted that the half-life of finasteride in blood is 10 hours while in tissue it is 30 days. He described two types of side effects: immediate, which is a frank adverse effect, and delayed symptoms, which were due to overdosing and the need for reduced dosing in these and other susceptible patients. He noted side effects could be reduced to less than 1% by intermittent dosing of 2-3 times a week.

Dr. Robert Haber updated us on photobiomodulation (PBM), formerly called LLLT (low-level laser therapy) and now called photobiostimultion (PBS), which can reverse the down regulation of mitochondria that is seen in some patients with AGA by increasing ATP and growth factors. PBS can be combined with platelet-rich plasma (PRP) to increase growth factors. He prefers to first treat with finasteride and minoxidil, then add PBS, followed by adding PRP where indicated before or as an adjunct to surgery.

Dr. Aditya Gupta then gave an update on PRP noting it is not FDA approved in the United States but is used "off label." In half of the six reviewed studies, it increased density but has shown to be less effective in treating alopecia areata and scarring alopecias. What we do know is that the platelet concentration should be 3-4x that of baseline and PRP should be low in white blood cells and red blood cells. The role of activation is unclear and more research is needed, but it does appear to help some patients.

Dr. Melike Kulahci summarized new trends in non-surgical hair loss treatment by stating there is "no new magic." She did discuss the increased use of oral minoxidil tablets for AGA. Dr. Bessam Farjo ended the morning with a presentation on the patients on whom surgery would be performed during the afternoon.

Live Surgeries

On Friday and Saturday, live surgeries took place at The American Academy of Cosmetic Surgery Hospital. The hospital is a boutique hospital, a comprehensive medical and cosmetic facility, and was a short walk from the hotel, which was located close to the airport and not far from the center of Dubai, about a 15-20-minute taxi ride. Both hotel and hospital were located within Dubai Healthcare City.

Our gracious host physicians included Drs. M. Humayun Mohmand, our local liaison, Cagatay Sezgin, Zualifqar Tunio, and Hanieh Erdmann. Each was present in one of the four surgery rooms to provide oversight, administer anesthesia, and ensure the cases were completed appropriately. In each room, with one exception, surgery was performed by 3-5 surgeons divided between the donor and recipient areas. The exception was bilateral eyebrow surgery during which Dr. Dae-Young Kim excised the grafts using the FUT method and placed using a sharp implanter. In each room, a moderating physician was also present, Drs. Vincenzo Gambino, Robert Haber, Bradley Wolf, and Anil Garg for one surgery while Drs. Francisco Jimenez and Konstantinos Anastassakis moderated both days. Two moderating physicians were present in the central audiovisual room where all four cases were simulcast, Drs. Haber and Jennifer Martinick for the first day and Drs. Aditya Gupta and Wolf for the second. They chose which surgery to "go live," and fielded and asked questions of the operating physicians and in-room moderators.

There were 8 cases: 6 FUE and 2 FUT. The excising and implanting physicians helped with implanter loading. The local hospital staff completed the placing at the end of each case. ■

Stand Proud, Be Loud

ISHRS members commit to integrity of profession.

An increasing number of unlicensed personnel worldwide are performing substantial medical aspects of hair restoration surgery and, in doing so, are putting patients at risk. The ISHRS is committed to the highest standards of medical practice and to educating consumers about this unlawful practice and to following due diligence when researching a hair restoration surgeon.

ISHRS leaders are asking all members worldwide to stand proud and be loud:

- Take a picture of you wearing the badge and post it on Twitter and Facebook. Use the hashtag: #SurgeonsNotTechsPerformSurgery
- Sign the ISHRS online petition to show your commitment to a society where surgeons, not technicians, perform the surgery: www.ishrs.org/article/stand-proud-be-loud
- Post the badge on your website and link to the ISHRS consumer alert page: http://www.ishrs.org/article/consumer-alert-0
- Please share your stories about patients who are seeking ISHRS physician help, asking them to correct mistakes of individuals who are not properly licensed or trained to perform surgical hair transplantation. Send to: info@ishrs.org
- Report any concerns about unlawful practices you see or hear about to your local authorities, states attorney generals, and ministries of health and medical boards.

Introduction to the Thai Society of Hair Restoration Surgery (TSHRS)

Damkerng Pathomvanich, MD, FISHRS | *Bangkok, Thailand* | path_d@hotmail.com

The TSHRS was founded on May 18, 2016. The founding members included Drs. Damkerng Pathomvanich, Viroj Vong, Prasert Seesillapacha, Rattapon Thuangthong, Kongkiat Laorwong, Kulakarn Amonpattana, Chinmanat Tangjaturonrusamee, Ratchathorn Panjaprateep, Saroj Suvanasuthi (all ISHRS members), Prapote Asawaworarit, and Kotchamol Vanadurongwan.

Members meet 3 times a year to discuss surgical techniques and difficult cases. The DHT Clinic is currently the temporary office. Today, there are about 30 hair restoration surgeons in Thailand, 16 of whom are members of the ISHRS: Damkerng Pathomvanich, Viroj Vong, Prasert Seesillapacha, Rattapon Thuangthong, Suradej Pongratananukul, Kongkiat Laorwong, Kulakarn Amonpattana, Chinmanat Tangjaturonrusamee, Ratchathorn Panjaprateep, Poonkiat Suchonwanit, Saroj Suvanasuthi, Benjawan Butwong, Kanokwan Chantauppalee, Nuttorn Narupaves, Piyapas Pichaichanarong, and Thitiwat Wirarojratchakul.

There are no major medico-political problems in Thailand at the moment. Thankfully, there are rules to protect inappropriate medical advertising in Thailand.

Hair transplantation in Thailand is increasing and the advanced techniques are compatible with the Western countries. Both FUT and FUE techniques are performed, but recently FUE is more common. We do have a few surgeons using robotic FUE in Thailand.

There are significant numbers of patients to keep hair transplant surgeons busy, and hair transplant surgeons are expected to be in even greater demand in the near future. I believe we are all educated in new techniques including medical treatment of hair loss. There are even a few doctors investigating cell-based therapies.

The following doctors are also active in education both on a national level and an international one: Damkerng Pathomvanich, Rattapon Thuangthong, Ratchathorn Panjaprateep, Poonkiat Suchonwanit, and advanced Chinmanat Tangjaturonrusamee.

The website www.tshrs.info is currently being established. ■

Message from the ISHRS 2018 World Congress Program Chair

Parsa Mohebi, MD, FISHRS | *Encino, California, USA* | info@parsamohebi.com

The field of hair restoration will never be the same!

I was recently a featured guest on a talk show on one of the local radio stations in Los Angeles. One of the questions the host asked me was, "What is different about the modern techniques of hair restoration being performed today compared to how it was done in the past?"

I was amazed as I tried to accurately respond to the question. I said what we do today during the hair restoration process is completely different than as little as 5 years ago. It is like a totally new procedure!

We have come a long way from the traditional hair restoration procedures we used to do as compared to what we perform each day in our offices. Considering the fast paced evolution of hair restoration, it would be unfair to our patients if we didn't keep ourselves up-to-date through the variety of educational events that happen across the globe. Of course, the premier educational event is the ISHRS's World Congress.

The annual meeting of the International Society of Hair Restoration (World Congress) has always been extremely stimulating and educational for me. I have always felt I could not afford to miss any of these meetings, and I've never missed one since I joined the ISHRS 11 years ago. The lessons I have learned from these meetings have gradually transformed my practice and kept us on the edge in the last decade. I think we can all admit the changes in our industry have been even more drastic in the last few years. I am positive we will witness even more radical changes at the next World Congress in Hollywood.

This year, we are planning to make this learning experience more fun. In Hollywood, we know how to celebrate these festivities as it is the home to many celebrity premiere parties.

Our working team for the World Congress is coming together rather nicely. In fact, we have gathered the cream of the crop in our selection committee and program chairs for the 2018 Congress. It is my pleasure to work with this talented team to build a program that will pioneer the exchange of knowledge from peer-to-peer and to the new generation of hair transplant surgeons. We are working hard on putting together a program that truly represents the transformation we are witnessing in our field.

Educational opportunities aside, we plan on creating some lasting memories during the Hollywood World Congress. Los Angeles is the hometown of the most unforgettable movies and television and movie stars in the world. We want you to look and feel like a celebrity during this event. Our glamorous gala ceremony will give everyone the chance to look like their favorite superstar. Let your imagination run wild and get ready to have fun while being part of the biggest change that our industry has experienced so far. We will celebrate our gala with a red carpet theme.

Once again, I would like to thank the pioneers who helped advance our field by sharing their thoughts and innovations in past, and I look forward to meeting the future leaders who will continue to push our society forward.

I invite all of my friends and colleagues to the City of Angels and to our World Congress in beautiful, and sunny, Hollywood, Los Angeles, in 2018. ■

RED CARPET GALA

Make your preparations!

Gowns/Tuxes


Aileen Ullrich


Deanne Pawlak

Message from the ISHRS 2018 Surgical Assistants Chair & Vice Chair

Aileen Ullrich, MA, Chair | *Portland, Oregon, USA* | aileen@gabelcenter.com
Deanne Pawlak, LPN, Vice Chair | *Calgary, Alberta, Canada*

Eye opening. That's how I would describe the first ISHRS World Congress that I attended. Since then, each year that I've been present for these meetings, I've picked up valuable tips and pearls, learned about the latest trends and discoveries in the field of hair restoration, and met new colleagues who are now friends. To say the least, it's been a truly invaluable experience and last year's Surgical Assistants Courses were no exception. The program and workshop were well received, and the entire event was a great success. Looking forward to our next meeting in Hollywood, we aim for another highly educational program for both new and experienced assistants and their employing physicians to attend.

The Surgical Assistants Core Skills Workshop has been designed to provide comprehensive knowledge of the basics of assisting in hair restoration surgery along with an opportunity to develop the associated fundamental skill sets. The course will begin with lectures on hair anatomy and physiology, graft preparation, and graft placement. Participants will then work closely with highly experienced faculty from around the world as they rotate through various practical hands-on stations. At each station, innovative materials will be used to provide a realistic, yet challenging opportunity to learn and develop core skills and techniques.

Following the workshop, our focus will shift from basics to more interesting and advanced topics during our Surgical Assistants Program. These lectures will include plenty of visual content with an emphasis on video. We will examine what a typical surgery day is like in multiple clinics from all around the world, extract pearls from our colleagues during the section "New or Improved," delve into the science of hair restoration, get inspired with interesting cases, and engage with each other as we hone our eye towards quality control.

For myself, and many others, these meetings keep us enthusiastic about our day to day work, motivate us to improve our skills, and incite us to better patient care. I encourage all attending physicians to consider having their staff attend. Just like previous years, this meeting promises to be extremely educational and rewarding.

Looking forward to seeing you there. —Aileen

Plan your 2018 meeting schedule!

2018 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.

2018 Remaining Qualifying Meetings

August 2-5, 2018 Hair Transplant 360 Cadaver Workshop & FUE Hands-On Workshop St. Louis, Missouri, USA **http://pa.slu.edu**	October 10-13, 2018 26th World Congress of the ISHRS Hollywood, California, USA **www.26thannual.org**

The qualifying meetings are also listed at http://www.ishrs.org/content/list-ishrs-approved-meetings-meet-additional-minimum-educational-requirement.

NOW AVAILABLE IN VIDEO

Advanced/Board Review Course
in Hair Restoration Surgery

Whether you are considering taking the ABHRS Certification Exam, *are already a Diplomate and preparing for the* Recertification Exam, *or looking for a comprehensive advanced topic review, this course is for you!*

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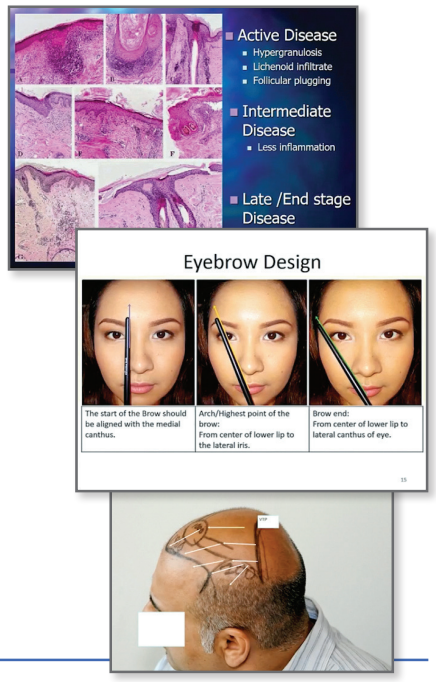
Don't miss this opportunity to review key concepts that are consistently tested on both the written and the oral exams and to understand the format of the oral exam.

- Approximately 7.5 hours of lectures and discussions, including 3 oral exam sample cases.
- All 10 content categories that make up the ABHRS certification's written exam are covered.
- Some of the most experienced and knowledgeable hair transplant surgeons in the world deliver the lectures.
- Recorded at the ISHRS 2016 World Congress
- No Continuing Medical Education (CME) Credit will be issued for watching this course.
- Format: Internet/online, computer. Video files.

Special Member Price: $300 USD



COURSE OUTLINE

Welcome and Opening Remarks
Marco N. Barusco, MD | USA &
Bernard A. Arocha, MD, FISHRS | USA

State of the ABHRS/IBHRS
Michael W. Vories, MD | USA

Criteria for ABHRS Certification and Application Process
Scott Boden, MD | USA

The Written Exam
Robert P. Niedbalski, DO | USA

The Oral Exam
Marco N. Barusco, MD | USA

Ethical Guidelines for the ABHRS
Daniel G. McGrath, DO | USA

SESSION 1 – ALOPECIAS
Moderator: Marco N. Barusco, MD | USA

Male & Female Pattern Alopecias
Ricardo Mejia, MD | USA

Other Alopecias
Ricardo Mejia, MD I USA

Questions & Answers

SESSION 2 – PATIENT SELECTION & DONOR AREA
Moderator: Bernard A. Arocha, MD, FISHRS | USA

Consultation and Medical Evaluation of the Patient
Robin Unger, MD | USA

Medical Treatment of AGA
Gholamali Abbasi, MD | Iran

Surgery Planning – Age and Potential for AGA
Márcio Crisóstomo, MD, FISHRS | Brazil

Donor Planning and Harvesting – FUT
Daniel G. McGrath, DO | USA

Donor Planning and Harvesting – FUE
Michael W. Vories, MD | USA

Questions & Answers

SESSION 3 – RECIPIENT AREA PLANNING
Moderator: Michael W. Vories, MD | USA

Strategies for Advanced AGA
Márcio Crisóstomo, MD, FISHRS | Brazil

Hairline Design (Male and Female)
Bernard A. Arocha, MD, FISHRS | USA

Transplantation of the Crown
Timothy P. Carman, MD, FISHRS | USA

Transplantation of the Eyebrows
Robert J. Reese, DO, FISHRS | USA

Transplanting into Scars / Reconstructive HRS
Marco N. Barusco, MD | USA

Questions & Answers

SESSION 4 – ODDS AND ENDS
Moderator: Robert P. Niedbalski, DO | USA

Emergency Situations in HRS
Carlos J. Puig, DO, FISHRS | USA

Flaps and Scalp Reductions
Carlos J. Puig, DO, FISHRS | USA

Most Common Complications in HRS
Timothy P. Carman, MD, FISHRS | USA

Questions & Answers

SESSION 5 – ORAL EXAM SAMPLE CASES
Moderators: Daniel G. McGrath, DO | USA &
Michael W. Vories, MD | USA

Case # 1 Robert J. Reese, DO, FISHRS I USA
Michael W. Vories, MD | USA

Case # 2 Marco N. Barusco, MD | USA
Michael W. Vories, MD | USA

Case # 3 Bernard A. Arocha, MD, FISHRS | USA
Michael W. Vories, MD | USA

Closing Remarks/Adjourn
Marco N. Barusco, MD | USA
Bernard A. Arocha, MD, FISHRS | USA

International Society of Hair Restoration Surgery
303 West State Street, Geneva, IL 60134 ❙ Tel 1 630 262 5399 or 1 800 444 2737
Fax 1 630 262 1520 ❙ www.ISHRS.org ❙ info@ishrs.org ❙ www.ISHRS.org

6th AAHRS & 3rd CAHRS ANNUAL SCIENTIFIC MEETING AND LIVE SURGERY WORKSHOP

DAMKERNG PATHOMVANICH, MD (CHAIRMAN)
WEN-YI WU, MD (CO-CHAIRMAN)
KENICHIRO IMAGAWA, MD (AAHRS PRESIDENT)
JU FANG ZHANG, MD (CAHRS PRESIDENT)

MAY 11th-13th, 2018
BEIJING INTERNATIONAL CONVENTION CENTER
BEIJING, CHINA

PLEASE VISIT WWW.AAHRSASIA.ORG FOR MORE INFORMATION
SUBMIT YOUR ABSTRACT TO ASIANHAIRMEETING@GMAIL.COM (UNTIL FEBRUARY 15th, 2018)

INVITED SPEAKERS

WALTER P. UNGER, MD
JENNIFER MARTINICK, MD
FRANCISCO JIMENEZ, MD
MARIO MARZOLA, MBBS
KEN WASHENIK, MD
JEAN M. DEVROYE, MD
JOHN P. COLE, MD
CARLOS PUIG, MD
PARSA MOHEBI, MD
RUSSELL G. KNUDSEN, MBBS
RICHARD SHIELL, MBBS
PIERO TESAURO, MD

AAHRS Asian Association Hair Restoration Surgeons
CAHRS Chinese Association of Hair Restoration Surgeons

2018 AHRS

AMERICAN HAIR RESEARCH SUMMIT
MAY 14-16 | ORLANDO, FL | USA
ROSEN SHINGLE CREEK RESORT

PLAN TO ATTEND
this pinnacle summit where prominent researchers from across the Americas will share the most recent discoveries in hair disorders research and treatments

www.2018AHRS.org

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Call for Abstracts | Exhibits & Sponsorships | Networking Opportunities

MONDAY | MAY 14, 2018

- 7:00 REGISTRATION
- Exhibit Set-up
- Poster Hang
- EXHIBIT VIEWING
- POSTER VIEWING
- NEW SUMMIT of the recently expanded AHRS — Dedicated to facilitating research in hair growth disorders
- SESSION 1 — Opening Ceremony — Keynote
- NETWORKING BREAK
- SESSION 2 — Androgenetic Alopecia
- Come See My Poster
- POSTER SESSION AND NETWORKING WITH WINE & CHEESE

TUESDAY | MAY 15, 2018

- REGISTRATION
- EXHIBIT VIEWING
- POSTER VIEWING
- INDUSTRY EXPERT ROUND TABLES with breakfast
- SESSION 3 — Cicatricial Alopecias
- NETWORKING BREAK
- SESSION 4 — Alopecia Areata
- LUNCH ON YOUR OWN
- SESSION 5 — New Therapeutics, Diagnostic Methods, and Novel Ingredients
- NETWORKING BREAK
- SESSION 6 — Photobiomodulation, Thermal, Light Therapies
- POSTER SESSION AND NETWORKING
- Exhibit Dismantle
- Poster Dismantle

WEDNESDAY | MAY 16, 2018

- REGISTRATION
- EXPERT ROUND TABLES with breakfast
- SESSION 7 — Stem Cells, Neogenesis & Regenerative Medicine
- NETWORKING BREAK
- SESSION 8 — Morphogenesis & Haircycling
- AHRS General Membership Business Meeting

Tentative Schedule

SAVE THE DATE
Preceding the IID 2018 — International Investigative Dermatology

2018 AHRS
AMERICAN HAIR RESEARCH SUMMIT
MAY 14-16 | ORLANDO, FL | USA

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WWW.2018AHRS.ORG

Hair Transplant 2018
Pre-Congress Course 12 SEPTEMBER

The ISHRS is pleased to present this Pre-Course on September 12th at the

4TH INTERNATIONAL CONGRESS OF THE AESTHESTIC ACADEMY OF EGYPT (AAEgy)

13-14 September 2018 • The Nile Ritz Carlton Hotel • Cairo, Egypt

The ISHRS is pleased to participate with the Aesthetic Academy of Egypt to organize a full-day pre-congress course on HAIR TRANSPLANTATION on 12 Sept. 2018, which is the day prior to the AAEgy Congress.

COST OF THE PRE-CONGRESS COURSE		
EARLY BIRD *Until 1 July 2018*	$200	*BEST DEAL*
REGULAR *Until 1 Sept. 2018*	$250	
After 1 Sept. 2018	$300	

For those registered for HT Pre-Congress Course, you may choose to attend the full Congress on 13-14 September for additional $50 registration fee.

PRELIMINARY PROGRAM

9:00AM-1:00PM Overview and the Basics

- Opening and Welcome Introduction
- About the ISHRS
- Overview of Hair Restoration Surgery: History, Terminology
- Follicular Unit: Macro and Microscopic Anatomy for Hair Surgeons
- Anatomical Landmarks in Hair Transplantation including Safe Donor Zone and Density in Donor and Recipient Area
- Anesthesia of the Donor and Recipient Area
- Hairline Design in Males and Females

COFFEE BREAK

- Strip FUT (Follicular Unit Transplantation): Overview
- FUE (Follicular Unit Excision): Overview
- Graft Placement Techniques including Implanters
- Discussion Panel: Candidate Selection Strip vs FUE

LUNCH BREAK

2:00PM-5:30PM Advanced Topics

- Differences in the Devices Used in FUE (sharp, blunt and hybrid punches, robotic devices)
- Recipient Sites: Special Considerations
- Female Hair Loss: Special Considerations
- Transplanting into Scars and Scarring Alopecias
- Transplanting the Eyebrows

COFFEE BREAK

- Body Hair Transplantation
- Tips and Tricks in HT of Curly Hair Candidates
- General and Most Common Complications in HRS
- Discussion Panel: Getting Started—How to Get Training and Setting up a HT Practice

Francisco Jimenez, MD

Ahmed A. Noreldin, MD

Francisco Jimenez, MD, FISHRS | Spain
Chair, HT Pre-Congress Course
Executive Committee Member, ISHRS

Ahmed A. Noreldin, MD, FISHRS | Egypt
Co-Chair, HT Pre-Congress Course
Chair, AAEgy Congress

ESTEEMED FACULTY

Conradin von Albertini, MD, FISHRS | Switzerland
Konstantinos K. Anastassakis, MD, PhD | Greece
Jean M. Devroye, MD, FISHRS | Belgium
Shady El-Maghraby, MD, MSc | Egypt
Francisco Jimenez, MD, FISHRS | Spain
Ahmed A. Noreldin, MD, FISHRS | Egypt
Ahmed A. Youssef Ibrahim, MD | Kuwait

REGISTRATION AND INFORMATION http://www.aaegy.org/

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.

Central PA Opportunity for Hair Transplant Surgeon

Koher Medical is an established hair restoration practice that has been in business for over 25 years. Currently looking for an experienced hair transplant surgeon to work part time in our growing central Pennsylvania market. Schedule is flexible, excellent compensation package.

Contact us at careers@kohermedical.com.

Hair Restoration Surgeon Needed

A growing hair restoration practice in Northern California is looking for a physician willing to perform manual powered and ARTAS System FUE. Some experience in hair restoration is desirable but not required. The candidate must possess great bedside manner, excellent eye-hand coordination, and an eye for the esthetics of hair restoration.

If you would like to be part of rapidly expanding practice committed to excellent patient care and results and advancing the art and science of hair restoration with a commitment to research, physician education, and social responsibility, contact Dr. Doug Kelly at doug@westbondhair.com.

Seeking Hair Transplant Technicians

The Paragon Hair Clinic in Southlake and Mansfield, Texas is currently looking for full-time technicians with planting experience, minimum speed requirement of 600 grafts per hour. We are a multiple case practice per day utilizing FUT and FUE (motorized and robotic). Required 90-day trial/training period.

Please email your résumé to careers@markbisharamd.com.

For Sale: Canadian HT Clinic

FOR SALE: Firmly established and fully equipped Canadian Hair Transplant Clinic located in Winnipeg, Manitoba, Canada. No significant competition in the area. Willing to train new owner, if necessary. Contact 1-204-489-2694.

Website: www.hairtransplantcanada.com

For Sale: California Hair Transplant Practice

Established FUE/FUT facility well equipped and staffed. Serving San Diego County, Orange and Los Angeles County. Plus a strong fly-in patient base from Northern California.

Inquire. Randal McKenzie Associates Bruce C. Keller: bruce@randahlmckenzie.com or 1-760-815-4767

For Sale: 2015 ARTAS with Chair

2015 ARTAS for sale with chair. Used 3 times. Perfect condition. Originally $250,000. Asking $150,000 or best offer. Here is your chance to own a mint robotic hair transplant device at a substantial savings!

Email: artasforsale@gmail.com

Calendar of Hair Restoration Surgery Events

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

DATES	EVENT/VENUE	SPONSORING ORGANIZATION(S)	CONTACT INFORMATION
MAR 27-30, 2018 MAY 22-25, 2018	University Diploma of Scalp Pathology and Surgery *Paris, France*	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
MAY 2-3, 2018	2nd SILATC Annual Meeting & Live Surgery Workshop *Cancun, Mexico*	Ibero Latin American Society of Hair Transplantation (Sociedad Iberolatinoamericana de Trasplante de Cabello – SILATC)	drdavid@perez-meza.com
MAY 11-13, 2018	6th Asian Hair Restoration Surgery Meeting & Live Surgery Workshop *Beijing, China*	Asian Association of Hair Restoration Surgery in conjunction with 3rd CAHRS	www.aahrsasia.org
MAY 14-16, 2018	2018 American Hair Research Summit *Orlando, Florida, USA*	American Hair Research Society	www.2018ahrs.org info@nahrs.org
MAY 25-27, 2018	4th Latin American Workshop of FUE *Westin Camino Real Resort, Guatemala City, Guatemala*	Paraguayan Society of Hair Restoration Surgery	http://workshop-latc.com
JUN 9-10, 2018	8th International Congress of the KSHRS *Seoul, Korea*	Korean Society of Hair Restoration Surgery	www.kshrs.org or kshrs@naver.com
* AUG 2-5, 2018	Hair Transplant 360 Cadaver Workshop & FUE Hands-On Workshop *St. Louis, Missouri, USA*	Saint Louis University School of Medicine, Practical Anatomy & Surgical Education In collaboration with the International Society of Hair Restoration Surgery	info@ishrs.org
AUG 22-25, 2018	7th Congress of the ABCRC *Wish Resort Golf Convention, Foz do Iguassu, Brazil*	Brazilian Society of Hair Restoration Surgery – ABCRC	Additional details available in January 2018
SEP 12, 2018	Pre-Congress on Hair Transplantation *The Nile Ritz, Cairo, Egypt*	Organized by the International Society of Hair Restoration Surgery At the 4th International Congress of the Aesthetic Academy of Egypt (AAEgy), Sept. 12-14, 2018	info@aeegy.org
* OCT 10-14, 2018	26th World Congress of the ISHRS *Hollywood, California, USA*	International Society of Hair Restoration Surgery www.26thannual.org	info@ishrs.org
OCT 14-16, 2018	ISHRS Regional Workshop: Scalp Micropigmentation *Walnut Creek, California, USA*	International Society of Hair Restoration Surgery Hosted by: Sara Wasserbauer, MD, FISHRS	info@californiahairsurgeon.com

*2018 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

26TH WORLD CONGRESS	27TH WORLD CONGRESS	28TH WORLD CONGRESS
October 10-14 2018 Hollywood, California I USA	November 13-17, 2019 Bangkok I Thailand	October 21-25, 2020 Panama City I Panama

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.

2017–18 Board of Governors

2017–18 Chairs of Committees

Global Council of Hair Restoration Surgery Societies

Membership proudly includes:

American Board of Hair Restoration Surgery
American Society of Hair Restoration Surgery
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 (ABCRC)
British Association of Hair Restoration Surgery
French Hair Restoration Surgery Society
German Society of Hair Restoration Surgery
Hair Restoration Society of Pakistan
Hellenic Academy of Hair Restoration Surgery
Ibero Latin American Society of Hair Transplantation (SILATC)
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 Surgery

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

1. Articles should be written with the intent of sharing scientific information with the purpose of progressing the art and science of hair restoration and benefiting patient outcomes.
2. If results are presented, the medical regimen or surgical techniques that were used to obtain the results should be disclosed in detail.
3. Articles submitted with the sole purpose of promotion or marketing will not be accepted.
4. Authors should acknowledge all funding sources that supported their work as well as any relevant corporate affiliation.
5. Trademarked names should not be used to refer to devices or techniques, when possible.
6. Although we encourage submission of articles that may only contain the author's opinion for the purpose of stimulating thought, the editors may present such articles to colleagues who are experts in the particular area in question, for the purpose of obtaining rebuttal opinions to be published alongside the original article. Occasionally, a manuscript might be sent to an external reviewer, who will judge the manuscript in a blinded fashion to make recommendations about its acceptance, further revision, or rejection.
7. Once the manuscript is accepted, it will be published as soon as possible, depending on space availability.
8. All manuscripts should be submitted to forumeditors@ishrs.org.
9. A completed Author Authorization and Release form—sent as a Word document (not a fax)—must accompany your submission. The form can be obtained in the Members Only section of the Society website at www.ishrs.org.
10. All photos and figures referred to in your article should be sent as ***separate*** attachments in JPEG or TIFF format. Be sure to attach your files to the email. Do NOT embed your files in the email or in the document itself (other than to show placement within the article).
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:
June 5 for July/August 2018 issue
August 5 for September/October 2018 issue
October 5 for November/December 2018 issue

Please note new submission address:
forumeditors@ishrs.org

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