Surgeon of the Month: Kuniyoshi Yagyu, MD

Edwin S. Epstein, MD *Virginia Beach, Virginia*

Dr. Kuniyoshi and Wakako Yagyu
Tokyo, Japan

Kuniyoshi Yagyu was born in Yamaguchi, located in southwestern Japan. The city was a cultural center of western Japan in the 15th-16th century, and took a leading part in the modernizing revolution of Japan in the 19th century. Kuniyoshi grew up in an atmosphere of freedom and education.

During his childhood, Kuniyoshi enjoyed nature and working with his hands, perhaps an early harbinger of things to come in his medical career. His father offered him handmade wooden toys, and he learned to make some of them by himself. As a young student, he excelled at English and mathematics. He taught himself English by reading the masterpieces of Shakespeare, such as Othello, King Lear, and the Merchant of Venice. He learned modern English from the important works of Ernest Hemingway, Charles Dickens, and Oscar Wilde.

Kuniyoshi graduated High School summa cum laude, and "thought he was a genius." However, soon after admission to the University of Kyoto to study physics, he realized that there were many "geniuses" around him at the university. As his interest changed from molecules to human cells, his career path moved into medicine, and he completed his medical degree from the University of Tokyo.

Kuniyoshi enjoyed the dexterity of surgery, the challenges of rapidly changing technology, and found his calling in cardiovascular surgery. He completed this training at the Kanagawa Children's Medical Center. In 1987 he started a 2-year research fellowship program at the Hannover Medical School in Germany, as a scholar of the Alexander von Humboldt Foundation. His research was in heart and lung transplants using microscopic surgical techniques. He also developed fluency in the German language.

Kuniyoshi served as an Assistant Professor of Cardiovascular Surgery for 5 years at the University of Tokyo Medical Center, and 7 years as Chief of the Japanese Red Cross Medical Center. During his career, he performed over 2,000 major cardiovascular procedures, including 500 in neonates and older children, such as correction of aortic transposition and Tetralogy of Fallot. Years of wearing loupes with heavy lighting took its toll on his cervical spine, and in 2001, a career change opportunity in a new surgical field became available.

Kuniyoshi joined the Kioicho Clinic in Tokyo, a 5 physician group specializing in hair restoration surgery. Since starting his career in hair restoration surgery, he has been an active member of the ISHRS, the ESHRS, and from 2006-2007, served as President of the Japanese Society of Clinical Hair Restoration. In 2007 he became a Diplomate of the American Board of Hair Restoration Surgery. One of his most gratifying cases was a hair transplant performed in a young man who had become introverted, reclusive, and angry with his parents, blaming them for his hair loss. His character dramatically improved after his procedure, he renewed his relationship with his family, and rebuilt the family business.

In 1990 Kuniyoshi married Wakako, an orthodontist practicing in Tokyo. Wakako was born into a family with a 1200-year history of serving as priests for shrines. Her grandfather was the chief priest of a Shinto shrine in Japan. People had great respect for him as a leader. As a pacifist, he preached to the people that peace and harmony are to be best valued, and this has remained the family's motto ever since.

Kuniyoshi's hobbies include skiing, jogging, and collecting art. Members of his family served as fencing teachers and mental masters of a Shogun family (the King of Japan) from the 17th to the 19th century. The family's fencing style had a mysterious quality: to liquidate evil before it could create chaos. They believed that the sword could also create strength by inspiring the human spirit with courage and happiness. The scalpel has replaced the sword to uplift the spirits of his patients. His profession as a surgeon seems to be his destiny.

Kuniyoshi's motto is to enjoy life, and his credo: There must always be another way.✧

Cyberspace Chat

Sharon A. Keene, MD *Tucson, Arizona*

Propecia® is no longer on the "Banned" list for Olympic athletes

A little over a month ago, the subject of Propecia as a banned substance on the World Anti-Doping Agency's (WADA) list occurred in cyberspace, as follows:

Dr. Ron Shapiro wrote: I have a patient that came to me who was a medalist for the USA in the last winter Olympics…. He has been on Propecia for potential hair loss since the last Olympics. He is now being threatened to be banned by the U.S. Olympic committee because Propecia is a banned substance. He has asked me to write a letter in his behalf and do the genetic test to show he is not in the low category for hair loss. He only has minor miniaturization that he says was better when he was on Propecia. He says it does not look good. Does any one know of similar cases that turned out good for the athlete or any suggestions I can give him?

Dr. David Perez responded: A similar case was the international Brazilian soccer player "Romario" and finasteride. Unfortunately, he lost the battle against the Brazilian Soccer Federation and FIFA [Fédération Internationale de Football Association]. At the end he retired as a professional soccer player.

Unfortunately, what happened to your patient is a violation of the World Anti-Doping Code. Obviously you can write the letter to support him. A few weeks ago in Mexico, I saw a professional soccer player with hair loss. I recommended surgery + minoxidil and low level laser therapy, but I didn't recommend Propecia for obvious reasons.

Then, just one week later Ron had this email follow-up: I just got this from the guy I was telling you about with the finasteride and Olympic problem. Good news: the Olympic committee has dropped finasteride from the banned substance list!

Following this discussion, I performed an Internet search to see if additional information was available on the ruling. A story about the decision appeared on the U.S. Olympic committee Website on October 8, 2008, and discussed the decision in light of several athletes who had been affected and banned from their sport for testing positive for finasteride. These include American skeleton racer Zach Lund who was barred from the Turin Olympics hours before the opening ceremony; as previously noted, Brazilian soccer star Romario who then retired; and hockey goalie Jose Theodore—who all tested positive for the drug in recent years. Also, a German wheelchair basketball player was banned from the Paralympics last month after testing positive, and an Israeli sailor tested positive this summer, but was allowed to enter the Beijing Games nonetheless. Previously the drug had been banned by the World Anti-Doping Agency because it was believed to be capable of masking steroid usage. It was prohibited in 2005, but after further study showed athletes gain no tangible advantage from the drug, it will be removed from WADA's banned list on January 1, 2009. It is important to note that there are different drug testing authorities for different sports. For example, the NFL [National Football League in the U.S.] has a drug testing policy different from WADA, and before prescribing finasteride to an athlete who could undergo drug testing, physicians should check to be sure it is not banned for use by their particular drug testing authority.✧

Letters to the Editors

Cam Simmons, MD *Toronto, Ontario, Canada*

Re: Recalculating the Predictive Value of the AR Genetic Test for Androgenetic Alopecia

"HairDx" is a commercially-available screening test for preclinical AGA based on genetic variations of the Androgen Receptor (AR) Gene on the X chromosome.

Dr. Keene cited four studies in her article[1,2,3, 4, 5*] and an additional study in her presentation[6,7] that show statistically significant positive associations of

- the presence of Allele G with Androgenetic Alopecia; and
- the presence of Allele A with not developing Androgenetic Alopecia.

"The cut allele (G) has a 91% sensitivity and a 31% specificity to provide a positive predictive value of 60% for developing AGA."[1]

Unfortunately, this is not how predictive value is calculated. The actual calculated predictive value is much lower.

Study Populations

Sinclair et al. studied men with Kennedy Disease, a neurodegenerative disorder, and Hayes et al. studied men who had Gleason 5 or higher prostate cancer diagnosed before the age of 70. Ninety-five of 198 of Hillmer's study patients came from a family-linkage study in which two brothers in the same family had to have significant hair loss before the age of 40. While the results are interesting, they should not be applied to the general population.

The 103 men in Hillmer's study who did not come from the family-linkage analysis were less than 40 years old and were among the 10% most severely affected in their age group. Levy-Nissenbaum et al. studied 41 men with Norwood VII balding before the age of 40 and Ellis et al. studied two groups of men with a Hamilton III vertex or greater stage of hair loss. In one group, 54 men were between the ages of 18 and 30 and in the second group, 392 men were over the age of 50.

None of the cited studies investigated women.

Calculating Predictive Value

Table 1 is modified from similar tables that can be found in many textbooks.[8]

Scientists judge a test by its sensitivity and specificity. *Sensitivity* measures how well a test does at finding people with the disease and *specificity* measures how well a test does at excluding people who don't have the disease. Sensitivity and specificity are inherent to the test and are not influenced by the prevalence of the disease.

Clinicians are more interested in the predictive value of the test. If a test comes back positive, how likely is it that the patient really has the disease? If negative, how likely is it that the patient doesn't have the disease? *The predictive value of a test is dependent on the prevalence of the disease.*

If the sensitivity and specificity of a test are known and the prevalence of a disease is known, we can calculate the positive and negative predictive values.

Prevalence of Early Onset, Severe AGA

The prevalence of AGA increases with age. Unger reported prevalence rates of stages of hair loss by age group in his textbook.[9] By combining age groups, we see that Norwood found that 2 out of 353 men aged 18-39 had a Norwood VII pattern (0.6%). Dayton found that 12 of 156 men aged 18-39 had a Norwood VII pattern (7.7%) and Hamilton found that 5 of 177 men aged 15-39 had a Class VII pattern (2.8%). Pooling the results would have 19 out of 686 men under 40 having Norwood VII hair loss, yielding a 2.8% prevalence rate.

Sensitivity and Specificity for the AR G Allele Test

In Levy-Nissenbaum's study group, 39 out of 41 young bald men had the cut gene. True positive = 39 and False negative = 2, so the sensitivity = 39/41 = 95%. In the control group (of men over 50 with Norwood II or less hair loss), 26 of 38 had the cut gene. False Positive = 26 and True Negative = 12, so the specificity = 12/38 = 32%.

In Ellis's young group, 53 out of 54 young bald men had the cut gene. TP = 53 and FN = 1 so sensitivity = 53/54 = 98%. In his "older" group, 363 out of 392 had the cut gene. TP = 363 and FN = 29 so sensitivity = 92.6%. Of the 107 controls (men over 50 with Hamilton Stage 1), 82 of 107 had the cut gene. FP = 82 and TN = 25 so specificity = 25/107 = 23%.

Despite reading and re-reading Hillmer's study, I am unable to extract the required numbers.

Calculating the Predictive Values

If we consider 1,000 men and accept a prevalence of Norwood VII loss before age 40 of 2.8%, a sensitivity of about 95%, and a specificity of about 32%, we can play a little modified Sudoku and get the numbers shown in Table 2.

The pre-test likelihood of a young man developing severe hair loss before age 40 was 2.8%. With a positive test result this only increased to 4%.

Repeating the same exercise with Dayton's prevalence of 7.7%, a positive test increases the probability of severe hair loss before 40 from 7.7% to 11%.

If we use Ellis's data, we can explore whether or not the screening test is better at predicting eventual visible balding. The prevalence of greater than Class III hair loss for men over 50 from Norwood's data is 48% (235/489 subjects over 50). Using data from Ellis's older group and the same exercise, a positive test result only increases the probability from 48% to 55.9%.

Table 1. Interpreting Test Results

Test Result	Disease Present	Disease Absent	
Positive	True Positive (TP)	False Positive (FP)	Positive Predictive Value = TP/(TP + FP)
Negative	False Negative (FN)	True Negative (TN)	Negative Predictive Value = TN(TN + FN)
	Sensitivity = TP/(TP + FN)	Specificity = TN/(TN + FP)	

Table 2. Sample Results Based on a Prevalence for Early-Onset, Severe AGA of 2.8%

Test Result	Disease Present	Disease Absent	
Positive	True Positive (TP) = 28	False Positive (FP) = 660	Positive Predictive Value = TP/(TP + FP) = 4%
Negative	False Negative (FN) = 1	True Negative (TN) = 311	Negative Predictive Value = TN(TN + FN) = 99.7%
	Sensitivity = TP/(TP + FN) = 96.5%	Specificity = TN/(TN + FP) = 32%	N = 1,000

Discussion

These pure science studies were designed to explore a possible association between the AR gene and AGA and they found a strong statistically significant association (despite the control groups being too young).

A positive "HairDx" test result is not clinically significant, however, since the positive predictive value is low. This is easily understood because the test has low specificity and there is a low prevalence of early-onset severe AGA. This combination gives rise to many false positives.

Patients with a strong family history or even those who are just worried should visit their doctor for testing to detect early hair loss before it is easily noticeable. These tests could include clinical examination of dry and wet hair, magnified photography to detect increased miniaturization gradients, or pluck tests or phototrichograms for Anagen/Telogen ratios. For those with early AGA, the money saved by not doing the screening test could pay for a few months of early medical intervention.

Conclusion

The current presented evidence does not support the use of the "HairDx" screening test for men or women.

***References**

Not published due to spatial limitations. Available on request from author.✧

IN REPLY

Sharon Keene, MD *Tucson, Arizona*

Reply to: Dr. Cam Simmons

Genetic science is both fascinating and complex. The latter is truer today, than when I went through medical training. The DNA base sequence of human genes is about 99.9% identical among individuals, and only 1 in a 1,000 DNA bases varies—but those are responsible for inherited traits and disease susceptibility between people.[1] The 5 studies presented document an association between the AR gene and AGA, which is reported to be an important determinant for AGA in men with pattern hair loss. We have identified a single nucleotide polymorphism, rs6152, on the AR gene as a genetic marker useful to screen for the risk of AGA in men. The Centers for Disease Control and Prevention (CDC) has defined 4 components to evaluation of genetic tests: analytic validity, clinical validity, clinical utility, and ethical, legal, and social implications. Dr. Simmons has questioned the clinical validity of this test, which is the ability to *detect or predict* the associated disorder or condition (phenotype). This does involve sensitivity, specificity, and prevalence. Genetic prevalence is defined by the CDC as the proportion of individuals in the selected setting (in this case, Caucasians) *who have or will develop* the phenotype.[2]

It is correct to state that the statistical evaluation I presented, though accurate for the study population, did not include a discussion of clinical validity, which includes population prevalence. Interestingly, a consideration of population prevalence actually enhances the predictive value and thus supports the clinical validity of the AGA genetic test. An erroneous estimate of AGA genetic prevalence is why Dr. Simmons' statistics and conclusions are not correct. Prevalence as it refers to AGA are the patients with a genotype who will eventually develop a phenotype or pattern hair loss. While the visual expression of AGA (phenotype) is unstable and may change with age, the genetic variants do not. That is precisely the advantage of a genetic screening test over visual inspection—it does not require a change in hair pattern or even the presence of miniaturization in order to identify a risk. Referring to Norwood, Hamilton, and Unger's studies of hair loss prevalence for ages 50-60 years, that prevalence is greater than 70 percent when including all patterns.[3] In Dayton and Norwood's surveys, between 12-22% of young men by age 29 years were symptomatic for Class III or greater hair loss, and by age 39 that number had risen to between 50-60%. (n = 799 for the two studies). Our original calculations were based on one of the representative studies. Since then, however, we have pooled the data and incorporated the combined assumptions of these studies. These included both older men (>50 years) and younger men (18- 41 years), all of whom had Class III or greater hair loss. Based on Norwood classification and other published studies, we have accepted a relatively modest population prevalence of 63% for our calculations.

The statistical model commonly used for calculating conditional probability for a disease or condition in population statistics is Baye's theorem. According to Baye's theorem, sensitivity (probability that if you have the condition it will be identified by the test) is calculated by P(T/D) where T means a positive test, and D refers to the disease or condition (baldness); and specificity (probability if you test positive for the condition you will not be falsely diagnosed) as P(~T/~D) where ~T is a negative test, ~D is absence of the condition (not bald), and P(D) is the prevalence of the condition.

The probability (P) that a person who has tested positive actually has the condition is calculated by the following equation based on sensitivity, specificity and population prevalence: P(T/D) × P(D) /P(T/D) × P(D) + 1– P(~T/~D) × P(~D). Based on the pooled data that included 2,078 patients, 1,773 had a G allele, while 305 had the A allele. Among the G allele patients 1,096 were bald and 677 were not bald, among the A allele patients 81 were bald and 224 were not bald. Plugging these numbers into the above formula for the G allele reveals these results: (1096/1177)

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(.63)/(1096/1177) (.63) + (1- (224/901)) × (.37) = .678, *or a 68% probability of going bald if you test positive for the G allele.* If the prevalence is assumed to be 70%, the predictive value calculated by Baye's theorem increases to 74%. Meanwhile, the probability for the A allele to predict lack of baldness, again using Baye's theorem and assuming a population prevalence of .37 for those who will not develop AGA, the numbers are: (224/901) (.37)/(224/901) + (1- (1096/1177) × .67 = (.2486) (.37)/(.2486) (.37) + (1- .931) (.67) = .69, *or a 69% probability you will not go bald if you have the A allele.* The ability of any test to accurately screen for a disease or condition is enhanced when the population prevalence is high, as it is with AGA. Both results indicate a high clinical validity approaching 70%.

Dr. Simmons suggests that rather than take a genetic test, patients should just show up for a wet down of their hair or a scalp examination for their Anagen:Telogen ratio. But there are several limitations and disadvantages to that approach from a patient perspective. Men who carry the A allele (20-24% of the population) are highly unlikely to develop AGA. For these men, the test is very clinically useful to prevent *unnecessary* follow-up, monitoring, or medication therapy. Although the prevalence of the A allele is much less, for a relatively small cost there are millions of men who could benefit from that information, even if they are the smaller percentage taking the test.

In terms of the larger affected population, lack of a screening tool has offered no paradigm in which a man would seek medical counsel until hair loss has occurred. According to a 2007 Harris Interactive online survey of >1,100 men for the American Academy of Family Physicians reported on WebMD for Men's Health, 59% of men stated the reason they did not visit a doctor is that they did not go to the doctor unless they are extremely sick, or they felt they had no reason to go to a doctor. In the absence of a means to evaluate the risk for AGA the likelihood that a man will seek evaluation in an asymptomatic phase is low. Wetting down the hair is inconvenient and imprecise for establishing the existence of hair loss, and does not identify subclinical risk. Until the genetic screening test becomes used routinely, it will not be possible to determine its ultimate clinical utility to prevent unnecessary hair loss. Even if screening were performed on a large scale today, it would require those identified with early hair loss to stay on medication long term to change the visible expression of AGA in the next decade. For now, the screen can be used as an effective tool to educate those at risk, and to establish a reasonable monitoring schedule. The cost of monitoring until confirmation of AGA will be less than the cost of therapy, and may obviate the expense of surgery in the distant future. Those who currently have hair loss will need conventional therapies of medication and surgery to restore their hair and so will those who take the screen but then don't follow through with medical therapy. The difference is, they will have a more informed choice.

References

1. www.health.state.ny.us/nysdoh/taskfce/screening.htm
2. ACCE: A CDC-Sponsored Project Carried Out by the Foundation of Blood Research, National Office of Public Health Genomics, 2007, 131-138. www.cdc.gov/genomics/gtesting/ACCE.htm.
3. Unger, W., and R. Shapiro. "Androgenetic Alopecia." In: Hair Transplantation. 2004; 52-55.✧

Message from the Surgical Assistants Chair of the 2009 Annual Scientific Meeting

Tina Lardner *Greenwood Village, Colorado*

I would like to take a moment to congratulate Kathryn Lawson for a successful meeting this year in Montréal. A special "thanks" goes to all who participated in some way. The meeting was informative and most of all we had a chance to get to know each other and learn something new. The cutting/placing workshop with workbook was also a valuable learning experience.

Having been selected as the Surgical Assistants Chair for the 2009 ISHRS Surgical Assistants meeting in Amsterdam, I am truly honored to hold this position. I've learned some valuable tips from Kathryn and hope to incorporate some new ideas.

This year's program is a one-day meeting geared for all levels of assisting and front office. This meeting will update you on new developments in our field, as well as offer a chance to share and learn from each other. I have an opportunity to incorporate some new ideas that I hope will get more people involved. So, if you don't necessarily like to speak in front of people, there are other ways to participate, such as contributing to the Forum and the surgical assistant's workbook. I encourage assistants from around the world to come together and share their expertise. I hope to learn something new from you as well.

I welcome any suggestions or ideas for the meeting. If you would like to give a presentation, you can contact me at tlardner@aol.com. If you would like to submit pictures for the workbook, please e-mail them with a brief explanation to Laureen Gorham at laurieg@bosley.com. I look forward to hearing from you.

Sincerely,

Tina Lardner Chair, ISHRS Surgical Assistants Executive Committee

Surgical Assistants Co-editors' Messages

Betsy S. Shea, LPN *Saratoga Springs, New York*

Greetings Assistants,

The time has come for me to say farewell. I have decided to take a position closer to my home. Unfortunately, it is not in the field of hair transplantation. Thank you to all that have taught me so much. I had a lot of fun learning the ins and outs of a field I never dreamed I would work in. I will miss you all. Take care and keep in touch.

Betsy

betsyoshea226@yahoo.com

Laurie Gorham, RN *Boston, Massachusetts*

Greeting Assistants,

Wasn't our meeting phenomenal? Kathryn Larson did a stupendous job and it was a great success. I wanted to take this opportunity to express my gratitude to Betsy for all of her hard work and dedication to our meetings, the Forum and to Hair Restoration in general. She's the consummate professional and I know we will all miss her very much. I want to wish her the best of luck in this new stage of her career.

Please keep your articles coming! I look forward to a great 2009!

Laurie

Donor removal–sterile technique

Irina Belugina, RN, Theatre Manager, Hair Restoration Ltd. *Dublin, Ireland*

At our clinic, hair transplantation is carried out to the same high standards as other surgical procedures. Our theatre is operated according to the standards and rules of a general theatre, using the highest quality instruments and surgical equipment.

During the donor strip removal, our patient is always in a prone position. Attention is paid to both patient and staff ergonomics. The operating table has a head rest and pillows positioned to make the patient comfortable.

It is essential for the patient's security to monitor his heart rate, pulse, blood pressure, and saturation of peripheral oxygen. Any minor complications are noticed immediately during the administration of the anaesthetic and the donor removal procedure. This is very important as the local anaesthetic contains adrenalin. The patient's vital signs are monitored throughout surgery (including ECGs, pulse, blood pressure, saturation of peripheral oxygen).

The surgical trolley is prepared and set up using sterile technique according to antiseptic rules. All of our surgeons and nurses have background experience in general theatre. Those involved in the donor removal procedure scrub up in advance, involving brushing with chlorhexidine, hand washing, and the use of sterile gloves.

During the donor strip removal, we pay meticulous attention to every step of the procedure, including:

- Disinfecting the skin
- Slow administration of the local injection for the patient's comfort
- Checking the wound for debris such as tiny fragments of hair
- Gentle haemostasis to preserve the blood vessels and nerves
- Suturing with no tension at all to make the scar invisible and preserve the donor area in perfect condition for potential future surgery.

Before and during the surgery, we routinely document all the drugs we administer. We also track sharps opened and disposed of.

Our theatre is thoroughly cleaned twice a day and spring cleaned every four weeks. All our instruments are washed in an ultrasonic machine, disinfected, packed, and sterilised in the central sterilization department. Each pack is marked with stickers to ensure that the instruments are traceable.

Each member of our staff is trained in basic life support every two years. As well as being located in a hospital that has been accredited by the Joint Commission International, we have our own clinic-specific emergency equipment that is inspected on a regular basis.

The patient each day is treated with respect and great care is taken to ensure perfect accuracy in every detail of care. Our team is highly skilled and we undertake continual training to refresh the team's knowledge of every step in each procedure. Our patients report high levels of satisfaction with the clinical excellence and professional care we provide.✧

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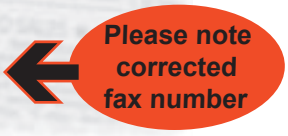

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Upcoming Events

Date(s)	Event/Venue	Sponsoring Organization(s)	Contact Information
Academic Year 2008–2009	Diploma of Scalp Pathology & Surgery U.F.R de Stomatologie et de Chirurgie Maxillo-faciale; *Paris, France*	Coordinators: P. Bouhanna, MD, and M. Divaris, MD Director: Pr. J. Ch. Bertrand	Tel: 33 + (0)1 + 42 16 12 83 Fax: 33 + (0) 1 45 86 20 44 *marie-elise.neker@upmc.fr*
November 15–16, 2008	14th Annual Scientific Meeting & Video Surgery Workshop JAL Resort Sea Hawk Hotel Fukuoka	Japan Society of Clinical Hair Restoration www.jschr.org/	President: Masahisa Nagai, MD Tel: 81 + 92-483-7575 Fax: 81 + 92-483-7580 *kamitomo@nagai-clinic.jp*
January 24, 2009	ABHRS Exam *Houston, Texas, USA*	American Board of Hair Restoration Surgery *www.abhrs.org*	Tel: 708-474-2600 Fax: 708-474-6260 *abhrs@sbcglobal.net*
January 31, 2009 10:00AM–1:00PM Central Time **Please Note Date Change**	Advanced Webinar: Quality Assurance and "Six Sigma" Strategies in Hair Transplantation *(online seminar)*	International Society of Hair Restoration Surgery *www.ishrs.org*	Tel: 630-262-5399; Fax: 630-262-1520 *www.registration123.com/ishrs/07WEBINARS/*
April 15–19, 2009	ISHRS Regional Workshop 15th Annual Live Surgery Workshop *Orlando, Florida, USA*	International Society of Hair Restoration Surgery *www.ISHRS.org/2009OLSW.htm* Hosted by Matt L. Leavitt, DO	Valarie Montalbano, Coordinator 407-373-0700 *HValarieM@leavittmgt.com*
July 17–19, 2009	ISHRS Regional Workshop Chopin: Art & Perfection: Female Hair Loss *Poznan, Poland*	International Society of Hair Restoration Surgery *www.ISHRS.org/PoznanRegWrkshp.htm* Hosted by Jerzy R. Kolasinski, MD, PhD	Tel: 630-262-5399; Fax: 630-262-1520
July 22–26, 2009	17th Annual Scientific Meeting *Amsterdam, The Netherlands*	International Society of Hair Restoration Surgery *www.ISHRS.org/17thAnnualMeeting.html*	Tel: 630-262-5399; Fax: 630-262-1520
October 2–3, 2009	ISHRS Regional Workshop Follicular Unit Extraction *Denver, Colorado, USA*	International Society of Hair Restoration Surgery *www.ISHRS.org/FUERegWrkshp.htm* Hosted by James A. Harris, MD	Tel: 630-262-5399; Fax: 630-262-1520
November 8–9, 2009	ISHRS Regional Workshop 1st Mediterranean Workshop for Hair Restoration Surgery *Tel Aviv, Israel*	International Society of Hair Restoration Surgery *www.ISHRS.org/Tel-AvivRegWrkshp.htm* Hosted by Alex Ginzburg, MD	Tel: + 972-9-7603406 Fax: + 972-9-7408240 *alexgin2000@gmail.com*

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

2009: 17th ASM, July 22–26, 2009
Amsterdam, The Netherlands

2010: 18th ASM, October 20–24, 2010
Boston, Massachusetts, USA

2011: 19th ASM, September 14-18, 2011
Anchorage, Alaska, USA

2012: 20th ASM, October 17–21, 2012
Paradise Island, Bahamas