Hello.

We have some exciting things to report. With regard to the upcoming meeting we anticipate good participation from the Brazilian Surgeons and are lining up an interesting group of guest speakers. Randy Bindra is sorting through the Instructional Courses and the abstracts to put together a great program. Every member who sent an abstract will be able to present their work. When he contacts you please answer in the affirmative and plan to go to Red Rock for the meeting. Hand surgeons want to hear what you are thinking and doing.

We have asked Ron Palmer, the President of the Endowment Fund, to speak to the members. The endowment is not an abstract concept but is our generously donated money being used to extend the reach of our organization.

(continued on page 3)
Practice Improvement

This past June the American Academy of Orthopaedic Surgery held a summit in Rosemont, Illinois to discuss the developing role of the “PIM” and “PI CME”. If you’re like me, this series of letters held very little meaning. To those plastic surgeons in our association, those letters may have a higher level of recognition, as the plastics board has begun using PIM’s already. PIM stands for Performance Improvement Module and PI CME refers to Performance Improvement Continuing Medical Education.

There are four components to the orthopaedic Maintenance of Certification (MOC) process. Part I is “Evidence of professional Standing”. Part II is “evidence of life-long learning and self-assessment”. Part III is “evidence of cognitive expertise”. Finally Part IV is “evaluation of performance in practice”. These are based on the guidelines from the American Board of Medical Specialties (ABMS), and are therefore identical to the four parts of MOC for Plastic Surgery.

The ABMS addresses these components as follows (taken from the ABMS web-site):

- Evidence of Professional Standing will require that the diplomat maintain a full and unrestricted license to practice medicine in the United States or Canada.
- Evidence of Life-Long Learning and Self-Assessment will be addressed through on-going three-year cycles of 120 credits of Category 1 Orthopaedic or relevant Continuing Medical Education (CME) that include a minimum of 20 CME credits of Self-Assessment Examinations (SAE).
- Evidence of Cognitive Expertise will occur through a secure examination, as is currently in place for recertification.
- Evaluation of Performance in Practice will include a stringent peer review process and a few performance indicators: sign your site, preoperative antibiotics, informed consent and postoperative anti-coagulation.

The purpose of MOC Part IV is to improve patient care by measuring performance and changing the system based on the results of those measurements. It is this component of the MOC process that PIM’s and PI CME is designed to address. To date, no specific role for PIM’s and PI CME has been developed for orthopaedic surgery.

That being said, one of the earliest PIM’s developed was for Carpal Tunnel Syndrome (CTS). Through a web-based program, surgeons collected data on 10 patients that had undergone carpal tunnel surgery. The results are collected and compared to the database of all the surgeons completing the PIM. Then the surgeons are given feedback on how their results differ from the group completing the PIM. The eventual goal is for surgeons to change their practice based on these results and then reassess how their outcomes have been affected by the performance improvement activity.

ABOS and ABPS have joined forces to make the PIM in Carpal tunnel, and the PAPS in carpal tunnel, the same through the efforts of Dr. John Seiler and Dr. Don Lalonde.

The MOC process is well developed in Plastic Surgery. It is a 10 year cycle. Every 3 years, diplomates provide evidence of professional standing Part I (license, peer review, etc). Also every 3 years, they provide evidence of life long learning with CME records for Part II.

For practice evaluation of performance in practice, Part IV, they undergo an MOC practice assessment module in Plastic Surgery (PAPS) every 3 years as well. To do this, they select one of (continued on page 20)
President's Message (continued from page one)

The endowment has gradually changed its focus over the years but the important issue is that we need to be sure the money is used in a manner that reflects and amplifies our will. Please talk to Ron Palmer about the Endowment. We are not putting money into a black hole. We are paying for things that reflect positively on our organization and members. Please donate and we can all bask in the synergistic glow.

HAND is doing well under the guidance of our editor, Michael Neumeister. He is working on a digital application that hopefully will be rolled out in the future. Well written review papers are welcome along with submissions reporting your research. Submit your manuscripts to our journal.

We are in a privileged position to participate in Maintenance of Competence. Bridging both Orthopaedic and Plastic Surgery, we have board members in excellent positions in both disciplines to put us at the forefront of the MOC process. At this year’s meeting we will have some instructional courses that are certified. As MOC becomes prominent the Hand Association will provide its membership with the best opportunities to participate in this process.

VuMedi is a growing entity in our educational environment. There may be other similar sites out there and others may be developed. I have reached out to the ASSH to organize the Upper Extremity content under a common silo. How this particular site will fit into the educational framework for Hand Surgeons in the future is yet to be determined but I encourage you to register and see what is there and to sign on to the webinars. There is clearly a huge opportunity for delivery of this material over the web and at this point it is sitting there free for us to use.

Finally I want to encourage you to continue your membership in the Association and to bring on new members. We have a lot of good things happening and we welcome the participation of every member. If you want to participate more, please send me an email. If you have a special skill, please volunteer. We have a lot of work to do and we welcome any member who wants to be more involved.

Steve McCabe
steven.mccabe@louisville.edu

Every member who sent an abstract will be able to present their work.

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HAND THERAPISTS PROFILE: Donna Breger Stanton, MA, OTR/L, CHT, FAOTA

Personal:
I became an occupational therapist in the ‘60s. I really had no idea what I was getting into, but it turned out to be right for me. I worked in neuro rehab, pediatrics, mental health, and orthopedics until I found hand therapy working at a hospital in Denver in the 70s; we had so many hand patients we were busy!

I eventually took a job in the US Public Health Service Hospital in San Francisco, joined the Commissioned Corp of the US Public Health Service and developed an OT program there. I attended the weekly hand clinic even though the hand surgeon was not interested in sending his patients to hand therapy. After about a year he began to notice me, and at the same time I received referrals from the residents. The program began to grow. I became involved with patients with Hansen’s disease that were seen in the SF clinic. I visited the Gillis W Long Center in Carville, LA and met Dr. Paul Brand and Judy Bell Krotoski. Judy and I continued our communication about care and treatment of HD and I was hooked. I eventually was invited to work at Carville with Judy Bell and moved to Louisiana for 5 years. It is a time that was most important to my professional growth and development.

I accepted a position at the University of California, Davis Medical Center, Sacramento, California where I worked as the supervisor of hand therapy, developed and upgraded the program and its presence there, while working with Robert Szabo, MD, MPH. This, too, was an important part of my professional growth and development. During this time I became quite involved with American Society of Hand Therapists and eventually served as ASHT president in 2005. During my presidency I met Lynn Bassini when I came to my first AAHS meeting. She invited me to my first mission with Guatemala Healing Hands which I did for three years in a row. Those experiences changed my life again. I became a member of AAHS in 2005 and have enjoyed my experiences and opportunities with AAHS.

I moved from UC Davis to a position as faculty in the OT program at Samuel Merritt University in Oakland, CA. I have been the Academic Fieldwork Coordinator along with teaching classes related to modalities, assistive technology, splinting, complementary healthcare systems in OT, and mentoring research groups as my primary class, for the past 5 years.

Education:
I graduated from San Jose State University in Occupational Therapy in 1965 and was certified in 1966. I attended University of Southern California, having received a full grant from Health and Human Services, 1970-71. I completed my thesis and education in 1979. I am now enrolled in the OTD program at Jefferson University and am about a third of the way through. I am truly enjoying this experience.

Employer:
I work as Associate Professor, Academic Fieldwork Coordinator, Samuel Merritt University, OT Program, Oakland, California.

AAHS Involvement:
For the past 3 years, I have served on the Membership Committee and have attended several meetings since becoming a member in 2005.

Best Part of My Job:
I have so much flexibility and am able to continue my interest and investment in clinical research at the same time I work with my students to complete the final stage of their education.

Major Accomplishments:
Becoming a hand therapist, before certification exam, along with completing the first HTCC certification examination, successfully. I have several publications of which I am very proud, particularly research I completed with my colleague at Carville, Bill Buford when we studied the properties of thermoplastic materials, which was subsequently published in Hand Clinics with articles also in the Journal of Hand Therapy. I have served on the ERB of JHT for about 10 years.

I was honored to receive the Vargas traveling fellowship award from AAHS. It was unfortunate circumstance that shortly after receipt of this award I suffered an injury that made it impossible for me to make the trip to Thailand with Dr. Song. This has truly been a disappointment I still think about.

Clinical Specialties:
I have focused on peripheral neuropathies associated with Hansen’s disease, sensibility testing, (continued on page 16)
Since the round table discussion for this issue of Hand Surgery Quarterly is focused on pediatric hand surgery, this column will provide coding guidelines for the management of various pediatric disorders. Given the rather broad scope of this topic, I will focus on some of the more common congenital disorders that may be encountered by the practicing hand surgeon.

In correcting simple syndactyly, the most commonly used codes include 26560 and 26561. To repair incomplete syndactylies, the operating surgeon may be able to obtain a complete correction with skin flaps only and should utilize code 26560. For complete syndactylies, skin flaps and concomitant skin grafts are generally necessary to separate the fingers fully. In these cases, code 26561 should be used.

For complex syndactylies, code 26562 is used to reflect the additional work required to divide the bony, cartilaginous, and soft tissue structures.

For the treatment of polydactyly, the surgical treatments can be as varied as the patients themselves. For most polydactyly surgeries, code 26587 may be sufficient and reflects reconstruction of a supernumerary digit. However, codes 14040 and 14041 can be used to record skin flap rearrangements depending on the size of the defect. Codes for full thickness skin grafting should also be used when appropriate. For more extensive reconstructive procedures, codes to reflect extensor tendon realignment (26437), corrective osteotomies (26565 and 26567), and collateral ligament repair/reconstruction (26540, 26541, and 26542) should be applied.

For thumb hypoplasia reconstruction, a variety of codes may be appropriate. Digit pollicization utilizes code 26550. To augment the deficient thenar muscles in thumb hypoplasia, an opponensplasty procedure and the use of code 26494 (opponensplasty; hypothenar muscle transfer) are generally recommended. With type II or IIIa hypoplastic thumbs, the ulnar collateral ligament may require repair or reconstruction. As mentioned previously for management of polydactyly, codes 26540, 26541, or 26542 should be applied to reflect repair of the collateral ligament at the metacarpophalangeal joint. Finally, codes 14040 or 14041 should be used for patients requiring first web space release.

For camptodactyly, non-surgical treatments are generally recommended to resolve or decrease any fixed flexion deformity. When surgical treatment is undertaken, local skin rearrangement (codes 14040 and 14041) is required to allow for complete proximal interphalangeal joint extension. Full thickness skin grafts (code 15240) may also be necessary for particularly severe contractures. Release of the proximal interphalangeal joint is described by code 26525. If release of the flexor digitorum superficialis to the finger is deemed necessary, code 26478 should be used to record this procedure.

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<td>Repair of syndactyly web finger each web space; with skin flaps and grafts</td>
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In the second issue of HAND for 2011 (Volume 6, Issue 2) a number of provocative original articles, important case reports, and insightful review articles are presented. Original article topics include:

- Quality measures for carpal tunnel surgery.
- Preferred sleep position associated with carpal tunnel syndrome.
- Aberrant anatomy and safe limited-open carpal tunnel surgery.
- Anabolic steroid use in reversing denervation atrophy.
- Population-based study of Dupuytren’s disease.
- Epicondylectomy versus denervation for lateral epicondylitis.
- Total scaphoid titanium arthroplasty
- Complications following volar plating of distal radius fractures.
- Cadaveric study of the extensor digiti minimi.

Original study excerpts from this issue include:

Isaacs et al who examined the role of anabolic steroids in the recovery of motor function following major nerve repair. They studied forty-five Sprague-Dawley rats who were randomized to three groups: two groups with tibial nerve transection followed by autograft nerve repair after three months of active denervation, and one control group with no nerve transection. A nandrolone infusion pump was placed 30 days later in one of the transection groups. At final testing, muscle contraction in the steroid-treated repair group was 72% relative to the control group and compared to 57% in the non-steroid repair group, indicating a potential role for anabolic steroid use in the recovery of atrophic muscles following delayed reinnervation.

In addition, Berry et al studied the role of denervation of the posterior cutaneous nerve in the management of lateral epicondylitis that is recalcitrant to traditional non-operative modalities. They retrospectively reviewed surgical management and outcomes of lateral epicondylitis and divided them into three groups: (1) lateral epicondylectomy alone, (2) denervation alone, and (3) denervation and lateral epicondylectomy together. They identified that the denervation group alone identified statistically significant improvement in pain relief and faster return to work than epicondylectomy alone. Furthermore, the denervation plus epicondylectomy provided the same results than denervation alone.
Let’s start our discussion on camptodactyly. Chuck, could you give us your thoughts on our current knowledge of the pathophysiology of camptodactyly?

**Dr. Goldfarb**: The hardest topic first, perfect. I think that our knowledge is still lacking on camptodactyly. It is a difficult diagnosis with a variety of pathologic etiologies that are confusing and limit treatment. Every anatomical structure in the finger has been implicated in causing camptodactyly.

**Dr. Goitz**: Are there some structures that you think are more important in this situation?

**Dr Goldfarb**: I think that aberrant insertions of normal tendinous anatomy, such as the lumbricals are part of the etiology. A tight FDS tendon is often part of the etiology and I think a lack of good extensor power is also part of the etiology.

**Dr. Goitz**: Scott, how effective do you feel is splinting, and what are your typical instructions to the family when you do provide splinting?

**Dr. Kozin**: Well, we’re open and honest with the family and tell them we just don’t know the timing or duration of splinting that leads to improvement. We recommend that the child wear the splints at least when they’re sleeping and napping but spend some time out of the splint to facilitate normal hand development. We don’t really have a set algorithm for length or duration of splinting.

**Dr. Goitz**: Terry, what are your indications for surgery, your timing, and the ideal age?

**Dr. Light**: We see two different groups of patients with camptodactyly. Very young children have a form of periods of rapid growth when whatever is tight further tightens and the contracture progresses. We still always try splinting as a treatment before surgery. To lessen the contraction, we have had the best results with serial casting that applies a low continuous load.

**Dr. Goitz**: How long do you typically go with splinting, and what are your typical instructions to the family?

**Dr. Kozin**: Well, we’re open and honest with the family and tell them we just don’t know the timing or duration of splinting that leads to improvement. We recommend that the child wear the splints at least when they’re sleeping and napping but spend some time out of the splint to facilitate normal hand development. We don’t really have a set algorithm for length or duration of splinting.

**Dr. Goitz**: Terry, what are your indications for surgery, your timing, and the ideal age?

**Dr. Light**: We see two different groups of patients with camptodactyly. Very young children have a form of
camptodactyly involving multiple digits. Many of these digits respond to splinting in extension and do not require surgery.

The second group, adolescents, are often troublesome because the extent of their flexion contracture tends to progress as they are go through a rapid growth period. The younger kids’ fingers tend to improve as they get older while the adolescents’ fingers tend to become more severely flexed over time. I agree that the flexor digitorum sublimis is often a pathologic element. If tenodesis exam convinces me that the sublimis is contributing to the deformity, I will simply release the sublimis and then continue splinting postoperatively to further straighten the PIP joint.

**Dr. Goitz:** Terry, do you feel that there is an optimal age that patients are compliant with post-op therapy?

**Dr. Light:** I splint every digit at the time of presentation. Very young children will wear splints but it is difficult to construct a splint for a baby that provides sufficient constraint. It is easier to make splints for older children but they are increasingly capable of removing the splint if they find it annoying. Preoperatively, compliance with splinting gives me a sense as to whether the child or adolescent is likely to comply with postoperative splinting. Inevitably, adolescents will require splinting after surgery.

**Dr. Goldfarb:** There was a study in the *Journal of Hand Surgery* last year by Dr. Baek from Korea, and it reported excellent results in young kids with stretching alone. Let’s just say that I’ve not been able to replicate those results with stretching. It may be a lack of diligence in stretching in my patient population compared to those in South Korea. I don’t know if anyone in the group has had a better experience.

**Dr. Goitz:** Alex, take us through the steps that you take once you do consider surgery for these patients.

**Dr. Mih:** Well, I probably reserve surgery for patients that have a PIP joint contracture that approaches 90 degrees, so unless they’re pretty close to that, I actually don’t recommend surgery. I would tell the parents that I’m not sure we can actually improve the total arc of motion much but perhaps, we could change the start and finish point of that arc of motion.

It does seem like camptodactyly has somewhat of a spectrum in terms of its tightness and in some patients, I think they actually have some level of skin tightness that could benefit from Z-plasty. So in those patients who would outline the skin incision to include a Z-plasty at the PIP joint, then inspect the flexor tendon sheath for any aberrant insertions because occasionally, we have found FDS on the outside of the sheath or having some insertion into the sheath. I would agree with Terry that releasing the FDS is probably an important part of this and depending on the level of joint involvement, whether they have deformity of the bony elements. There may be some role of releasing the volar plate as well and then pinning them so I do some temporary pinning of the joint and in as much extension as possible. So to summarize, it would be Z-plasty of skin, inspection and release of FDS, evaluation for any other aberrant anatomy, volar plate release, and pinning.

**Dr. Goitz:** Any consideration for tendon transfer?

**Dr. Mih:** You know, I think there is a set of patients that we probably end up putting in camptodactyly group that is quite a bit more supple in terms of their PIP contracture that are more likely to have a bit of an extensor deficiency. I think Frank Burke from Darby, England has presented this a few times with a group of patients that seem to have more of an extensor mechanism problem than a palmar side joint contracture and they probably are completely different pathophysiology than what we think of as camptodactyly but I think in the patients that have problem with any kind of active extension that I would do in most cases an FDS transfer.

**Dr. Goitz:** Terry, Alex indicated that 90 degrees would be his consideration for surgical intervention. I find that the small finger gets out of the way pretty well with the MP joint hyperextension and the more radial fingers have a harder time getting out of the way.

Do you have a different opinion for surgical indications for the radial digits or would it be a similar amount of contracture?

**Dr. Light:** I am a bit more aggressive in the radial digits. If the skin

(continued on next page)
is very taut, I will make a transverse incision from midaxial to midaxial line at the flexion crease of the PIP and insert a diamond shaped full-thickness skin graft. I place a K-wire across the joint for 3 weeks. This is particularly helpful in digits that have a contracture of 80 or 90 degrees.

**Dr. Goldfarb:** When we see radial-sided camptodactyly, patients are sent to a geneticist to rule out other conditions and one of the things that you’ll see are weird trisomy mosaicism. Some of these trisomies have facial issues that are more obvious, but the mosaicism is something that often goes undiagnosed even though there are other medical issues.

**Dr. Kozin:** With reference to the approach to camptodactyly, we’ve been using a spectrum approach that was published by Foucher in 2006. Similar to Alex’s comments, you go through this algorithm of steps that ultimately dictates whether or not the structures need to be released sequentially and whether a tendon transfer is required. If a tendon transfer is required, we certainly make sure it’s not too tight because any transfer that’s too tight will impair grasp.


**Dr. Goitz:** Let’s move our discussion to syndactyly. Now, the principles and treatment of syndactyly have been outlined for decades but there continues to be numerous articles related to minimizing skin graft.

Scott, how do you minimize skin graft and is this a desired intervention?

**Dr. Koizin:** Some of the articles discuss excessive defatting to try and minimize skin graft. I do not excessively defat. I think you’re asking for trouble if you defat too much and the fingers can look kind of scrawny. We will defat before we insert our flaps and we have used that dorsal advancement flap to decrease the amount of skin graft necessary in incomplete syndactyly. We almost always use skin graft in complete syndactyly.


**Dr. Goldfarb:** I have tried to avoid using skin grafts not because I dislike skin grafts but because I think that over time discoloration can be an issue.

- Chuck Goldfarb, MD

**Dr. Mih:** You know it really depends. I think as we’ve all seen there are syndactyls where there is significantly more skin than other times, but I think that in most cases, we would use either for a small amount of graft, the hypothenar region, probably for larger grafts still the full-thickness skin graft from the groin. We’ve occasionally used upper extremity grafts from either the distal forearm or proximal forearm but I think that is still the more common site of graft for our location has been the groin ipsilateral site.

**Dr. Light:** I used the groin as a donor site for many years. As I have followed these children for 10 to 15 years I have been disappointed to see that the grafted skin tends to discolor and darken. I have shifted to using the dorsolateral foot as a donor site. The color match is much better. For children who need a large amount of skin in multiple stages, such as a child with Apert syndrome, I use a Pfannenstiel abdominal incision to repeatedly harvest skin graft.

**Dr. Koizin:** I agree with Terry. I shifted away from the groin over the years and primarily use a distal wrist crease via an elliptical inci-
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sion. I will use a Pfannenstiel in Aperts because of the fibroblast deficiency that limits the skin's ability to stretch. I have used the antecubital crease for skin graft when I need it. I find the color match to be good, and it heals nicely.

Dr. Light: I am concerned that attempts to only use local flaps without skin graft may not improve the long-term appearance of the hand. I find that incisions on the dorsal hand for advancement flaps are more objectionable to the family than skin graft. I avoid using the dorsum of the hand proximal to the web floor as a donor site for the web floor. I continue to rely upon local flaps that are harvested primarily from the dorsum of the fingers.

Dr. Goldfarb: The Sherif technique relies on having sufficient additional skin, so I only use this dorsal advancement flap if I'm convinced there's adequate other skin to allow for primary closure without skin grafts. It makes no sense to use, I think, that flap in addition to skin graft since they're already having a donor site. Our families have not objected to dorsal scars from this technique.

The other thing is that I think we've all learned that our closures don't need to be quite as precise and that in the pediatric hand or finger that we can leave small areas open to heal in, in fact very quickly with minimal scarring so that the troublesome area is usually in the proximal portion of the fingers if you need graft, that's going to be the area where you'll need graft.

Dr. Goitz: Alex, if a skin graft fails, how large of a defect would you allow to heal by secondary intention versus taken back to the operating room for a reskin graft?

Dr. Mih: I would – relatively rarely have we ever done a re-grafting. I was trying to think of that. It might depend on where the defect occurred, whether it was out distal in the digit whereas most of the grafts were more at the proximal juncture at the site of the finger and the dorsal rectangular flap. I think probably if it we had lost a graft there, I'm not sure I would re-graft it. I may let it go ahead and heal by secondary intention and see if it were a problem later on. I haven't had to do that to my memory at least.

Dr. Mih: So I only re-graft for a catastrophe; meaning either an infection or the child somehow wiggled out of their postoperative mobilization but small deficits just like Terry said heal in nicely. We make sure the cast fits snugly and I do not even look at their wounds for two and a half or three weeks.

Dr. Goitz: Scott, when do you first check the wound?

Dr. Kozin: Three weeks. Again, the longer I've done congenital hand surgery, the more I immobilize. We use the Marybeth Ezaki concept of “punitive plaster”, using a soft cast that can be more easily removed.

Dr Mih: I would agree with that. I think that the grafts always look bad at ten days or anytime if you look at it before three weeks and so I would agree with Scott, we actually don’t splint them. It seems like the weight of the plaster or fiberglass just makes the dressing fall off easier so a large soft dressing removed at three weeks, I think allows the skin graft to take so it has a good appearance and the parents are happy. Probably the only times when it's a problem is when it falls off and they have it rewrapped in the local emergency room or something where nothing is put in between the digits and that's always a problem.

Dr. Kozin: We agree 100%. The older articles are from Dupont and we try and wait until the child is a year and a half. It's hard sometimes because the parents are under pressure to have their child’s fingers separated and I always tell them there's a one-third chance your child will need some kind of “touchup” as they age whether it be commissure creep, nail fold reconstruction, etc.

Dr. Light: I agree as well. Essentially, we’re doing our border digits earlier, four to six months, for the complex thumb/index especially with the hope that if you separate these digits of differing length early, the affected fingers have a better opportunity to grow straight. There still may be some deformity of these digits even with early syndactyly. I usually try to delay simple long – ring finger syndactyly releases until 18 months of age.

Dr. Goitz: Terry, when you have a child with acrosyndactyly from an amniotic band and then concomitant syndactyly more proximal, do you release them at the same time or just release the tips and come back?
Hand Table
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Dr. Light: I often release the tips at 9 months of age. Then once the fingers are freed from one another distally they may stretch out some of the skin proximally diminishing the need for skin graft. I initially separate the fingers apart down to the level of the dorsal to palmar sinuses. I will fully release one web space at the first procedure and then selectively deepen the other web spaces three to six month later.

Dr. Goitz: Let’s move our discussion to duplicate thumbs. It seems there has been varying enthusiasm for the Bilhaut-Cloquet procedure. Scott, do you find this procedure useful in your armamentarium and when do you use it?

Dr. Kozin: I only use the Bilhaut when I have to use the Bilhaut. In other words, when resecting the radial thumb would lead to too small thumb that would be unacceptable, from a functional and cosmetic standpoint. I also use the technique described by Baeck in the JBJS in 2007.


Dr. Goitz: Chuck, when do you consider osteotomizing the residual thumb?

Dr. Goldfarb: I’m of the school of thought that correcting bony alignment is more important than realigning tendinous insertions. Therefore, if after excision of the extra thumb, usually the radial thumb, we don’t have a well-aligned thumb, I would rather at the first surgery go ahead and perform an osteotomy to obtain a straight thumb. I don’t think the thumb deformity, if there is any, will correct over time. I use bony techniques to correct any mal-alignment.

Dr. Mih: I would. I find it difficult to do an osteotomy in those angulated digits that have an oblique physis. Sometimes in a type I where you have two distal phalanges that are diverging, you’ll find that the physis is actually oblique and then I’m interested in whether people would do an osteotomy below that to try and align the digit even though you’re making the joint crooked.

Dr. Kozin: That’s exactly what we do. I think Howard Steel taught us a long time ago that you can’t treat the x-ray. You treat the bone and make the limb alignment straight. I think duplicate thumb surgery is one of those entities that you have to be more aggressive rather than less aggressive or you end up with a zigzag deformity.

Dr. Goitz: Alex, when is optimal timing for surgical intervention for these patients?

Dr. Mih: I think that it’s probably something we do at a younger age and may be dependent on if there are any other medical problems but generally, it’s probably done between 10 and some time beyond 10 months. I don’t know that we push to do it any sooner than that but I think it is something good to have done possibly before too much beyond one year of age. I think our pediatric anesthesiologist like us to delay elective surgery like this until around six months of age or beyond.

Dr. Goitz: Okay. Let’s talk about thumb hypoplasia, specifically, type IIIa or better. Terry, can you review for us the pertinent typical findings in type IIIa hypoplasia?

Dr. Light: The critical finding that distinguishes the IIIa from the IIIb hypoplastic thumb is a stable thumb basal joint. I first consider the bony anatomy. Then, I evaluate the degree of abduction of the thumb metacarpal relative to the index metacarpal.

Often, the resident who has examined the patient will tell me, “This child has good abduction” when, they have a very lax ulnar collateral ligament of the metacarpal phalangeal joint giving rise a pseudo-abduction in a thumb with limited metacarpal abduction. The stability of the ulnar and radial collateral ligament at the metacarpal phalangeal joint is evaluated, as are the thenar muscles and the extrinsic flexors and extensors.

Dr. Goitz: In my experience, what makes the IIIa complicated in reconstruction is not only the MCP instability but the FPL may be malpositioned and have some interconnections with the extensor. Then there is the need to not only perform a tenolysis of the FPL, but to centralize the FPL as well as stabilize the MP joint.

Scott, how do you manage these somewhat divergent issues? Do you address them all at the same setting?

Dr. Kozin: I try to address all at the same setting. The thumb index web space is often underestimated and we’ll address that by release of the fascia and some type of Z-plasty or a dorsal rotation flap.

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For the MCP joint instability, if it tends to be just the ulnar collateral ligament, we’ll reconstruct that deficiency with our FDS opposition transfer. If both collaterals are deficient, we’ll perform a MP controdesis rather than try and reconstruct both ligaments at the same setting.

Then for the FPL, we will release any abnormal connections, but we have not had success with reconstructing the FPL tendon sheath or FPL tendon.

**Dr. Goldfarb:** That’s been our experience as well. If there’s no skin creases upon examination of the thumb preoperatively, it suggests that there is either scarring or interconnections and a lack of tendon glide causing a lacking of joint motion. I’ve not had success in trying to tenolysie the FPL and regain motion. Tom Graham and Dean Louis describe finding the interconnections along the thumb in a pollicis abductus situation and I’ve not had their degree of success in separating these interconnections in the thumb and forearm.2

**Dr. Goitz:** Let’s take the same patient who now presents to you at 4 years old and has had his initial surgery at one year old to attempt to stabilize the MP joint with a collateral ligament repair and now still has instability of the MP joint, no apparent function of the FPL to move the DIP joint and they are unstable at the MCP joint which appears to be where most of their motion comes.

Alex, how do you address this situation?

**Dr. Mih:** Well, I would agree it’s very difficult, if not impossible to restore an FPL function in the patient because they don’t have any sheath and we’ve tried a few and have had pretty much a failure of any kind of tendon transfer in that setting but I think as far as the MP instability, we sometimes see this I think, in patients who have had an opponensplasty that has really deviated their MP joint as opposed to opposing their thumb.

**Dr. Koizin:** So I think if there’s a problem of the opponensplasty insertion, that may need to be addressed in terms of some advancement into the extensor mechanism or beyond the extensor mechanism but I think we recommend reconstructing the ulnar collateral ligament either with a local tissue or perhaps a free tendon graft and temporary pinning of the joint, but I think most of the patients that I’ve seen that have had MP deviation have had that, I think, due to some problems with their insertion of their opponensplasty.

**Dr. Light:** I’d agree. As I have followed young patients on whom I’ve performed Huber transfers, I’ve seen that their chondrodesis and collateral plication stabilization may prove inadequate over time. Some of these thumbs have developed excessive abduction across the MP joint. Because of this phenomena I have shifted to using the ring sublimus opposition transfer, pulling the tendon through bone to reinforce the radial collateral ligament as Scott Kozin has described. I think that this provides a more stable long-term construct.

**Dr. Goitz:** Chuck, any considerations for pollicization for the IIIa hypoplasia thumb?

**Dr. Goldfarb:** We have not because if our goal is to create a radial-sided post, I think that goal can be accomplished well even if it’s a thumb that doesn’t move particularly well. If we can achieve a well-positioned, stable thumb, I believe that we can achieve success both functionally and aesthetically. Therefore, I’ve not done pollicizations in this situation and haven’t regretted not doing pollicizations. I’ve been happy with the results of reconstructions and I agree with Scott earlier that chondrodesis has been a helpful tool for us even in the younger patient. Perhaps I’ll look for the malpositioned insertions as Scott mentions in future revision stabilizations but, my typical approach is chondrodesis or epiphyseal arthrodesis in the older child.

**Dr. Koizin:** We’ll use an Adrian Flatt tenet that if the thumb is smaller than the small finger, then we’ll discuss pollicization as a primary procedure. Often those thumbs are just too small and too proximal to function as a good unit in grasp or prehension. I do think it takes a fairly educated parent to understand why you’re going to remove a type IIIa thumb and pollicize the index.

**Dr. Light:** In one child that had a reconstruction of a Type IIIa thumb on one side and pollicization on the other side the parent asked me, “Why didn’t you do a pollicization on both sides”, since the pollicized digit was clearly superior to the

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reconstructed thumb. Clearly the pollicized normal index finger functions very well in the thumb position while the reconstructed IIIa thumb is a less sophisticated digit.

**Dr. Goitz:** Alex, any consideration for reconstruction in the IIIb hypoplastic thumb?

**Dr. Mih:** I think it does come up periodically where families are not interested in ablating that digit and I know we’ve all seen reports, or cases, or presentations from the Orient where some very exhaustive efforts have been made to try to create a joint or create some stability. So I think taking some of those principles to heart, I actually have done some stabilizations using either bone graft or some other method of creating a somewhat stable CMC joint for the family that absolutely did not want to have an ablation and a pollicization. I think there are now some reports, encouraging reports of using a split-second metatarsal as an intercalary graft to create a stable proximal joint and that looks intriguing.

**Dr. Kozin:** I don’t reconstruct IIIb hypoplastic thumb and I give them the article by Guy Foucher. His results of pollicization were far better than reconstruction for a type IIIb thumb. I’ve actually never reconstructed a type IIIb or IV thumb.

**Foucher G, Medina J, Navarro R: Microsurgical reconstruction of the hypoplastic thumb, type IIIb, J Reconstr Microsurg 17:9-15, 2001**

**Dr. Goldfarb:** I don’t think the question is whether we think it’s better, but I agree that there are parents who simply are adamant that this is not an option and in general, I say, well, then I don’t think I have a solution that addresses your concern but there may be solutions that are worth exploring.

**Dr. Mih:** Well, I think the few times I’ve done this, the parents are a lot happier with the result of that than I have been so I think they’ve been glad that they went through it. I think the other interesting thing as we’ve seen some of those patients long term, they’re high school seniors or so by now and you look at the thumb and you just can’t stand the way it looks but they’re happy with it so I think obviously, it’s, as we all know, the patient and family expectations really influence the reception of the result.

**Dr. Goitz:** So it sounds that most would agree that a IIIb would be an indication for pollicization and many times, it would be patient and family influences that would move us to not pollicize. Chuck, is there any findings that you would, regardless of the family desires, consider a IIIa for pollicization?

**Dr. Goldfarb:** I have only pollicized IIIb thumbs, never the IIIa thumb. Whenever there is some type of substantial thumb present, it requires a great deal of discussion with the family and I’d much rather see a floating thumb, a type IV, or an absent, a type V because it’s more straightforward to assure the family that we’re doing the right thing by pollicizing the index finger. When there’s a small thumb, and when the thumb looks substantial even though the proximal metacarpal may be absent, it takes a lot of work to assure the family they’re making the right choice for their child.

**Dr. Goitz:** Let’s move our discussion to radial longitudinal deficiency. Alex, a patient presents to you within the first week of life with a complete radial deficiency. Do you immediately cast, splint, and is it affected by whether it’s unilateral or bilateral?

**Dr. Mih:** You know, probably we end up using splints for the most part and also evaluate them for elbow motion to see whether or not they have an elbow extension contracture going along with it so I think in the newborn or first week or two of life, I tend to instruct the parents on passive stretch and then have a splint made that they put on.

**Dr. Goldfarb:** We’ve gotten away from casting entirely, in large part because of the use of precentralization distraction as a part of our approach to radial deficiency. We did not have very good success using casts and we’ve gone to a minimalist approach with stretching alone in the newborn setting.

**Dr. Goitz:** Chuck, give us your thoughts about your consideration for centralization versus distraction lengthening versus nothing.

**Dr. Goldfarb:** I believe that avoiding intervention is an interesting and reasonable recommendation because the results of centralization remain difficult and less than ideal; however, we’ve been happy with a kind of two-stage centralization process where stage one is applying an external fixator and distracting the soft tissues and then stage two is more of the formal centralization. The benefit of the pre-centralization distraction is that it makes the centralization procedure itself more straightforward. It minimizes trauma to the growth plate of the distal ulna and provides, and at least in the short term, a more satisfying outcome.

**Dr. Goitz:** Chuck, what age are you putting the external fixator on?

**Dr. Goldfarb:** The earliest we’ve done it is 12 months. It tends to be a little tricky because we use a ring fixer which is large and the child is so small. I would say average age is probably 18 months.

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Hand Table

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Dr. Light: I tend to put a fixator on when children are 10 to 12 months. I still occasionally will do a single stage in children whose wrist is very supple. Typically, I’ll put a small uni-planer fixator on the ulnar side and do a volar radial release at the same time. I find that the release tight volar radial fascial tissue removes soft tissue impediments to distraction.

Dr. Goitz: What percent Terry, do you find that you’re doing single intervention for centralization versus the distraction lengthening?

Dr. Light: Probably about 20% are done in a single stage, the others are treated with a preliminary fixator.

Dr. Kozin: We will do a single stage only if we see the carpus on the end of the ulna in the AP and lateral x-ray planes. A lot of times, it looks okay in the AP planes but is very volar and need distraction. I do think it’s a real heart to heart discussion with the parents because we know that the recurrence rate is uniform with or without the distraction. Furthermore, in those kids that truly favor their ulnar hand, they’re doomed to recur because that’s the way they interact with their world.

Dr. Goitz: Alex is the concern for physeal arrest as much a concern with now the application of external fixator first followed by centralization?

Dr. Mih: I think it is, and I think that a lot of the longer term longitudinal studies of forearm length are instructive in that it’s pretty uniform that we are unable to avoid some damage to the physis or some effect of its growth. So I think we may be too optimistic in our ability to avoid physeal damage or slow its growth so I think it’s probably in almost every case we have some level of epiphyseal effect with centralization.

Dr. Light: I think it’s difficult to know in specific cases. If you look at some of the work from [Heikel] the un-operated ulna in radial dysplasia will grow to 50% to 60% of the length of the contralateral normal ulna. So the baseline is that we call it radial dysplasia but there is a substantial degree of ulnar dysplasia in these limbs. I think you can create further injury to the distal ulnar physis so that they don’t grow to their potential but the potential of these limbs in terms of growth, if we never operate on them, is substantially less than normal.

Dr. Light: Tony Sestero and VanHeest had an excellent study building on Heikel’s work which further quantifies the length of the ulna in the un-operated limb, versus the limb treated with notching of the distal ulna, versus the limb treated without notching. It showed that the more invasive we are and the more we do operatively to the end of the ulna, the more likely we are to affect growth of the ulna. I believe that the external fixator has decreased the likelihood of physeal issues but I agree with Alex that it certainly hasn’t eliminated that risk.

Dr. Goitz: That said Scott, what do you do at the time of centralization in addition to soft tissue balancing to minimize the chance for recurrence?

Dr. Kozin: We’ll take off the fixator and centralize at the same setting. We no longer take off the fixator and wait for some time. We will perform an ulnar approach to act as a dermodesis, perform a capsular plication, and then we’ll imbricate the ECU.

Dr. Goitz: Terry, when do you consider radial lengthening in the longitudinal radial deficiency?

Dr. Light: Rarely. I am concerned that if I lengthen the short radius in a young child, the subsequent growth won’t be proportionate and we will need to repeat the procedure in once or twice prior to skeletal maturity.

Dr. Goldfarb: I share Terry’s concern that you may lengthen once and then have to lengthen it again but we’ve had reasonable success balancing a type I or type II short radius and it helps balance the carpus on the end of the forearm a bit better and it seems to maintain over time. I think one of the experiences we had that was a little bit negative was that we achieved excellent length of the radius but you have to be careful, as Scott mentioned, and watch at the lateral view radiograph because the carpus can slide underneath the lengthened radius during the lengthening. We have to be careful to balance lengthening the radius while maintaining carpal alignment on all radiographic views, and I now will pin the carpus and hand to either the ulnar or radius during the lengthening process to make sure we maintain alignment.

Dr. Goitz: Chuck, you’ve published on fusion and the outcome in the radial deficient limb. What are your indications at this point for consideration of fusion in the older patient?

Dr. Goldfarb: When Paul Manske would talk to families he would tell them that centralization was the first stage of a two-part treatment for radial deficiency and the second stage was fusion of the ulnocarpal joint. This is reflective of the fact that there is such a high failure rate for the centralization procedure, or at least recurrence rate of the deformity. When there’s an 8 year old or more likely a 10 or 12 year old, with marked recurrence of radial angulation and flexion, I believe fusion is a great option for the family. It creates a well aligned (continued on next page)
forearm. It adds length to the forearm and the patient doesn’t lose significant motion in that they don’t usually have a lot of helpful motion anyway. The families that have had ulnocarpal fusion after centralization at our center have been very happy with it.

Dr. Kozin: I concur. I think that children who have had failed centralization and ultimately have a fusion, appear to be pretty content with the overall alignment of their limb especially if they’ve had a pollicization that works well.

Dr. Goitz: Chuck, can you give us some indication of how much deformity you would consider fusion for?

Dr. Goldfarb: It’s such a tough question to answer because it depends so much on the child and the family and what activities they’re struggling with and how much the appearance is an issue- I don’t think there’s a rigid number. In the study we published, we used a minimum of 45 degrees with the child figuring out the appropriate positions to maintain their ADLs. In some cases, the wrist is fused in some degree of flexion to enhance functional and to augment digital extension.

Dr. Goitz: Alex, are there any different considerations in a patient with bilateral radial longitudinal deficiencies?

Dr. Mih: You know, probably the thing that comes up most often in those patients is in their preadolescent years when they have difficulty with perineal care that’s the time when we’ll do a lengthening of the forearm bone that is there. If it’s just the ulna or if they had some amount of radius because of their difficulty in hygiene. So I think probably the bilateral patient is more likely to come in when they’re 10 or 11 years of age with that complaint of inability to perform personal hygiene and that’s when we do distraction, lengthening of the limb. I think otherwise, the treatment has probably been fairly similar to a unilateral presentation at a young age.

Dr. Goitz: I want to thank each of you for sharing your expertise during this panel discussion. It’s been very enlightening for me, and thank you all for participating.


**Hand Therapist Profile**

(continued from page 4)

use and effectiveness of contrast baths, provocative testing of carpal tunnel syndrome.

**Greatest Professional Challenge:**
My greatest professional challenge was becoming an excellent hand therapist and understanding the biomechanics that was a part of my job when working at the Gillis W. Long Hansen’s disease Center, Carville, Louisiana. Dr. Paul Brand essentially mandated that we know and understand how to incorporate objective measures in our work, and employ biomechanics to optimal advantage in our splinting and care of our patients. At the time it was new for hand therapists to become more educated in this specialty within a specialty, and now it is a requirement just to be a hand therapist, thanks to the work of Dr. Paul Brand and his inspiration to us hand therapists that I hope is never lost.

**Three Words that Describe Me:**
Honest. Hard worker. Caring
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Vargas Mission to Armenia (continued from page one)

heavily on foreign aid, and direct support provided from Armenians living in other parts of the world.

Health care in Armenia is slowly changing from its Soviet influences, which from a therapy standpoint, mainly involved massage and mobilization as the primary treatment methods. Following a massive earthquake in 1988, The Red Cross established Armenia’s first post-traumatic rehabilitation center, with trained Occupational and Physical Therapists. Gradually formal educational programs for Kinesio-Therapists and Occupational Therapists were developed, with the main areas of practice being pediatric rehabilitation, and rehabilitation following CVAs and spinal cord injuries for adults. There currently are no formal therapist training programs which are specific to upper extremity pathologies or splinting.

My affiliation with Armenia began several years ago, when I was contacted through the IFSHT (International Federation of Societies for Hand Therapy) web site by an Armenian therapist named, Hovik Piranyan. Initially we made plans for Hovik to come to our clinic for a hand therapy educational experience. When Hovik was not able to obtain a United States visitor’s visa, I had the idea to submit Yerevan Armenia as a possible location for a Vargas Mission. The preparation for this mission spanned over two years as we secured Armenian physician support, and obtained invitations from several facilities in Armenia. I received the award from the American Association for Hand surgery in 2010, however was not able to complete the mission that year, due to various scheduling delays.

Meanwhile, in Chicago, Dr. Robert Schenck was being encouraged by an Armenian friend, to conduct a medical mission to Armenia. Through the magic of Google, Dr. Schenck discovered that I would be going to Armenia as a Vargas Award recipient. Even more incredible was the fact that I used to work for Dr. Schenck about 20 years ago. We arranged to complete the mission together, spanning from May 2nd through May 12th, 2011. Unfortunately, Hovik who has been in France for the past few years completing therapy training was not available during our mission. Our host for the mission was Dr. Davit Abrahamyan, a plastic surgeon.

My initial three days were spent providing therapy consultations during Dr. Abrahamyan’s physician clinics. Although therapists were present during many of these appointments, there was little time available for hand therapy training. I learned that Dr. Abrahamyan, very skillfully has been fabricating his own splints for patients when needed, and essentially did not refer patients to the therapists. He also was hoping that I would teach his new employee, with no medical background, the essentials of splinting.

It was following much pressure from me and Dr. Schenck together that I was finally allowed to spend more time working directly with the therapists. I found that as the days passed, more therapists and students were eagerly showing up at clinics where I was at, with some coming all the way from the country of Georgia. I utilized every opportunity to provide splinting demonstrations, education regarding diagnoses, discussions on hand therapy treatment techniques, and to provide educational presentations from my laptop. Language was a barrier as many of the therapists did not speak English, necessitating additional time for interpretation. I was very impressed with the knowledge of the therapists for basic therapy techniques, and for their eagerness to learn more.

The majority of the patients seen were children, and quite a few of them had birth-related brachial plexus palsy. There were some adult patients with various forearm or digit lacerations, now presenting...
with contractures for splinting. My most interesting case involved spotting a factitious disorder in a 15 year old boy. In the evenings of our final three days, Dr. Schenck and I presented a seminar to over 100 physicians and therapists. Our topics included tendon repair and rehabilitation, compression disorders, brachial plexus palsy, and a presentation about hand therapy in the USA. Throughout these presentations, the skills, knowledge and important contributions of hand therapists were highlighted, especially stressing the therapist/physician team approach.

Armenia’s Health Care Ministry provides free services for children, handicapped individuals, and veterans. Hospital’s will complete required surgeries in an emergency for adult trauma patients, but follow-up care, elective surgery, diagnostic tests, and therapy must be paid for out of pocket. Insurance is available for adults, at a cost, which most cannot afford. As a result, medical services are unattainable for the majority of Armenians. The concept of a multidisciplinary team caring for patients is for the most part, absent. Most physicians manage cases independently of rehabilitation, and do not yet seem to recognize its importance.

I think there are many obstacles to overcome for a first hand therapy clinic to be established, including the following:

1. Improved physician recognition of the importance of therapy, improved physician communication with therapists, and improved physician utilization of therapy.

2. Improved therapy education and skill development in the schools, and through professional development methods (courses, written materials).

3. Establish an affordable method of payment for adult therapy services, so that provision of therapy can be a viable service.

4. Obtaining equipment and supplies (i.e. goniometers, splinting materials, modalities, etc.) – which currently are practically non-existent.

I think additional exposure to the successful models of hand surgery and therapy in the U.S. and perhaps other European countries is needed to promote the continued growth of therapy in Armenia. This could happen through future mission trips by U.S. therapist/physician teams to Armenia, or through Armenian physician/therapist visits to the U.S.

Armenians seem to be of the mindset that they can only accomplish things through foreign monetary investments. I believe that they could work through many of their procedural difficulties using the resources that they have, perhaps with some outside guidance. Consulting with professionals in organizations such as AAHS who have faced similar issues in other countries, could be very beneficial.

I have been working on a few issues since my return home. I have asked Scott Kozin, M.D. from Shriner’s Hospital in Philadelphia, if he would be willing to host a visit from Dr. Abrahamyan, and provide training in surgeries for birth-related brachial plexus palsy. He graciously accepted, and Dr. Abrahamyan was very excited when he learned of this opportunity. I have been communicating with a large service organization for people with developmental disabilities, regarding their potential interest in arranging a service project in Armenia to educate care providers about program services for people with developmental disabilities. I spent a portion of a day touring an Armenian residential institution, and feel that enhanced programming could improve the residents’ quality of life. I have also provided treatment advice via the internet to Dr. Abrahamyan while encouraging him to refer the patient for therapy.

I am very thankful to AAHS for this fantastic opportunity. I hope my visit results in some positive opportunities for growth for therapists, physicians and residential care programming services.
From the Editor’s Desk (continued from page 2)

20 procedures such as carpal tunnel, basal joint surgery, flexor tendon repair, Dupuytren’s contracture, or metacarpal fracture. They enter data on-line from 10 consecutive cases of their chosen procedure such as carpal tunnel. They review a benchmarking report to see how the rest of the diplomates manage carpal tunnel surgery. They complete an MOC-approved educational activity in carpal tunnel surgery such as the one being offered at AAHS 2012 in Red Rock. Finally, they complete the online Action Plan for Improvement.

In year 8, 9 or 10 of the cycle, they take the 200-question computer-based exam (part III). The exam questions are based on the MOC Study Guide from ASPS to prepare for the examination.

Plastic Surgery has already incorporated PIM’s and PI CME into their recertification process. They are required to obtain PI CME and complete a PIM as part of this process. In an effort to make this process easier for our members, the AAHS will offer plastic surgery certified PI CME at the annual meeting this January in Nevada.

For orthopaedists whose certificates expire in 2010-2012, the requirements will not involve any PIM’s or PI CME. They will be required to be licensed, have CME that includes a scored self-assessment exam, and provide a case list. It can be expected that over the next several years, there will be a requirement to complete PIM’s and PI CME, but the exact method is still being determined.

The goal of the PIM/PI CME summit in Rosemont was to 1. Develop PIM’s and PI CME that are useful in promoting practice improvement, 2. Develop working relationships between the stakeholders (the board, AAOS, AAHS, etc), and to 3. Create standardization among PIM modules. The AAHS sees itself in a leadership role in this process in regard to hand surgery PIM’s. Given that we have already developed these PIM’s for our plastic surgery members, we feel that, with the help of the ASSH, we can provide the PIM’s that will best suit our members’ needs.

If it isn’t clear from the preceding paragraphs, Part IV of the MOC process is still evolving for hand surgeons. MOC is confusing and is significantly different from our past methods of recertification. However, it is critical that we shape the process. As with every aspect of medicine, if we don’t shape it for ourselves, someone else will do it for us. There is opportunity for involvement in this process for those that are interested. If you have an interest in developing a PIM or becoming involved in this process please contact me and I will help you towards that end.

Recruit an AAHS Member

Online AAHS membership applications are now available on the AAHS Website:

www.handsurgery.org

All AAHS members should consider sponsoring an associate, colleague, protégé, trainee, or fellow for membership in the American Association for Hand Surgery. Over the last several years the AAHS has increased its membership and continues outreach in this area. Because an application for membership requires support by an AAHS member, you are likely to be asked by a prospective applicant to serve as his or her sponsor. We know that there are a number of hand surgeons, hand therapists, and allied health professionals who have much to offer the Association. Please help us identify them.

To apply for AAHS Membership, applicants can begin the online application process themselves at www.handsurgery.org or AAHS members may initiate an application for a new applicant in the Members Only area of the AAHS website.

Please feel free to contact the Membership Committee chairs if you have any questions regarding a potential candidate or the application process.

Jeffrey B. Friedrich, MD, Active Membership Committee Chair
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*Applications for the AAHS Research Grant and Vargas Award will be available on the AAHS website in September.

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ASPS Annual Meeting
Denver, CO

**2012**
January 11-14, 2012
AAHS 42nd Annual Meeting
Red Rock Casino Resort & Spa
Las Vegas, NV

March 3-5, 2012 (Surgery)
Hand Rehabilitation Foundation 2012 Surgery and Therapy Symposia
Loews Philadelphia
Philadelphia, PA

March 3-6, 2012 (Therapy)
Hand Rehabilitation Foundation 2012 Surgery and Therapy Symposia
Sheraton City Center Hotel
Philadelphia, PA

**2013**
January 9-12, 2013
AAHS 43rd Annual Meeting
Naples Grande Resort & Club
Naples, FL

**2014**
January 8-11, 2014
AAHS 44th Annual Meeting
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2012 Annual Meeting Keynote Speaker

Professor Steven Levitt has agreed to be our distinguished keynote speaker at the 2012 Annual Meeting. Professor Steven Levitt is the author of the bestselling book, *Freakonomics*, and *Superfreakonomics* and is the William Ogden Professor of Economics at the University of Chicago. He is also a contributing author to the NY Times with his weekly blog, Freakonomics which has also been turned into a movie.

**Saturday, January 14, 2012**
10am – 11am
Red Rock Casino and Resort
Las Vegas, NV

Professor Steven Levitt
2012 SCIENTIFIC MEETING

Red Rock Casino Resort & Spa, Las Vegas, Nevada

- Online Registration will be available September 1st.
- Reserve your hotel room online now.
- Complete program and meeting details can be found on the AAHS website.

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