REFLECTIONS

The Holiday Season and the upcoming New Year allows all to take some time to pause and reflect on the past year. So too does the time of the “changing of the guard” of the leadership of the American Association for Hand Surgery.

Where are we now and what has been accomplished this past year?

Perhaps the best reflection of the vitality of our organization is the fact that our membership continues to grow—even in the face of challenging economic changes in medicine and a growing reluctance of some to now join national organizations. Along with this is the record number of registrants to our upcoming 2013 annual meeting in Naples, Florida.

Both of these accomplishments are a testimony to the original goals of the “founding fathers” of the AAHS as they strove to establish a second hand surgery organization. Membership would be and continues to be less restrictive; meetings would be less formal and more interactive; and occupational and physical therapists would be capable of membership and be a vibrant part of the society.

The AAHS and the ASSH

This year has witnessed some tangible developments bringing closer together both organizations in their combined missions of improving hand and upper extremity care and education. The Presidents of each organization now are

(continued on page 9)
As 2012 comes to a close, there is significant uncertainty in our country. We stand on the edge of the fiscal cliff with no obvious compromise in sight. Our new health care plan is about to enter its second phase with higher taxes and greater implementation of “Obamacare”. And with the re-election of the president, there is little chance of repeal of this bill as the country attempts to come to terms with continuing escalating health care costs. It is unsettling in these trying times to feel optimistic about our future in medicine.

However, at this holiday time, when I am spending time with friends and family, I find it hard not to think more about the victims of the horrible shooting in Newtown Connecticut. And to think of the parents of those children who have suffered a greater loss than most of us can imagine. Or I think of Hurricane Sandy and the disruption and destruction it caused throughout the East Coast and the lives it touched beyond. It helps to put into perspective the fragile nature of our world. It helps me to realize that the problems I look at as “important” are not so crucial in the grand scheme.

I also realize, that the challenges that will face our profession will be met by a dynamic and intelligent group of physicians. We have always rose to those challenges in ways that have allowed us to provide excellent care for our patients, enhance our clinical abilities, and be successful professionally and financially. Now more than ever, we need to work as a united group of physicians towards a goal of better patient care and patient choice.

This spirit of concerted effort is embodied in the American Association for Hand Surgery. It is the collaboration of Orthopaedic, Plastic, and General surgeons, combined with hand therapy providers, that allows this society to thrive and be successful. This spirit of cooperation will be necessary going forward to mold the new health care environment to the advantages of our patients and physicians. Through concerted efforts of our parent organizations such as the AAOS, ASPS, ACS, ASHT, as well as other groups such as the AMA, we can effectively change our health care system for the better.

Hopefully, you will be reading this from the annual meeting in Naples, where Program Chair David Ring and President Jesse Jupiter have a tremendous meeting in store. It is certain to be an interactive and collegial event. If you are not fortunate enough to be reading this in Florida, I hope you will plan on making next year’s meeting a priority. It will be held January 8th-11th, 2014 at the Grand Hyatt Kauai Resort and Spa in Kauai, Hawaii. So save the date and plan on staying connected!
# 2013 Annual Meeting at a Glance

**Legend:**
- **AAHS**
- **ASPN**
- **ASRM**
- **Combined Day/AAHS/ASPN/ASRM**

## Wednesday, 01/09

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<tr>
<th>Time</th>
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<tr>
<td>6:00</td>
<td>Breakfast with Exhibitors</td>
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<td>6:30</td>
<td>Hand Therapy Day</td>
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<tr>
<td>7:00</td>
<td>Welcome &amp; Panel</td>
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<td>7:30</td>
<td>Instructional Courses</td>
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<td>8:00</td>
<td>Presidential Welcome</td>
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<tr>
<td>8:30</td>
<td>Invited Guest Lecture: Eduard R. Zancolli, MD</td>
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<td>9:00</td>
<td>Concurrent Surgeon Programming</td>
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<td>Conjoint Physiatrist Programming</td>
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<td>10:00</td>
<td>Coffee Break with Exhibitors</td>
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<tr>
<td>10:30</td>
<td>Invited Guest Lecture: Jesse B. Jupiter, MD</td>
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<td>11:00</td>
<td>Invited Guest Lecture: Diego L. Fernandez, MD</td>
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<td>11:30</td>
<td>Lunch with Exhibitors</td>
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<td>12:00</td>
<td>Surgeon Hands-On Development Workshop</td>
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<td>12:30</td>
<td>Therapist Hands-On Development Workshop: Rehab Management of Rotator Cuff</td>
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<td>1:00</td>
<td>Lunch with Exhibitors</td>
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<td>1:30</td>
<td>Joint Conjoint AAHS/ASPN Panel: Complex Elbow Trauma</td>
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<td>Mentors Reception</td>
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<td>2:30</td>
<td>Welcome Reception in the Exhibit Hall</td>
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<td>3:00</td>
<td>Invited Lecture: James W. May, MD</td>
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<td>3:30</td>
<td>Invited Lecture: Rolfe Birch, MD</td>
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<tr>
<td>4:00</td>
<td>Annual Business Meeting AAHS Members Only</td>
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<td>4:30</td>
<td>Comprehensive Hand Review Course</td>
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<tr>
<td>5:00</td>
<td>AAHS Annual Meeting Dinner Dance</td>
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<td>5:30</td>
<td>AAHS 5K Run (Open Guest Activity)</td>
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<tr>
<td>6:00</td>
<td>AAHS Annual Meeting Dinner Dance</td>
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## Thursday, 01/10

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<td>Instructional Courses</td>
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<td>Scientific Paper Sessions</td>
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## Friday, 01/11

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<td>Instructional Courses</td>
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<td>HSE and HAND Journal Update</td>
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<td>Scientific Paper Sessions</td>
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## 2013 Annual Meeting at a Glance

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<thead>
<tr>
<th>SATURDAY, 01/12</th>
<th>SUNDAY, 01/13</th>
<th>MONDAY, 01/14</th>
<th>TUESDAY, 01/15</th>
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<tr>
<td>Combined Day / AAHS / ASPN / ASRM Programs</td>
<td>ASPN &amp; ASRM Programs</td>
<td>ASRM Program</td>
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<tr>
<td><strong>Instructional Courses</strong></td>
<td><strong>Instructional Courses</strong></td>
<td><strong>Welcome</strong></td>
<td><strong>Breakout Panels</strong></td>
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<tr>
<td><strong>Presidents’ Welcome</strong></td>
<td><strong>ASPN/ASRM Panel: Nerve and Technology</strong></td>
<td><strong>Breakout Panels</strong></td>
<td><strong>ASRM Council Meeting</strong></td>
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<td><strong>Panel: Tissue Engineering</strong></td>
<td><strong>ASPN/ASRM Scientific Paper Session</strong></td>
<td><strong>Concurrent Scientific Paper Sessions</strong></td>
<td><strong>Buncke Lecture Joseph Upton, MD</strong></td>
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<td><strong>Coffee Break with Exhibitors</strong></td>
<td><strong>Coffee Break with Exhibitors</strong></td>
<td><strong>Panel: Assessing Flap Perfusion</strong></td>
<td><strong>Concurrent Scientific Paper Sessions</strong></td>
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<td><strong>Joint Outstanding Papers</strong></td>
<td><strong>Scientific Paper Session 5</strong></td>
<td><strong>Concurrent Scientific Paper Sessions</strong></td>
<td><strong>Panel: Future of Breast Reconstruction</strong></td>
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<td><strong>Joint Presidential Keynote Lecture</strong> Carl Hiasen</td>
<td><strong>ASPN Business Meeting</strong></td>
<td><strong>Concurrent Scientific Paper Sessions</strong></td>
<td><strong>Closing Remarks</strong></td>
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<td><strong>Invited Lecture Hans Steinmann, MD</strong></td>
<td><strong>YMGS Panel</strong></td>
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<td><strong>President Speech Robert Spinner, MD</strong></td>
<td><strong>Invited Lecture Thomas Brashart</strong></td>
<td><strong>Concurrent Scientific Paper Session</strong></td>
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<td><strong>Invited Lecture Göran Lundborg, MD</strong></td>
<td><strong>Scientific Paper Session 6</strong></td>
<td><strong>Godina Lecture Steven L. Moran, MD</strong></td>
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<td><strong>Break with Exhibitors</strong></td>
<td><strong>Closing Remarks &amp; Awards</strong></td>
<td><strong>Godina Alumni Club Reception</strong></td>
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<td><strong>ASPN/ASRT Joint Panel: Nerve and Transplantation</strong></td>
<td><strong>YMGS Open Forum Lunch with Exhibitors</strong></td>
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<td><strong>YMGS Panel</strong></td>
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<td><strong>ASPN Poster Session</strong></td>
<td><strong>Best Case/Best Save</strong></td>
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<td><strong>ASPN/ASRM Welcome Reception</strong></td>
<td><strong>YMGS Panel</strong></td>
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<td><strong>ASPM/ASRM Welcome Reception</strong></td>
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### Schedule

- **6:30 am**: Welcome
- **7:00 am**: Scientific Paper Session
- **7:30 am**: Breakout Panels
- **8:00 am**: Concurrent Scientific Paper Sessions
- **8:30 am**: Panel: Assessing Flap Perfusion
- **9:00 am**: Concurrent Scientific Paper Sessions
- **9:30 am**: Panel: Future of Breast Reconstruction
- **10:00 am**: Closing Remarks
- **10:30 am**: Concurrent Scientific Paper Sessions
- **11:00 am**: Panel: Future of Breast Reconstruction
- **11:30 am**: Concurrent Scientific Paper Sessions
- **12:00 pm**: Closing Remarks
- **12:30 pm**: Concurrent Scientific Paper Sessions
- **1:00 pm**: Concurrent Scientific Paper Sessions
- **1:30 pm**: Concurrent Scientific Paper Sessions
- **2:00 pm**: Concurrent Scientific Paper Sessions
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- **8:00 pm**: Concurrent Scientific Paper Sessions
- **8:30 pm**: Concurrent Scientific Paper Sessions
- **9:00 pm**: Concurrent Scientific Paper Sessions
- **9:30 pm**: Concurrent Scientific Paper Sessions
- **10:00 pm**: Concurrent Scientific Paper Sessions

### Events

- **Hand Surgery Quarterly Winter 2013**
The mission of the Hand Surgery Endowment is to foster and promote the highest quality of hand care through development and sponsorship of educational programs related to the hand and the upper extremity, through communications with health care professionals and the public, and through the endowment of research.

The Hand Surgery Endowment depends greatly upon the generosity of AAHS members and affiliates for support. Contributions support current and future initiatives:

- Guatemala Healing Hands Foundation
- Health Volunteers Overseas Missions
- Partnerships with International Federation of Societies for Surgery of the Hand (IFSSH), Orthopaedic Research & Education Foundation (OREF), and many other organizations for international outreach and volunteer missions to improve global hand care
- Vargas International Hand Therapist Teaching Award*
- Research Grants, including the AAHS Annual Research Grant and the HSE/AAHS/PSF Combined Pilot Research Grant

Click here to DONATE ONLINE
Some of us may have participated in competitive sports such as football, or basketball while in High School. For those of us who did participate, at some point we probably experienced an injury to our hands or wrists that required immediate medical attention.

The popularity of High School Athletics has grown exponentially over the past 40 years. During the 2005-06 school year, there was an estimated 7.2 million high school athletes who participated in competitive athletics, compared to only 4 million in the 1971-72 school year.1 With the popularity of high school athletics on the rise, there are an increased proportion of sports-related injuries.2,3

Some of the most common injuries that are seen in high school and collegiate athletics are collateral ligament tears, PIP and DIP joint dislocations, fractures to the carpal and metacarpal bones, as well as wrist ligamentous injuries.4 Metacarpal fractures are two thirds more likely to occur than other fractures in the hand when playing football or basketball.5

The case that will be presented here is one of a seventeen-year-old male, left hand dominant high school quarterback who injured his left hand when it came into contact with a helmet while he was attempting to pass the ball. Further complicating the injury was that this individual also fell onto his outstretched left hand after coming into contact with the opposing player’s helmet. Initial presentation at the time of injury was an immediate presence of dorsal hand edema and pain, which was localized to the dorsum of his hand. Pain was primarily located over the head of the third metacarpal and base of his thumb. X-rays taken the day after the injury were negative for any fracture of the metacarpal or base of thumb.

Rehabilitation of an injury such as this requires teamwork and communication from the physician, athlete, therapist and/or Athletic trainer. Management of the edema was performed through the use of compression, elevation, cold modalities, and gentle active motion to help prevent any additional pooling of blood in the injured area.6 The most important aspect during this stage of injury is to perform gentle retrograde massage and ROM to the injured area to help stimulate the lymphatic system.7 The one concept that can have a deleterious effect on healing is that of the inexperienced athletic trainer or therapist concentrating on strengthening or being too aggressive with ROM early on.4 As excessive exercise and ROM can actually delay clot formation and increase inflammation.6

(continued on next page)
The ability for this athlete to demonstrate acceptable range of motion for grasp and throwing were key factors in the decision to allow this patient to return to play. Once the patient's hand edema had been reduced to allow for functional digital motion, he was able to return to practice one week after his injury. He was fitted with a receiver's glove one size larger to accommodate the contour foam, which was placed dorsally for protection, and was then able to participate in full contact drills without difficulty.

References
CODING CORNER: SCAPHOID FRACTURES

This issue of Hand Surgery Quarterly focuses on scaphoid injuries. We will address coding for operative management of these injuries in both the acute and chronic settings.

When treating acute scaphoid injuries, one should typically employ CPT 25628 for open or operative management of these fractures. This holds true whether an extensile approach or a miniaturization incision is utilized. No coding distinction is made between fixation of a non-displaced fracture approached percutaneously via a dorsal approach or fixation of a hump-back deformity requiring a more extensive volar incision.

Codes for obtaining autogenous bone graft through separate skin or fascial incisions should be reported separately unless the code descriptor references graft harvest (e.g. “includes obtaining graft”). Since CPT 25628 does not include this particular phrase, consider adding CPT 20900 or 20902 to reflect the additional work required in harvesting bone graft. CPT 20900 is strictly defined as minor bone graft taken from any donor area—think cancellous bone graft harvested through Lister’s tubercle. CPT 20902 reflects a major bone graft taken from any donor area. This would be more appropriate, for example, when coding for structural corticocancellous bone graft from the iliac crest for correction of humpback deformities.

When treating scaphoid non-unions, your choice of CPT codes is dictated by your surgical approach. Again, CPT 25628 is appropriate when a standard dorsal or volar approach is utilized for fixation of the injury. This reimburses approximately 9.5 relative value units through the Centers for Medicare and Medicaid Services. However, CPT 25440 should be utilized with a more comprehensive approach to scaphoid nonunions and includes radial styloidectomy, internal fixation, and graft incorporation. For all the additional work often required for treatment of scaphoid non-unions, this code will net approximately 10.5 relative value units only.

When utilizing vascular pedicles, such as a vascularized bone graft taken from the radial styloid, be sure to include CPT 25430 to reflect the additional work and expertise needed to treat scaphoid non-unions.

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<td>20900 Bone graft, any donor area; minor or small</td>
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<tr>
<td>20902 Bone graft, any donor area; major or large</td>
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<td>25622 Closed treatment of carpal scaphoid fracture; without manipulation</td>
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<td>25624 Closed treatment of carpal scaphoid fracture; with manipulation</td>
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<tr>
<td>25628 Open treatment of carpal scaphoid fracture, with or without internal or external fixation</td>
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<th>Scaphoid Non-Unions</th>
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<td>25628 Open treatment of carpal scaphoid fracture, with or without internal or external fixation</td>
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<tr>
<td>25440 Repair of nonunion, scaphoid bone, with or without radial styloidectomy (includes obtaining graft and necessary fixation)</td>
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<td>25430 Insertion vascular pedicle into carpal bone</td>
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<tr>
<td>25431 Repair of carpal bone nonunion other than scaphoid, each, including graft and fixation</td>
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given a brief platform at the annual meetings to describe their societies; members of both are now working equally together on developing MOC programs and future requirements for recertification, as well as continued collaboration on the Hand Surgery “Specialty Day” annual program at the American Academy of Orthopaedic Surgeons Annual Meeting; and finally and most noteworthy is for the very first time the Presidential line of the ASSH has nominated a former President of the AAHS, Dr Scott Kozin to be next in line!

The AAHS and the ASHT

The leadership of both organizations have taken tangible steps towards greater integration of educational activities. This year saw the inaugural AAHS Annual Lecture give by President-elect Dr Donald Lalonde at the ASHT Annual Meeting in California. Specialty Day programming at our meeting in Naples, Florida was organized in conjunction with ASHT and we will have AAHS therapist representation in the organization of select ASHT programming in 2013. We hope to encourage more ASHT members to formally join the AAHS in the future.

The AAHS and the Hand Surgery Endowment

Substantial efforts have been undertaken not only to continue to recognize and support the HSE but also to increase transparency by integrating our Boards which required by-laws changing. We also have been looking towards truly focusing the mission of the HSE towards its goals of improving world-wide hand care and education.

Educational Highlights

This calendar year has witnessed some notable educational accomplishments. We witnessed a tremendous turnout of the Brazilian Hand Society at our 2012 Annual Meeting representing the AAHS’s first Guest Nation. Reciprocal arrangements have been formalized for the AAHS to be Brazil’s Guest Nation in 2013 at their Annual Meeting in Rio de Janeiro. Combined with this will be a one day program with faculty of both the AAHS and Brazilian Society aiming towards education of Latin American surgeons on basic and advanced topics.

The Argentine Hand Society will be our 2013 Guest Nation and plans are in effect for the AAHS to reciprocate in 2014 at their Annual Meeting. 2014 will see Chinese hand surgeons as our guests and 2015 the British Hand Society has committed to be our Guest Nation.

The AAHS will have its first Instructional Course at the AAOS Annual Meeting in 2013 on “wide awake hand surgery” with faculty members of our society and the course listed as co-branded with the AAHS and AAOS.

We ran a webinar on the “Ulnar Nerve” on the Vu Medi website and plan a second AAHS webinar entitled “Job Uncertainty in an Uncertain World”.

Lastly, our journal Hand under the editorship of Dr Michael Neumeister continues to grow in number of submissions, publications, and most importantly in acceptance. We are developing a program with industry sponsorship to make a one year subscription at no cost for current HAND Fellows.

Organization

The committee structure of the AAHS has been more formalized and revitalized and kudos to all who have given up time and energy towards these goals. Education, research, standards of care, membership, technology, transplantation are just some of the important committees that form the foundations of the AAHS.

The members of the Board of the AAHS should also be recognized for the time, efforts, and most of all enthusiasm they have put forth this year to make it a productive year for the AAHS.

Finally, the AAHS has been truly blessed to have the PRRI as our management team. Each and every one has been thorough, professional, and have addressed so many of our issues with understanding and expertise. So too our financial investment group as we stand on sound footing ready to face the uncertainties of the future.

Jesse B. Jupiter MD
Hansjorg Wyss/AO Professor
Harvard Medical School
Health Volunteers Overseas - Trip Report

Don Lalonde, MD
Orthopaedics/Plastics/Hand Surgery, Ghana, November 15-30, 2012

HVO Contacts

Dr. Peter Trafton, an orthopedic surgeon in Rhode Island, is the HVO North American Program Director for Kumasi (peter_trafton@brown.edu)

All AAHS volunteers should be vetted through HVO. It only costs $150 for physicians and $70 for hand therapists to join HVO. The HVO Volunteer Coordinator who handles the placements for Ghana is Andrea Moody a.moody@hvousa.org.

Facility

The Komfo Anokye Teaching Hospital (KATH) is a 1,000+ bed, older, general hospital organized into four main inpatient blocks housing Medicine, Pediatrics, Ob-Gyn, and Surgery. In May of 2009, a new Accident and Emergency Center opened under the direction of the Orthopaedic Trauma service. It is adjacent to the old hospital and is a state-of-the-art facility equipped with a triage area, minor and major treatment facilities, a resuscitation ward, 3 sub-acute wards for men, women, and children, an intensive care unit, four operating rooms, and a helipad.

This is on your Nickel

This is volunteer work. The time commitment is two weeks. Your cost will be between $2,000 and $3,000 unless you raise funds to support you. What is the return for your investment? A priceless life experience, and the knowledge you have helped make things better in that part of the world. You book your own flights. They will pick you up in Kumasi at the airport and take you to your accommodation to set you up.

My Goals in Going to Kumasi

I went with two goals. First, as president elect of the AAHS, I was exploring the possibility of establishing a reverse fellowship. Our members could teach hand surgery to the plastic and orthopedic residents and staff, as well as hand therapy to hand therapists to a safe established point in West Africa.

The second goal was to establish wide awake hand surgery in West Africa where many cannot afford hand surgery because they cannot afford the anesthesia and associated costs.

What is a Reverse Fellowship?

For centuries, doctors have been coming to North America from developing countries to train. The fact is that many, if not most, have stayed in the US and Canada rather than returning home after training. You can’t blame them. All of us (or our ancestors) have done the same thing. However, this has not helped the developing countries. The goal of a reverse fellowship is to bring the training to the developing country where the surgical trainees are likely to stay. If we have 4 AAHS volunteers go for 8 weeks, that is 2 months of knowledge sharing in hand surgery that would not have happened in West Africa.

Getting the Paper Work Done

The main hassles were getting notarized copies of my medical degree, ABPS certificate, license, and a few other things (see HVO documents and addendum 1). I needed a couple of letters from colleagues saying I was a real doctor. I emailed digital copies of these and brought the paper copies with me, but I was not asked to produce them.

Since I am from Canada, I had to send my passport to Ottawa to get a visa. I had to get a yellow fever shot with proof that I had it to get into Ghana. However, I got several vaccinations as I had not done it for a long time (hepatitis twinrix, tetanus, diphtheria, pertussis, typhoid, meningitis).

Getting There

There is no longer a direct flight from the USA (Washington) to Accra. However, there was a flight on Delta from New York to Accra that I saw leaving Accra the day I left Africa, and I was told it was a direct flight to and from New York.

I flew from Saint John to Toronto to Frankfurt to Accra for a cost of $1833. You arrive in Accra in the evening and have to overnight there. I stayed at the Accra airport Holiday Inn. It is expensive at $300. However, it is the only close hotel so that getting to the airport on time for your connector to Kumasi is assured. The high price included internet and breakfast that they will deliver to your room for only 1 dollar (2 cedis) as the cost of breakfast is included. Plan B is to take a taxi to a farther hotel. They are likely to be safe if booked with the uniformed personnel in the airport.

Arrival Saturday Nov 17

When I arrived in Accra, I had my visa and my yellow fever immunization card (both absolutely required) so there were no problems at customs. I had obtained a tourist visa. There were no problems. They asked me to declare if I had any foreign currency coming in and out of the country and asked how much. I just wrote I had “none” both ways even though I did have a few hundred American and there were no questions asked.

(continued on next page)
Past customs in the luggage area, there is a money exchange that took American $100 bills to change with no questions. The money is called Cedi. 20 Cedis is $10 roughly. I got $200 worth, or 400 Cedis. I had to buy my ticket to Kumasi with 100 Cedis cash the next morning.

**Malaria**

There was also a washroom just past customs in the luggage waiting area where I sprayed all possible bite areas with 25% Deet. (Muskol or Deep Woods Off). Everyone who lives in Ghana has had malaria. I sprayed my body entirely and religiously twice a day (once right after shower and the other time 12 hours later as I have always done going into malaria areas). Insect repellent is like sunscreen. It is very effective if you actually use it. I did not get one mosquito bite on this and other trips (25 trips since 1996) with the twice a day spray approach. Better to not get bit to avoid other fun things like Dengue fever as well. However, I did take the anti-malarial pills as well (Malarone) daily.

Just before the door to outside the international terminal, there is a well-marked lounge for guests staying at the airport Holiday Inn. I waited 5 minutes there in comfort out of the crowd for a shuttle that took me to the hotel at no cost.

The hotel is a 4 minute ride to the domestic terminal of the airport, which is outside to the right and just beside the international terminal in Accra.

**Sunday Nov 18**

I was planning to take the first flight to Kumasi on Starbow airlines at 8 am. I got there at 6:20 am, which was well before people suggested I get there, and the first flight was full. I then took a 9:20 flight on Antrack airlines to Kumasi which left at 10:30. Africa is about patience. There is a third airline which flies to Kumasi called 5:40 Africa. They all prefer cash which you can pay in US or Cedis, apparently cheaper in Cedis. It cost me 100 Cedis ($50 to fly to Kumasi). That was a 40 minute flight.

I would recommend trying to book your flight online just before flying to Accra from Europe or the US. At this time, you can't pay online. When I booked my flight coming back, they cancelled my booking after 11 hours when I did not show up at the airport to buy the ticket. The good news is that there are 3 airlines and you just walk over to the other airline if the one you want is all booked.

Upon arrival in Kumasi, I had lunch which cost 40 cedis to feed myself and Eric (no alcohol). He suggested 4 cedis or 10% tip. I also met Dr. Oheneba Owusu-Danso (Chief of Plastic Surgery) for lunch and gave him a brief overview of my aims. I shared some of my wide awake hand surgery slides with him. He took the names of my talks (1. Wide awake hand surgery, and 2. How to inject local anesthesia almost painlessly) for Wednesday 8 am hospital wide rounds for Eric to publish them.

Dr. Oheneba turned out to be a wonderful man and a good friend by the end of my two weeks in Ghana.

Eric Anyimadu is Administrator, Directorate of Accident & Emergency, and KATH. He picked me up at the airport. He and Felicia look after HVO volunteers.

When I arrived in Accra, I had my visa and my yellow fever immunization card (both absolutely required) so there were no problems at customs. I had obtained a tourist visa.

**Accommodations**

KATH provides a guest house for official hospital visitors such as HVO volunteers. It is huge but has its shortcomings, like many things in Africa.

a) Staying at the volunteer house. Air conditioning only works in the kitchen, not in the 2 bedrooms. It cools down to 25 degrees C at night from 32C in the day at the end of November. No internet in the house but Eric got a USB connection for me which I could use anywhere in Kumasi. It is called a Glo stick, and you buy internet time anywhere for 5-15 Cedis. He also got me a cell phone. It cost minor dollars. It is peaceful at the house and I worked on the internet every night. I walked down to the local store (5 minute walk) at the Unity oil gas station for canned goods (including alcohol), water, toilet paper, etc. There is a fruit stand on the way which was good (boil it, bake it, peel it or forget it). The nearest restaurant is a Chinese place which is a 15 minute walk which I was not keen on doing in the dark, even though it probably would have been safe. There is no hot shower in the house, but a functional cold shower works.

The house was lonely except for my nightly skyping home to my wife Jan. Most of the surgeons are busy with young families and not so interested in going out to dinner. Don't worry about the harmless lizard friends in the house. I only saw one mosquito there and I think my quiet friends look after them.

b) You could stay at a hotel which would feed you nicely in their restaurant. You are also likely to get breakfast included, air conditioning, hot showers, and internet. Richard Hopper has done that in Kumasi as recently as Sept 2012, and could advise you Richard.Hopper@seattlechildrens.org

I'm sure the hotels are not that expensive, and I would book ahead and get the best rooms.
HVO TRIP REPORT
(continued from previous page)

Eric and Felicia are the local ortho/trauma staffs who are responsible for HVO volunteers. They work out of the ortho/trauma office and arrange your lunch during the day at the hospital, your daily travel to and from the hospital, your internet and telephone, and anything else you need.

Except for Wednesday, every morning the first week I went to the trauma/ortho meeting at 8 am. At the start of these rounds the house staff presents the trauma cases that came in on the weekend (takes a long time Monday morning) or through each night. It was very good for networking with the ortho trauma team, even if I spent the day with personnel from the Plastic Surgery Department. It is hoped that HVO volunteers would offer a short lecture after case presentations Tuesday, Thursday, and Friday. Dr. Peter Konadu, Head of Orthopaedic Trauma, would love this, but I only found out about this on Thursday. I did it on Thursday morning. They provided a projector.

Both AAHS plastic surgeons and orthopedic surgeons will be well occupied in Kumasi teaching either general plastics or orthopedics if the cases are not hand surgery. The ortho/trauma and plastics departments get along well. I would recommend that orthopedic surgeons work with plastic surgeons in the OR and clinic seeing hands and vice versa.

Monday Nov 19
The first day of surgery: Dr. Osman Saani is the only ‘full time’ hand surgeon with a hand fellowship (ortho trauma trained initially). He is a good surgeon, keen to learn and a pleasure to work with. Monday is his day in the OR and Tuesday is his clinic. Very slow surgical pace in Monday OR because of very long turnover, late start, etc. 2/4 cases cancelled for “no beds”. Almost all hand surgery is trauma. The small stuff like finger fractures almost never get done because the big stuff like distal radius gets priority. Even they can’t get done in a timely fashion and many cases are old.

On a very positive note, Dr. Saani and I did his first wide awake hand surgery case (no tourniquet, no sedation). I showed him how to inject 100cc of ½% lidocaine with 1:400,000 epinephrine to numb up the whole wrist for a transcaplhid perilunate dislocation today. We did it through 2 incisions. Good visibility, zero patient pain, one amazed African hand surgeon! This really is a good solution for them. Patients really can’t afford unneeded anesthesia, and it will greatly help the surgeon load. Dr. Saani seemed to fall in love with it. Time will tell. I should add that X-rays are less than optimal. Two views are often not possible because the patient cannot afford the second view. Patients have to pay for everything they use, for every test and X-ray. They won’t do them if the patient cannot afford it.

We also did an old mallet reconstruction with K wire and tendon reinsertion under SIMPLE digital block (Single Subcutaneous Injection in the Midline of the Proximal Phalanx with Lidocaine and Epinephrine). Most OR cases on Monday were cancelled due to no beds. We got our two cases done because they were wide awake.

Tuesday Nov 20
At trauma rounds, Dr. Osman Saani spoke to his colleagues about why wide awake is the way to go to solve many of the trauma problems in OR at KATH. Dr. Peter Konadu and the others are enthusiastic and waiting to hear my talk tomorrow.

I then attended a hand clinic with Dr. Saani. We saw 20 patients or so. It went from 9:30 till 2 pm. The clinic was good and offered plenty of time to show slides and discuss cases.

Wednesday Nov 21
This was very different than yesterday. I started by my giving a talk. Over 100 people showed up. I talked about “Wide awake hand surgery” and “Almost painless local anesthesia injection technique” It attracted emergency physicians and some anesthesia folks. There is a large resident/medical student population. I suggested they open a “minor procedure room” to do carpal tunnels, K wire fractures etc. like we do in Canada. Their OR is way too jam packed. They seriously need decompression.

I spent the day in Plastic Clinic with Dr. Oheneba Owusu-Danso, the Chief of Plastics. He gave me my own room beside his where I saw about 25 patients on my own, then discussed problem ones with Dr. Oheneba. This included a lot of hand surgery and lots of teaching. Everyone does hand surgery here even though Dr. Saani is the only “dedicated” hand surgeon. All the trauma/orthopedic surgeons also do hand surgery.

We then went to the OR where I did a pedicled radial forearm flap with Dr. Oheneba to cover a big dorsal hand defect with exposed tendons. Dr. Oheneba usually uses 2 stage groin flaps. Dr. Saani had done a pedicled forearm flap and he showed it to me in his clinic on Tuesday. It was tough raising the flap with the only scissors available (long mets) and no doppler. They had one pair of fine adson scissors. They had no small scissors. Flap did fine and we finished at 10pm, so much for the short working day.

I did not bring my own instru-
ements as I wanted to work with what they had to work with. I think that was a good decision and would advise future volunteers to either not bring their own instruments or donate anything brought to the site.

Dr. Oheneba has only been in Kumasi as a plastic surgeon for 2 years, Dr. Saani as a hand surgeon for 1 year.

Thursday Nov 22

At 8 am I was invited to a meeting of all ortho trauma surgeons, nursing and administrators to discuss how to decompress OR and wards. It looks promising for the minor OR room outside the main OR to do minor procedures. We also tried to delete the rule that says you can’t pull out a K wire out of a hand unless you go to the main OR. I had a very productive meeting run by

Dr. Peter Konadu, Head of Orthopaedic Trauma; a very solid, reasonable, compassionate good leader.

I worked with Dr. Oheneba from plastics in the OR today. We had a hand fracture case booked but it was cancelled again, as it was last night. Last night it was cancelled because there are only 3 drills (used for both plates and K wires) in the hospital, and all were used up in ortho cases during the day. Last night, they were not sterilized because there was no water, so there were no drill cases today. They do not have a non-electric hand powered drill in Kumasi. If you have an old hand non-power drill of any kind at home, please bring it to Kumasi! They had one in Sunyani, but none in Kumasi.

You must be very patient in Africa. Don’t expect a lot of action or quick changes, but take advantage of the lulls to teach and exchange information. You must read the HVO Guide to Volunteering booklet before you go as well. It puts you into the proper mindset. You should also read the other material HVO sends you.

I spent a couple of hours uploading digital education in the trauma library computer today. Please bring both digital material and any books to donate. They have precious little here for education.

Friday Nov 23

I gave a lecture to the ortho/trauma group at the 8 am meeting on finger fractures.

Hand Therapy

At 9 am Friday, Dr. Peter Konadu, Dr. Osman Saandi and I went to the physiotherapy department to speak to Mr. Ernest Addai-Yeboah, the head of the department. This is Ernest and me in the physio department.

At the current time, there is no hand therapist. We suggested to Ernest that he could designate one interested therapist to receive training as a hand therapist. That person could go to each plastic or ortho/trauma clinic where they see hand problems between 11 and 12am each day to see, discuss, and take hand problem consults from and with the hand surgeon. Dr. Peter Konadu, Dr. Saani and Dr. Oheneba (who like the idea very much) would be at least 3 of the targeted clinics. This would greatly improve communication, decrease patient cost, and improve patient care. We pointed out that this would not increase the workload of the therapist as the therapist has to see those patients anyway. Now, she could find out very quickly what needs to be done, or inform the surgeon that nothing can be done. The American Association for Hand Surgery would likely send volunteer hand therapists to work with that therapist if there was a dedicated hand therapist. Ernest liked the idea. I will continue to communicate with Ernest and colleagues to try to get this done.

I toured the department. They do not have thermoplast for splinting. It looks like they do very little if any splinting.

You must be very patient in Africa. Don’t expect a lot of action or quick changes, but take advantage of the lulls to teach and exchange information.

Bring clogs for OR shoes, and a white coat so you can leave the OR.

No need to bring greens.

The 6 ortho/trauma surgeons are:

Head Dr. Peter Konadu
Dr. Dominic Awariah
Dr. Ralph Kumah is the local surgeon HVO contact. He was in Germany the week I was there so I did not meet him.

Dr. Vincent Ativor
Dr. Ampeh
Dr. Ralph Quartey

There is one ortho resident in a new trauma/ortho teaching program that is partially accredited and affiliated with Accra. The hope and likelihood is that it will be an independent program in two years.

There is a fully accredited plastic program which also started in 2010 with one resident named Dr. Paa Ekow Hoyte-Williams. Two more will be starting in 2013.

Plastic surgeons

Dr. Oheneba Owusu-Danso, the chief of plastics

Dr. Pius is the only other plastic surgeon I met. He knows Richard Hopper well, but I did not get to spend much time with Pius.

I did not meet the other two fellows.

Saturday Nov 24

I drove to Sunyani with Dr. Oheneba Danso to spend a week doing plastic surgery at the hospital (continued on next page)
there with a German team of two surgeons, an anesthesiologist, and two nurses. The Sunyani Hospital gave the team 4 OR rooms for a full 2 weeks of elective surgery. I was there for the first week of it. Dr. Detlev Hebebrand, the team leader, was Oheneba’s professor of Plastics in Germany. Dr. Knut Busching is also a former pupil of Hebebrand. Both are excellent surgeons. We met in the afternoon and set the hospital OR’s up in the evening. Most likely future volunteers will not go to Sunyani.

**Sunday Nov 25**

This was a day off where Dr. Oheneba and I spent 2.5 hours of private Power Point teaching/discussion in the morning. In the afternoon, we went to a football (soccer) match; very good to watch. I had never seen a professional match.

**Monday to Thursday Nov 26-29**

We worked hard every day finishing between 8 and 10 pm on 3 days, and at 5:30 pm on Thursday. This was German turnover time. We did a lot of complicated plastic surgery. I worked with Dr. Oheneba doing wide awake hand surgery as well as with the Germans. Cases of note: excision of 1/3 of a leg elbow, almost painless local anesthesia.

**Friday Nov 30**

I flew from Sunyani to Accra (160 Cedis or $80) on the 10:45 am flight. I had over 20kg of luggage and had to pay an overweight charge of $8 or 16 Cedis. Then I flew back to Frankfurt, Montreal, and Saint John getting home Saturday night. Hotel bill was $120 (meals etc) as Dr. Oheneba arranged for the hospital to pick up the room charge. They preferred American cash to Visa card. I spent about $25 on internet fees to feed my Glo stick. The hospital fed us lunch daily. Hotel included breakfast in the room rate. It is wise to fly early as late flights can get cancelled. Both in country flights were delayed 30-60 minutes.

**Summary**

Kumasi is a great place for AAHS volunteers to go with HVO for two week stints as a reverse fellowship. Ghanaians are a very polite people who are generally nonviolent, honest, and friendly. Most speak English. If you say any of the 3 following phrases to anyone, they will break out into a smile and give you the shirt off of their back; Medaase (thank you), eye (good), eye paah (very good). They were undergoing a peaceful pre-election campaign to elect a new president while I was there. The last president was also elected democratically. One of my predecessors left his cell phone in a cab and it found him 3 days later. One of the German team members left a bag at the hospital and it found her as well. There will be the usual challenges of Africa, but orthopedic surgeons, plastic surgeons, and hand therapists who go for a two week stint will feel wonderful knowing that they have given back.

Only 3% of Ghanaians have AIDS. 63% are Christian, 16% Muslim, and the rest are other. The official language is English and the local dialect is twi.

Never drink the water, even on your toothbrush or in the shower, on washed raw vegetables that are not smooth, or in ice. When it comes to food, boil it, bake it, peel it, or forget it. Cooked vegetables are good. You will get your fill of chicken and rice, but it is safe.

**Paperwork**

Registration with the Ghanaian Authorities will be done through Dr. Baffour Awuah, the Medical Director of Komfo Anoye Teaching Hospital. Fax: 233 322 024 654 or e-mail: bawuah1960@yahoo.com. Please copy Eric Anyimadu (ericanyimadu@yahoo.com), Dr. Peter Konadu and Dr. Awuah’s administrative manager Akwasi Afriyie (afriyiekwasi@gmail.com) if you send the documents as an email. Akwasi Afriyie can assist with any questions. Volunteers should complete the MCDC application form (available from OOHVO) but the fee will be taken care of by KATH. This application form should be sent one month prior to a volunteers’ assignment and be supported by the following:

- Notarized copy of medical school diploma
- Notarized copy of certificate of training in orthopaedics (e.g. ABOS certificate)
- Copy of current Medical License
- Passport photo (to accompany Medal Council Dental Council, MCDC application), this should be fixed on the space provided on the MCDC application
- Copy of current CV
- Two brief reference letters, including e-mail contact information, from individuals familiar with your clinical activities (These can be sent directly to Dr. Awuah, fax or e-mail above.)

Please bring a hard copy of the documents with you as well.

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**Never drink the water, even on your toothbrush or in the shower, on washed raw vegetables that are not smooth, or in ice. When it comes to food, boil it, bake it, peel it, or forget it.**

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Panel Discussion: Scaphoid Fractures

Alex: This is going to be the Roundtable discussion on the treatment and imaging of scaphoid fractures and nonunions. I have a wonderful panel here, and I would like each of the panel members to introduce themselves. Let’s start with seniority.

Jesse: Jesse Jupiter, Mass General, Boston, Massachusetts

Allen: Allen Bishop, Mayo Clinic, Rochester, Minnesota

Prosper: Prosper Benhaim, UCLA, Los Angeles, California.

Stephanie: Stephanie Toomey, Certified Hand Therapist, Mayo Clinic, Rochester, Minnesota.

Alex: Well, I have assembled this group because of the tremendous expertise and also the diversity. We have Jesse an orthopedic hand surgeon, Prosper a plastic hand surgeon, Allen a microvascular hand surgeon, and our therapist who has seen the gamut of different types of these injuries to get all the great opinions. So, let’s start off with imaging. What would you consider is the imaging modality of choice for acute occult scaphoid fracture? We will start with Prosper.

Prosper: My standard approach for that would be to get an MRI of the wrists, assuming the patient is able to do an MRI. If they have any contraindication to MRI, I would consider a bone scan. Honestly, though, I very rarely use a bone scan to detect an occult scaphoid fracture. Then, obviously you can also take the approach of just waiting a few weeks. If the patient is not in a hurry to get a definitive answer, you can see if you can pick up that occult fracture down the road with repeat plain radiographs.

Alex: Excellent. Jesse?

Jesse: I would agree. It really is patient dependent if there is no urgency. It is not unreasonable to splint and re-X-ray. If there is a reason to look at it, I would go with an MRI.

Alex: Allen?

Allen: Well, I guess I would take a different point of view. I find it easier to assess breaks in the cortical bone and subtle displacement with a CT scan. MR scans will on occasion show edema that may or may not prove to be a scaphoid fracture, but section thickness is generally too great to provide detailed information about displacement. The dark appearance of cortical bone is also a negative aspect of MR, in my opinion.

Alex: That is a really good diversity of opinions. I think it is even more important when you have a fracture that is a visible fracture on radiographs and determine if a fracture is displaced or not? We have the luxury of having over 60 years of clinical experience between the three of you. I think Jesse, you and Allen take the biggest pie of that, and how do you define and describe displacement on an acute scaphoid fracture?

Jesse: I just wanted to address Allen’s point about the CT because it also depends on who your radiologists are. We did a study looking at this. I hate to say a blinded radiologist because that is insulting, but basically with fractures and non-displaced fractures and non-fractures, you have to be very careful. First of all, the CT scan has to be done in the line of the scaphoid. Secondly, there is a

(continued on next page)
potential of vascular channels being thought to be fractures. It was pretty interesting that some patients who had no fracture were thought to have a fracture by supposedly reasonable radiologists but it turned out to be vascular channels. What would I do for imaging of displacement? There are obviously certain things seen on a regular X-ray; if your lunate extended, if your distal half of the scaphoid is substantially wider than the proximal half and if you have a so-called signet ring sign, those all suggest a flexion deformity. For me, if I have a fracture that I wanted to determine nonsurgical or surgical treatment of. CT scan in line with the scaphoid would be the best way.

Alex: And Prosper, how do you diagnose displacement?

Prosper: So, at the risk of sounding obnoxious, I think a lot of it is just kind of a gut feeling when you read these X-rays. I know that sounds like a cop-out answer, but it really is one of those things where you just get a sense of what the scaphoid should look like and what it actually does look like. I think the point just made was a very important one, which is to assess the surrounding features. For example, extension of the lunate is a very good clue that there is a discrepancy in the size proximally and distally. I also think that there is sometimes a sort of fake-out when looking at one cortex versus the other. The medial cortex and lateral cortex may have different degrees of displacement. For example, the radial border may look perfectly in line, but if you look a little bit more at the ulnar border, sometimes you can pick up a subtle sense that it is more displaced than it actually looks at the other half of the scaphoid. Having said that, I think if there is any question, a CT scan is best. I would say, however, in my mind, I would say that if I am to the point where I want to get a CT scan, I am almost to the point where I want to operate. I am one of these people that doesn’t really order a lot of CT scans. I’ll tend to go with clinical impression and what the X-rays look like. The huge factor for me is what the individual patient situation is, in terms of whether they are even willing to consider a cast or not. I may sound like I am one of these people who operate on all of them, but I am not, by any means. I actually commonly treat scaphoid fractures that are non-displaced with casting. I am happy to do that if the patient is willing to accept casting. Overall, I think a lot of this decision-making process kind of an overall gut feeling. The bottom line is that if there is any question, I would certainly get a CT scan without hesitation.

Alex: Finally Allen! Allen: Well, certainly if there is loss of carpal height, it is the result of a flexion deformity. While one may gain some appreciation of translational or rotational changes on plain films as well, such detailed information regarding bone loss and fracture deformity is best obtained with a CT scan, and proves quite useful for surgical planning.

Alex: That is excellent. A number of my patients actually come in with MRIs with a diagnosis of avascular necrosis? My question to the panel is, “What is the role of MRI in the diagnosis of avascular necrosis?”

Jesse: Yes! I would completely agree. First of all, AVN...true AVN is very uncommon in non-operated scaphoid fractures. It is very uncommon. So, what Allen said very early on, with MRIs you can see a variety of signals from the trauma. Secondly, the kybosh on the Gadolinium enhanced MRI was sort of from the study of Tim Davis and others in Nottingham where...
they prospectively looked at every scaphoid fracture that came in with a Gadolinium enhanced diagnosed fracture and a certain group of those had MRI evidence of avascular necrosis. They all healed and they are all treated non-surgically. A few that were normal MRs didn’t heal, so I think that it is just not worth making a definitive diagnosis on a MRI.

**Alex:** Okay. Finally, Prosper!

**Prosper:** I would agree with the comments. I think we have all been in a situation where we have felt that the MRI overcalled the diagnosis of AVN. It is really hard from a clinical perspective, to rule out the opportunity to provide the patient an option for ORIF based purely on the MRI. For example, I would not exclude that option just because the MRI suggested that there was some risk of AVN in that fragment. I think we probably all have treated patients who were reported to have AVN on a MRI and we have been pleasantly surprised that we have actually had some blood supply to the fracture fragment and that we were able to heal a fracture once an appropriate ORIF was performed. So, I think my comments echo those of the others.

**Alex:** Excellent. Now, let’s transition to the treatment of acute non-displaced scaphoid waist fractures. There has been a lot of discussion about the indications for percutaneous fixation versus conservative management. In your practice, who gets screwed......I guess that is not really a good term......but who gets screwed, who gets a cast, why and what are your indications for each? I will start with Prosper.

**Prosper:** In a purely non-displaced fracture, I will actually tend to suggest to the patient that they be treated with a cast, unless they have some sort of extenuating circumstance that requires them to be out of the cast sooner. For example, someone who owns their own business and needs to get back to work, or something like that where you want the wrist to be out of the cast sooner. In many instances, I still treat this as a non-displaced scaphoid waist fracture in an old school fashion with casting alone. Having said that, if there are particular circumstances in individual patients who need to get back to work sooner without a cast, I try to explain to the patient that just because there’s a screw in the scaphoid bone doesn’t mean you can use the wrist at lib. It just gives the patient the convenience of not wearing a cast all the time, and perhaps performing some limited range of motion early on to make it more convenient for the individual patient. I really enlist the patient in this decision making process. I place quite a value on that, because I think that the patient is an important decision maker with you in terms of choosing which way to go.

**Alex:** Allen?

**Allen:** Either method has its own advantages. Participation of the patient in the decision-making is important. While closed treatment remains the gold standard for treatment of non-displaced acute scaphoid fracture, we know that percutaneous fixation hastens healing and return to activity. For many individuals, including myself, such occupational or avocational demands are legitimate factors for consideration. In my opinion, however, percutaneous screw does not constitute an invitation for immediate return to activity. I have seen treatment in this fashion result in nonunion. Screw fixation alone, without postoperative immobilization and activity restriction is not appropriate treatment.

**Alex:** Excellent. And Jesse?

**Jesse:** Yes very much the same as what was said. We tend to treat people in athletic activities......I tend to treat them more with internal fixation. But saying what Allen said, it isn’t carte blanche to all of a sudden go back to full activity right away, although they tend to do that anyhow. The only thing I would say is getting back to imaging and the treatment of non-displaced fractures, if I’m going to treat somebody with a fracture non-operatively, I get a CT scan. First of all it lets you know if it really is well aligned and secondly, it gives you a much better idea how much it’s healed. Because I think occasionally we’ve all seen patients who had what appeared to have healed fractures show up a year later with a nonunion, and that’s because you can’t tell the dimension of healing in terms of the volume of bone that’s formed. If you have a CT scan, let’s say, when you’re ready to see it’s healed, and it only showed 50% of bone that’s formed across, I would be very careful with the patient. So that’s my approach.

**Alex:** Okay. I just want to ask the panel one very quick question. If you have a high level athlete that you’ve performed a percutaneous screw fixation, whether it be dorsal or a volar approach, when do you let that athlete return to the high level competitive sports? Jesse?

**Jesse:** Well it depends on the sport. You know, we’ve done a number of the football players and they’ve gone back with a protective splint within a couple of weeks. That’s not my choice, but that’s the way it is. A basketball player really has to get their motion and whatever. But if it’s a non-displaced fracture I think they could play within a few weeks.

**Alex:** Prosper?

**Prosper:** I guess I’m a little more conservative than the others. I let the patient do gentle range of motion exercises, but I really like to see some radiographic evidence of healing at maybe six to eight weeks before I let the patient do more aggressive types of range of motion exercises.

**Alex:** Allen?

**Allen:** Well yes, basically exactly
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APRIL 6-8, 2013
Alex: Allen are you concerned that the division of the radioscapohocapitate and long radiolunate ligaments would lead to ulnar translocation in these patients? Allen: I’ve never seen an ulnar translocation. Mark Garcia-Elias did a study of carpal alignment before and after a Russe approach, which divides the radioscapohocapitate ligament. He demonstrated a slight increase in the radioscapohocapitate angle. For me this has been a minor consideration, as the ligament is repaired at capsular closure and has not lead to observable problems in my experience.

Alex: And Jesse?

Jesse: Well I think that even waist fractures...I think you have a much better chance to go really down the longitudinal axis of the scaphoid from a proximal approach. If you carefully look at many cases that were done from a distal to a proximal approach, it’s very hard to truly get in the axis. The screws are often slightly dorsal. You have to open up the scaphoid trapezium joint quite a bit if you’re doing it percutaneously. So for me, I’ve gone to a more proximal approach because I think you really are able to get right down the longitudinal axis. The remarkable thing is we all study and understand and think about the importance of all of these volar ligaments, and for many, many years, people have just been cutting right through them in open approaches. And people in New England don’t move. And I’ve seen patients treated with nonunions thirty, forty years ago and I’ve never seen a patient have ulnar translation of a carpus or anything like that. They may be stiffer, but I think it’s pretty well tolerated to cut through those, but I tend to do it the way Garcia-Elias does make a Z cut and then try to sew them back.

Alex: And Prosper?

Prosper: I’m going to agree with Allen more on this one. I tend to use a volar approach for the vast majority of scaphoid fractures. The exception is proximal pole fractures, which obviously requires a dorsal approach. I guess I need a refresher course from Jesse at some point in my life, but I still don’t find it all that easy to achieve a straight central longitudinal axis on the scaphoids, even with a dorsal approach. I think it’s about equally as easy, or equally as hard, whichever view you want to take, to go from the volar or dorsal approach. I do not perceive any particular advantage, at least in my hands, to do a mid-waist fracture from a dorsal approach when compared to the volar. I think the key point in doing the volar approach, which I believe Jesse just touched upon, is that you have make a little bit of a trough in that trapezial bone at the scaphotrapezial joint interface to allow you to achieve the desired central longitudinal axis of that scaphoid. I think if you get in the habit of doing that, it makes it a lot easier to place the screw in the right position. I would also agree, I have never seen ulnar translation of the carpus by using a volar approach for ORIF of a scaphoid fracture.

Alex: And then I have a question for Stephanie. Now we’ve talked about dorsal approaches, volar approaches... As a hand therapist, have you seen any difficulties with patients with volar approaches or dorsal approaches in terms of managing their stiffness post-operatively?

Stephanie: I have not seen a different between volar and dorsal approaches. In a patient with a dorsal approach, I would be more aggressive scar management in order to assist with regaining wrist flexion. In most of the patients I have seen with scaphoid fracture, wrist flexion is the most difficult to obtain.

Alex: What percentage of unions is necessary to get a patient out of their cast and returning to activities? Prosper?

Prosper: Very good question Alex. I don’t know that we know the

(continued on next page)
answer to that. For me, I like to see at least 50% and my comfort level is at 75%.

Alex: Okay, Allen?

Allen: With the use of CT scans, one may accurately assess the extent of trabecular bone crossing. Once present, even if involving only 10% or 20% of the fracture surface on biplanar views I’ll usually switch from a cast to a splint. Subsequent x-ray images show continued healing as a rule.

Alex: And finally, Jesse?

Jesse: Yes. To me it depends if they’ve been treated with a screw or not. If they haven’t had a screw...

Alex: With a screw.

Jesse: With a screw I think as long as the volar part has some trabeculation, I don’t think it has to be the same as without a screw. So I would probably go with Allen. You know, if I see trabecular bone it’s clearly healing. Then they certainly can come out of immobilization, but you have to be very cautious about them...having them, you know, push-ups and all that kind of stuff that these guys do.

Alex: When we have non a non-displaced fracture...and once you obtain and think you have unions, at what point in time do you bring a patient back to absolutely verify they have achieved union? Or do you just let that patient go at the last time you see them and say oh, you’re healed, good luck. So we’ll start with Prosper.

Prosper: No I don’t take that approach at all. I like to see the patient at some point to confirm that he or she has complete radiographic healing. I cannot remember if it was Allen or Jesse who mentioned this earlier, but we’ve all, I think, had the sad experience of sending someone out who we thought was healed, only to have that patient come back a year later with a nonunion. It is rather humbling to see that. Once I feel that the patient is well on the way to healing and I allow the patient to come out of the cast to start rehab, I like to take an x-ray eight weeks later to confirm that the x-rays demonstrate complete radiographic union.

Alex: And Jesse?

Jesse: Yeah I would agree. I think it’s one more visit after out of a cast or after CT is showing sufficient trabeculation. But for me it’s more of their motion. You know, because if people are stiff, they are at a greater jeopardy if they want to all of a sudden do things. So I like to make sure that they have decent grip strength, you know, maybe 60%-80% of the opposite side - if they’re a laborer - reasonable motion, and then x-ray wise. So it’s all variable.

Alex: And finally Allen.

Allen: I think I have little to add. Serial radiographic evaluation at defined intervals is required until there’s some evidence of healing. At that point a CT scan is used for confirmation of healing. I continue to follow the patient with at least one follow up x-ray and examination, which should demonstrate improvement in complaints of pain, as well as grip and pinch strength, snuff box tenderness, and range of motion.

Alex: And then finally Stephanie, what other modalities besides just trying to obtain motion for these...is the latest rage within the hand therapy groups?

Stephanie: I would say that to help regain motion probably one of the latest rages, and it’s not really new to hand therapists is low load static progressive splinting to help regain motion. I would not start low load static progressive splinting until there is full evidence of bone healing and with the doctor’s permission. I have also seen joint mobilizations be successful in patients regaining motion in the wrist.

Alex: Are there any taping, or other splinting methods that can help augment the ability to use that wrist that you have from a therapy side?

Stephanie: There are other splinting and taping to help support the wrist. I would still say once there is good evidence of the bone achieving union, people have been known to give it additional support using different products such as Kinesio tape or a McConnell tape. Some people might even use a neoprene type wrist support to just help give the wrist additional support, but initially to protect the bone using a custom orthosis would be the best choice.

Alex: Thank you. Now we’ve kind of covered displaced fractures...acute. Let’s move on to the nonunions. There are a lot of different flavors of nonunions, and what I wanted to get from the panel is how they evaluate nonunions, and then how they decide on what type of treatment should be done.

I would say that to help regain motion probably one of the latest rages, and it’s not really new to hand therapists is low load static progressive splinting to help regain motion.

- Stephanie N. Toomey
So let’s start with nonunions without avascular necrosis, whether it be by suggestion on plane films, but let’s assume it’s a nonunion that has good vascularity. Prosper, how do you evaluate these? What factors are involved in your decision making and what type of surgery do you usually prefer in patients with scaphoid waist nonunions?

Prosper: Assuming no secondary changes like a SNAC wrist, my primary assessment is to get a CT scan. I do like the additional information that I see with a CT scan. I think that’s especially true if there is a large amount of displacement. If there are x-ray changes that suggest a fairly straightforward nonunion that does not have a lot of bone loss or secondary cystic changes, and it is truly mid-waist and there is no avascular necrosis, then my treatment really depends on what I find at the time of surgery. I am still a believer in clearing out the fracture line and either putting local bone graft from the distal radius or iliac crest bone graft as necessary, and then placing a screw that has good purchase of bone both proximally and distally. In this type of scenario, I think that approach still has a reasonably high chance of healing. If I find that the scaphoid is missing quite a bit of bone, (i.e. a more serious type of nonunion, such as significant cystic change significant collapse, or a humpback deformity), then it becomes a little more complicated. I do believe that it is important to restore the full dimension of the bone back to a more normal anatomic size and configuration, and then to provide appropriate internal fixation. If I need a lot of bone, I feel that I do not have much of an option other than an iliac crest bone graft. If it is a smaller amount of bone and if I am worried about the healing potential, then I have used the distal radius vascularized bone option increasingly over the past few years in my practice, and I have been pleased with those outcomes. I think that summarizes my basic approach for these.

Alex: That’s excellent. And Jesse?

Jesse: Somewhere along the same lines. The question of definition is the most critical thing. Ones that appear longstanding or cystic often have a synovial nonunion, and so the edges are sclerotic and just if it’s by chronology the union rates will go down. But I found for years that if you excise the sclerotic margins effectively, and get a good screw fixation and pack it with cancellous graft, most of these will heal at waist level. In fact Mark Cohen and I have a study that’s coming out in the Journal of Hand Surgery on that. But if you’re missing bone or the proximal half is not very robust, I will use the technique of Mathoulin, and take part of the volar radius on a pedicle and then put that as a VGB on top of the cancellous bone.

Alex: Okay, and then Allen.

Allen: The treatment of scaphoid nonunion with normal vascularity requires bone grafting and internal fixation. I do not use electrical stimulation or other forms of nonoperative treatment. A non-displaced scaphoid nonunion, that is without carpal collapse and having normal scaphoid angles may be best treated with a cancellous graft and internal fixation. A corticocancellous wedge graft should be used to restore scaphoid length and angles when a humpback deformity is present. The use of a vascularized rather than a conventional iliac crest graft would be controversial in such a case. It We know that vascularized bone grafts do heal faster, but the complexity of the procedure and donor site morbidity must also be considered. In this situation, the technical skill and experience of the surgeon as well as the wishes of the patient are also factors. We know that healing of scaphoid nonunion is not only a factor of graft vascularity, but also systemic factors and wrist biomechanics. Humpback deformity, carpal collapse, or a loss of scaphoid height requires wedge grafting. The selection of iliac crest, pedicled volar or dorsal radius vascularized bone or medial femoral condyle is a lesser consideration in bones with normal blood supply.

Alex: Now let’s change that same thing to a patient now that has documented radiographic plane film evidence of avascular necrosis, humpback deformity, and is already failed somebody else’s placement of a large screw. So what are the treatment options at this time, Jesse?

Jesse: I think it depends on the age of the patient. If it’s someone, teenager or young adult, I think it’s still worth trying to maintain the bone...their own bone...and it may require a combination of nonvascularized and vascularized graft. And the big screw makes it even more difficult because you have loss of substance. But I would still give a young patient a chance to preserve their own bone, rather than doing some type of a salvage procedure.
much more inclined in the younger patient to use a big vascularized bone graft and to try to get some stability that way.

**Alex:** And finally Allen.

**Allen:** A scaphoid nonunion with evidence of diminished proximal pole vascularity, a humpback deformity and previous internal fixation is a challenging problem. We know from David Green’s important study that the results of conventional (nonvascularized) Russe bone grafting depended upon extent of proximal pole vascularity. Observation of normal, spotty, or absent bleeding at the time of operative evaluation correlated with results. Scaphoids with no punctate bleeding uniformly failed to heal. The meta-analysis study of Merrel and Wolf also found a likely benefit of vascularized bone grafts when used in scaphoids with avascular necrosis. Restoring carpal height and scaphoid length, and obtaining stable fixation are also important, however. Thus, in a previously operated scaphoid nonunion with AVN, we must do several things: correct the existing humpback deformity, improve the vascularity, and obtain stable fixation. A study from our institution evaluated results of the 1,2 ICSRA dorsal distal radius vascularized bone graft. We demonstrated that the most common failures occurred in scaphoids with both AVN and humpback deformity. A large interposition vascularized graft that corrects both problems provides superior results. It is also important to recognize that some scaphoids cannot be salvaged. These include those with extensive proximal pole fragmentation, and nonunions with SNAC arthritis at presentation. In these cases, a salvage procedure is best.

**Alex:** Well that’s excellent. Well we’re going to conclude pretty soon here. I have three remaining questions and these don’t need to be answered very elaborately. What do you do in the situation of a scaphoid very proximal pole nonunion? Let’s say about three to five millimeters, with signs of avascular necrosis, but the geometry of the wrist is entirely, completely stable, as is the geometry of the scaphoid. Allen?

**Allen:** A small proximal pole fragment without collapse deformity is a good indication for a pedicled bone graft from the radius. We generally use the 1,2 ICSRA pedicle graft described by Zaidenberg and further clarified by Sheetz et al from our institution. Some form of stabilization is also needed- and must be done with great care. A mini-screw is to be preferred, but only if it can be placed without fragmenting the bone.

**Alex:** How about Jesse?

**Jesse:** The scenario you’ve given with the small proximal pole, even if very small, I use a scaphocapitate fusion.

**Alex:** Okay, and Prosper.

**Prosper:** For a three to five millimeter fragment, I would probably still try to fix it if possible because I do not think I have any other good options. I would use a K-wire, because I do think that a three millimeter fragment is obviously too small for internal screw fixation, even with a mini screw. I actually have one anecdotal success with this fixation approach, supplemented with use of a bone stimulator. I’ll leave it at that.

**Alex:** Okay. The second to last question is occasionally, you will have a very, very proximal pole fracture where it’s just a shell - not even a shell - it’s almost like a ligament avulsion of the scapholunate where you end up with the diastasis and scapholunate flexion. How do you solve those problems. Allen?

**Allen:** Well Garcia Elias has described excising the fragment and advancing the scapholunate ligament into the defect. That may work in some of these cases.
Prosper: Depends on age. If it is a younger laborer, with high functional demand, I prefer scaphoid excision with four corner fusion. If it is an elderly patient, with low functional demand, I prefer a proximal row carpectomy. For the middle aged patient, it is a relative gray zone it becomes an individual decision that the patient and I make together.

Alex: Allen?

Allen: I prefer four corner fusion in all cases of SNAC arthritis, having found it to be the most durable and reliable salvage option.

Alex: And then Jesse?

Jesse: Yes. I’ve gone more to four bone fusion. I like the newer implant designs. I think the results are better.

Alex: Any takers for distal pole excision and just leaving it alone and experiences with that? Anyone can answer.

Jesse: So SNAC wrist? No, I don’t have that much experience.

Alex: Okay. And then Stephanie, any comments about the therapy that you’ve seen for patients with proximal carpectomies versus four corner fusions with regard to their outcome and recovery?

Stephanie: I think the outcome and recovery really depends on the patient and their compliance with the home program, but between the four corner fusion and a proximal row carpectomy, I haven’t seen any real long term differences in regards to obtaining wrist range of motion I have seen both surgeries assist with pain relief for patients to continue with functional everyday activities.

Alex: And then finally, before we finish up, this is the free time to make any comments that you want about scaphoid fractures or nonunions. We’ll start with Prosper.

Prosper: So, I have a question for the group. You may have had the experience of seeing a nonunion on the x-ray...it is nondisplaced, but it is definitely there radiographically. You make your incision and expose the scaphoid bone, but you note that the scaphoid looks all the world like it is intact at the cartilage level and the fracture appears completely nondisplaced, without any collapse. Now, you have the decision to make of whether to take down the fracture or just leave well enough alone and put a screw right across the fracture line without doing your usual approach of debriding the fracture line. How would you approach this scenario, when the scaphoid bone looks completely healed on the outside, but you know that it is not healed on the inside?

Alex: Let’s ask the old guys. Allen?

Allen: I thought Jesse was the old guy.

Alex: Okay Jesse?

Jesse: Well I...from what I understand we are talking about, I’ve had a number of people who have had what appeared to be like six months of a fracture. You still the fracture line. It’s not healed. There’s no displacement. I’ve done it percutaneously, and I try to drill it a number of times and put a screw in, and they heal. So that would be my approach.

Alex: Allen?

Allen: But you’re saying you’re seeing the cartilage. I wouldn’t have opened it if it’s not displaced.

Alex: Okay. Allen?

Allen: I certainly have seen what Prosper has described, and I think the key is to avoid destabilizing the fracture. Limited exposure of the fracture through a small window at the site, visualized directly or by fluoroscopy, should permit limited curettage and cancellous bone grafting.

Prosper: I’m glad to hear Allen say that because that is the way we have approached them. It is always a little disconcerting...you always wonder if you are doing the right thing. Fortunately, we have had success in getting these

(continued on next page)
Allen: I have found the most problematic nonunions to be those previously treated with a very large diameter screw. I would urge my colleagues to consider fixing acute fractures with smaller size screws, making later revision more reliable. It is also important to adequately immobilize acute fractures, and assess healing by CT scan to reduce the risk of treatment failure. When treatment failures do occur, vascularity is often a factor. In these instances, the use of vascularized grafts improves results of established nonunions.

Alex: And Jesse?

Jesse: No, I would agree, it’s a good summary. For me I would say it’s past my bedtime.

It is also important to adequately immobilize acute fractures, and assess healing by CT scan to reduce the risk of treatment failure.

- Allen T. Bishop, MD

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April 24, 2013 from 11:00 am – 7:00 pm
Program Chairs: Julie E. Adams, MD & Randip R. Bindra, MD

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| 11:00-11:15 am | Introduction & Remarks
  Donald H. Lakoske, MD
  American Association for Hand Surgery President
  Luis Carlos Sorant, MD, President
  Brazilian Society of Hand Surgery President
|
| 11:15 - 1:45 am | Scientific Session: Trauma Symposia
  Scaphoid Fractures/Non-Unions: Tips and Techniques
  Thomas B. Hughes, MD; David Botsis, MD
  Francisco de Oliveira, MD
|
| 11:15 - 1:45 am | PIP Fracture Dislocations – Treatment Options
  Jeffrey Greenberg, MD; Julie E. Adams, MD
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| 12:15 pm | Challenging Elbow Fractures
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| 12:15 pm | Management of the Peripheral Nerve Gap
  Randell R. Simons, MD; Brian Carlson, MD
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| 1:15 pm | Advances in Wrist and Hand Arthroscopy
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  Carlos Henrique Fernandes, MD
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| 2:00 - 3:00 pm | Lunch Break
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| 3:00 - 5:00 pm | Scientific Session: Reconstruction
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| 5:00 - 5:15 pm | Question and Answer Session
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| 5:30 - 7:00 pm | Scientific Session: Soft Tissue
  Acute Tendon Injuries and Rehabilitation
  Donald H. Lakoske, MD
  Intrinsics Flaps for the Hand
  Aneit Gupta, MD
|
| 6:30 pm | Compartment Syndrome in the Upper Extremity
  Michael W. Neumeister, MD
|
| 7:00 pm | Adjourn
Dr. Pederson joined the AAHS Council this year after expressing the desire to become more involved with the association, of which he has been a member since 1989. He is a native Texan, having grown up on the Gulf Coast in Texas City, Texas. He attended the University of Texas at Austin, where he was a trumpet player in the Longhorn Band. As a senior there, he met his future wife Cindy, who was a trumpet player in the Longhorn Band. While in Austin, he played professionally with the Jazz/Funk band called “Just Walkin’” and sat in with Boz Scaggs when he came through Austin.

Chris attended medical school at Southwestern Medical School in Dallas, and originally planned to go into vascular surgery. During his internship in surgery at the University of Texas Health Science Center in San Antonio he rotated on Orthopaedic surgery, where he got to sew a couple of digital nerves – “...this is cool...”. He then went on to do a plastic surgery residency at Duke University, where he had the opportunity to learn microsurgery and go to Louisville, Kentucky to do a hand surgery fellowship. He and Cindy had gotten married just before he started his internship, and they decided to do something interesting before the settled down. They went to Melbourne, Australia where Chris did a one-year fellowship in reconstructive microsurgery with Mr. Bernard McC. O’Brien at St. Vincent’s hospital. He dragged Cindy, then 7 months pregnant, and his five year old daughter; their son was born in Melbourne. This was a great time, as the other fellows were from Japan, Italy, and India and great friendships were forged in this group. Interestingly, every member of this fellowship group has gone on to be the president of their national microsurgical society (Pederson – U.S., Doi - Japan, DeSantis - Italy, and Kazanchi - India). After this, Chris returned to Duke University on the faculty of both Plastic Surgery under Dr. Donald Serafin and the Orthopaedic Hand Service under Dr. Jim Urbaniak. Two years at Duke were great for cross-fertilization between plastics and ortho, and Dr. Urbaniak became a true mentor in hand surgery.

The lure of home and University of Texas football became too strong, however, and Chris returned to San Antonio in 1989 to become the Chief of the Division of Plastic Surgery at the University of Texas Health Science Center. In 1991, Dr. Pederson was offered a position at the Hand Center of San Antonio by Dr. David Green, and this was an opportunity which was too good to turn down. Chris has been on the faculty of the Hand Center since that time, and has risen to be the President of the Hand Center, as well as the Hand Surgery Fellowship Director. During his time there, over 70 fellows have been trained and have gone into academics and private practice all over the country. Dr. Pederson is also an Adjunct Professor of Surgery at the University of Texas Health Science Center, and is active in teaching plastic and orthopaedic surgery residents and medical students.

Dr. Pederson’s clinical interests cover a fairly wide range of reconstructive surgery, but his primary clinical interests are vascular problems of the upper extremity, complex upper extremity reconstruction, the management of difficult nonunions, and Volkmann’s ischemic contracture. Dr. Pederson continues to have an interest in music, but doesn’t get the opportunity to play the trumpet much. He does enjoy high-fidelity sound reproduction and listening to all kinds of music. His other interests are photography, and he maintains a darkroom and still does some film photography in black and white. He also enjoys cooking, primarily Italian and Asian food. He and Cindy attended Culinary Bootcamp together at the Culinary Institute of America for their 33rd anniversary last year. He is also an avid baker, and feels that bread making is somewhat akin to reconstructive surgery (it takes experience and patience!). His proudest accomplishment, however are his three children. Their success probably rests mostly on their mother Cindy, as he has been often absent. Their oldest, Liv, lives in New York and is a fashion designer for J. Crew. Their son, Anton, returned from teaching English in Japan for 2½ years and is enrolled in graduate school at the University of Texas, while the youngest, Candice, is living in Austin working for a Healthcare Marketing firm. Chris and Cindy enjoy being with their “progeny” whenever possible and travelling internationally with friends. The time in Melbourne with other international fellows led to a great lifetime of travel to visit friends socially and professionally, and this continues today.
To the National delegate of IFSSH
Combined Congress of IFSSH-IFSHT, 4th to 8th March 2013 at New Delhi

Greetings to you from India.

Preparations are underway for conducting the 12th Triennial Congress of the International Federation of Societies for Surgery of the Hand and 9th Triennial Congress of the International Federation of Societies for Hand Therapy.

We would like to have a good participation from your country. Registration is open and abstract submission are on the website www.ifssh-ifsht2013.com The last date for the submission of abstract is 31st August 2012. We would be grateful if you could forward this message to all your members. The success of the meeting will greatly depend upon your participation. On our part, we assure you a great hospitality. Please be assured that we will make this an event to remember. If you have any questions please do not hesitate to contact me any time.

With kind regards

Yours Sincerely

Dr. S. Raja Sabapathy, MS., M.Ch., DNB. FRCS., (Ed), MAMS.
Organising Chairman, IFSSH-IFSHT 2013

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2014
AAHS ASPN ASRM
ANNUAL MEETINGS

Grand Hyatt Kauai Resort & Spa
Kauai, Hawaii

January 8 – 11  American Association for Hand Surgery
January 10 – 12  American Society for Peripheral Nerve
January 11 – 14  American Society for Reconstructive Microsurgery