MESSAGE FROM THE PRESIDENT

AAHS puts on a Great Pre-course in Brazil

AAHS presenters were greatly appreciated in Rio de Janeiro on April 24, 2013. The AAHS provided a pre-course in conjunction with the Brazilian Society for Surgery of the Hand and the Federacion Sudamericana de Cirugia de la Mano meetings in Rio. Two hundred and sixty (260) hand surgeons attended the pre congress AAHS course and greatly appreciated the lectures provided by our members.

I would like to warmly thank Julie Adams and Randy Bindra for organizing the course. They did a great job, as did our cast of outstanding additional volunteer lecturer members: Thomas Hughes, David Botzenka, Jeffrey Greenberg, Cherrie Heinrich, Scott F. Duncan, Mark Baratz, Brian Carlsen, Mark Rekant, Michael Bednar, Marco Rizzo, Hilton Gottshalk, William Geissler, William Lanzinger, Alejandro Badia, and Peter Murray. All had a very good time, in addition to providing outstanding education.

We may put on other pre-courses in the future. If you are interested in presenting, just let me know.

On a personal note, a lot has changed in the last year in Brazilian hand surgery. I was invited by the BSSH as the guest speaker in Sao Paulo last year. One year later, many Brazilian hand surgeons are doing wide awake hand surgery. Those who have done wide awake flexor tendon repairs have been very gratified by the improved results and far prefer it to traditional no

(continued on page 9)
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FROM THE EDITOR’S DESK

The 2013 Annual Meeting is behind us now, and it was a great success. Jesse Jupiter and David Ring put together a tremendous program that was interactive, innovative, and full of great new material. In addition to hand surgery, many athletic social events helped to bring members of the association together in the warm weather of Florida (Finally, we had warm weather!). This included a tennis tournament, 5k run, golf tournament, and even beach volleyball.

The hotel and location were tremendous and much learning and camaraderie we experienced by all who were fortunate enough to attend. It was also a very successful meeting, with significant attendance by both our own members, as well as international guests, including our guest nation of Argentina. The Argentinians contributed to our program as speakers and panelists and added to the depth of the discussions. We were glad to have their participation and appreciate them making the significant trip to Florida to attend.

If you were one of the lucky ones to attend, you hopefully found that the program, both academic and social, reinvigorated you through the rest of the long winter. If you could not attend, you likely found your winter drag on and on for months. So plan on getting an increased dose of Vitamin D at next years meeting in Hawaii. Avoid the seasonal affective disorder that plagues a better part of the country from January to April. Gather with your colleagues at the beautiful Grand Hyatt Kauai Resort and Spa from January 8-11, 2014. Look at Don Lalonde’s presidential column to get more of the details. We will all be there waiting for your input and experiences to help round out the meeting!

...you hopefully found that the program, both academic and social, reinvigorated you through the rest of the long winter.

Calendar of Events

2013

May 30 - June 1, 2013
XVIII FESSH Congress
Antalya, Turkey

June 6-9, 2013
11th International Meeting on the Surgical Rehabilitation of Tetraplegic Upper Limb cum 26th HKSSH Annual Congress and 6th Annual Therapist Symposium of the Hong Kong Society for Hand Therapy
Hong Kong

2014

January 8-11, 2014
AAHS 44th Annual Meeting
Grand Hyatt Kauai Resort & Spa, Kauai, Hawaii

May 18-21, 2014
XIX FESSH Congress
Paris, France

2015

January 21-24, 2015
AAHS 45th Annual Meeting
Atlantis Resort
Paradise Island, Bahamas

Hand Surgery Quarterly

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Donald H. LaLonde, MD, FACS

Editor
Thomas Hughes, MD

Managing Editor
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Hand Surgery Quarterly is a publication of the American Association for Hand Surgery and is published strictly for the members of AAHS. This publication is designed as a forum for open discussion and debate among the AAHS membership. Opinions discussed are those of the authors or speakers and are not necessarily the position, posture or stance of the Association.

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HAND THERAPISTS CORNER: 2013 AAHS Meeting in Review

Every year the first day of the AAHS annual meeting is designated as Specialty Day. Traditionally this day is focused on hand therapy oriented topics. To that end, it has taken on many different formats over the years.

Working together with Jesse Jupiter and David Ring, we designed this year’s Specialty Day as two concurrent programs. One program was a freestanding day of panels and presentations aimed at topics of interest for Hand Therapists. Concurrently, was a surgeons program of scientific paper presentations and panels. Both programs also offered hands-on workshops in the afternoon. In keeping with AAHS’s spirit of collegiality between therapists and surgeons, the two programs were combined for the early morning instructional courses, President’s and program chair welcome, and invited guest lecture.

The innovative and dynamic surgeons program consisted of panels that used 2 minute scientific papers as a springboard for discussion of various topics. Topics covered on specialty day were arthritis, DRUJ and carpal mal alignment, and distal radius fractures. This stimulating format continued on throughout the next several days of the program. The surgeons afternoon was a hands on workshop on principles of internal fixation of the wrist and hand.

The theme of the therapist program was “Moving Toward Recovery” and examined the role of movement in relation to a wide variety of therapy procedures. The first panel was a lively discussion between surgeons and therapists regarding early motion after finger fractures.

This was followed by another surgeon / therapist panel examining the extensor tendon rehab and the science behind early motion protocols. The theme of motion was further explored via presentations on Nerve Mobilization, and Graded Motor Imagery.

An exciting new addition to Specialty Day was the participation of ASHT in our program. ASHT offered a panel on treatment of complex injuries. Always a fascinating topic, and this time was no exception. On a related note, AAHS and ASHT have been working to develop a closer relationship. A result of these efforts was ASHT participating in our Specialty Day. In addition, AAHS is now sponsoring an AAHS physician speaker to the ASHT annual meeting.

The surgeons program included a springboard for “science” the two programs joined together for an afternoon with an interactive workshop that looked “beyond rotator cuff” exercises. This not only looked at traditional approaches to shoulder rehab also looked at the integration of alternative approaches such as core stabilization and pilates into a treatment program. Judging by the excellent attendance and the fact that therapists stayed to the very end, if not longer, I think it’s safe to say it was very well received.

Sharon Andruskiwec, PT, CHT

Overall, the day and the entire week, was packed with fast paced, stimulating, and thought provoking materials. No less important were the numerous opportunities available for members to gather and exchange ideas in more informal venues - a hallmark of AAHS and it’s annual meeting. Whether it be at the mentors reception for new surgeons and therapists, welcome reception, coffee breaks, gala, exhibit hall, workshops, or poolside, AAHS members took full advantage of the chance to exchange thoughts, reunite with old friends and make new acquaintances. I look forward to continuing these personal and professional growth experiences in Hawaii in 2014.

Sharon Andruskiwec, PT, CHT

different experience. Invited Guest Lecturer, Dr. Eduardo R. Zancolli, took us on a spiritual-like journey exploring “The Mystery of Coincidences” that he has observed in his life journey. Something we can all reflect upon.

I would like to acknowledge Dr. Jupiter, Dr. Ring and the meeting committee, who all worked so hard to organize this meeting. Thank you to the many speakers who so willingly volunteered their time and talents. Finally, kudos to the people from our business office, PRRI, who worked tirelessly behind the scenes successfully handling the multitude of details involved in running a meeting.

Overall, the day and the entire week, was packed with fast paced, stimulating, and thought provoking materials. No less important were the numerous opportunities available for members to gather and exchange ideas in more informal venues - a hallmark of AAHS and it’s annual meeting. Whether it be at the mentors reception for new surgeons and therapists, welcome reception, coffee breaks, gala, exhibit hall, workshops, or poolside, AAHS members took full advantage of the chance to exchange thoughts, reunite with old friends and make new acquaintances. I look forward to continuing these personal and professional growth experiences in Hawaii in 2014.

AAHS meeting registration: $500- $800. Knowledge, networking and relationships available through attending the annual AAHS meeting……priceless!
This issue of Hand Surgery Quarterly features an interesting panel titled, “Common Elbow Problems Seen in the Office.” As a reflection of this discussion, we will examine common surgical Current Procedural Terminology (CPT) codes for elbow disorders. Elective surgery and reconstruction—not trauma—will be our main focus.

Elbow Arthroscopy

One of the most common indications for elbow arthroscopy is the removal of loose bodies. Loose bodies in the elbow can be associated with a variety of conditions, including osteochondritis dissecans, valgus extension overload, trauma, osteoarthritis, and synovial chondromatosis. CPT 29834 is used to reflect elbow arthroscopy with the simultaneous removal of loose bodies. For symptomatic plica, elbow arthroscopy can confirm its presence and expedite treatment. CPT 29835 can be used to reflect a partial synovectomy. When performing a complete synovectomy to treat rheumatoid arthritis, for example, the work of the complete synovectomy is rewarded with CPT 29836. This is also the same code used for arthroscopic anterior and posterior capsular releases.

For those of us who perform arthroscopic releases for lateral epicondylitis, CPT 29837 is used. Finally, arthroscopic surgery for osteochondritis dissecans usually includes joint debridement; removal of loose bodies; drilling of the lesion; and arthroscopic-assisted fixation of large, full thickness defects. CPT codes 29834 and 29837 reflect the work involved in treating these problems.

A few of us may perform arthroscopic excision of the radial head or excision of the olecranon bursa. Unfortunately, these procedures are not listed under designated CPT codes and are generally coded with CPT 29999 (unlisted procedure, arthroscopy).

Medial/Lateral Epicondylitis

In treating patients with lateral epicondylitis using a more traditional open incision, CPT 24358 bills for extensor tendon debridement as well as bony debridement/drilling. The same code is also utilized for medial epicondylar debridement. CPT 24359 is used to represent lateral epicondylar debridement with tendon repair or reattachment. If a percutaneous technique is used...

When performing a complete synovectomy to treat rheumatoid arthritis, for example, the work of the complete synovectomy is rewarded with CPT 29836.

Members Only Website Access:

http://handsurgery.org/members/

AAHS Members have exclusive access to the Members Only area of the AAHS website. To access, simply log-in with your individual Username and Password. Contact the AAHS Administrative Office (contact@handsurgery.org or 978-927-8330) if you need your login information.

• Full access to HAND, the official Journal of the AAHS.
• Go Green and receive electronic-only access to HAND.
• Search the AAHS Membership database by name, geographic area, or specialty to find your colleagues.
• Update and verify your Member Record for efficient and effective communication.

Please be sure to note your specialty so your colleagues can find you!
to debride or “release” the diseased tendon areas, CPT 24357 is used to reflect this minimally invasive approach.

**Cubital Tunnel Syndrome**

Cubital tunnel releases can be billed a variety of ways depending upon the technique used. For a cubital tunnel release done in situ, CPT 64718 is utilized. When a subcutaneous or submuscular transposition is performed, modifier 22 should be added to CPT 64718 to reflect the extra work of nerve manipulation and subsequent transposition. The extent of the additional work needs to be carefully described within the operative report to improve the odds of appropriate reimbursement. An alternative technique is to use CPT 24999 (unlisted procedure) to code for the ulnar nerve transposition. When performing a medial epicondylectomy in conjunction with a cubital tunnel release, CPT 24356 (fasciotomy, lateral or medial; with partial ostectomy) with modifier 51 is appropriate.

**Elbow Reconstructive Procedures**

Finally, this section deserves mention of arthroplasty procedures around the elbow. For unipolar or bipolar arthroplasty of the radial head, CPT 24366 is used. One important caveat: If a radial head arthroplasty is performed for a terrible triad injury, use CPT 24666 to reflect open treatment of a radial head or neck injury using a radial head prosthesis. This code can also be used when open fixation or radial head excision is performed. Of course, appropriate CPT codes for lateral collateral ligament repair (24343) versus reconstruction (24344) should be included as well.

Use of a static external fixator warrants the use of CPT 20690, which brings in 8.65 Relative Value Units (RVUs). Placement of a hinged external fixator necessitates CPT 20692, and the extra time, work, and expertise needed to place a hinged fixator is rewarded with 16.00 RVUs—a substantial increase over placement of its static counterpart.

Total elbow arthroplasty is coded with CPT 24363, while a distal humeral prosthetic replacement can be billed with CPT 24361. Of course, any revision arthroplasty procedure warrants the inclusion of modifier -22 to reflect the additional work needed to complete this complex procedure. In cases of bone loss, CPT codes 20900 (bone graft, minor or small) and 20902 (bone graft, major or large) are used.

Finally, we are well aware that distal biceps tendon repairs—when performed for acute injuries—are coded CPT 24342. For chronic distal biceps tendon injuries, the extra work of reconstruction is only rewarded by the use of modifier -22. However, distal biceps tendon reconstructions frequently necessitate neuroplasty of the lateral antebrachial cutaneous nerve to help address pre-operative pain symptoms. This work is reflected by the use of CPT 64708 (neuroplasty, major peripheral nerve, arm or leg).

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<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>29834</td>
<td>Arthroscopy, elbow, surgical; with removal of loose body or foreign body</td>
</tr>
<tr>
<td>29835</td>
<td>Arthroscopy, elbow, surgical; synovectomy, partial</td>
</tr>
<tr>
<td>29836</td>
<td>Arthroscopy, elbow, surgical; synovectomy, complete</td>
</tr>
<tr>
<td>29837</td>
<td>Arthroscopy, elbow, surgical; debridement, limited</td>
</tr>
<tr>
<td>29838</td>
<td>Arthroscopy, elbow, surgical; debridement, extensive</td>
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<tr>
<td>29999</td>
<td>Unlisted procedure, arthroscopy</td>
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<th>Code</th>
<th>Description</th>
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<tr>
<td>24357</td>
<td>Tenotomy, elbow, lateral or medial; percutaneous</td>
</tr>
<tr>
<td>24358</td>
<td>Lateral or medial epicondylar debridement, soft tissue and/or bone, open</td>
</tr>
<tr>
<td>24359</td>
<td>Lateral or medial epicondylar debridement, soft tissue and/or bone, open with tendon repair/reattachment</td>
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<th>Code</th>
<th>Description</th>
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<tr>
<td>64718</td>
<td>Neuroplasty and/or transposition; ulnar nerve at elbow</td>
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<tr>
<td>24356</td>
<td>Fasciotomy, lateral or medial; with partial ostectomy</td>
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<tr>
<td>24999</td>
<td>Unlisted procedure, humerus or elbow</td>
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<tr>
<td>24160</td>
<td>Implant removal; elbow joint</td>
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<td>24360</td>
<td>Arthroplasty, elbow; with membrane (e.g. fascial)</td>
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<td>24361</td>
<td>Arthroplasty, elbow; with distal humeral prosthetic replacement</td>
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<tr>
<td>24362</td>
<td>Arthroplasty, elbow; with implant and fascia latal ligament reconstruction</td>
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<tr>
<td>24363</td>
<td>Arthroplasty, elbow; with distal humerus and proximal ulnar prosthetic replacement</td>
</tr>
<tr>
<td>24366</td>
<td>Arthroplasty, radial head, with implant</td>
</tr>
<tr>
<td>24666</td>
<td>Open treatment of radial head/neck fracture with radial head prosthesis</td>
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<th>Code</th>
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<tbody>
<tr>
<td>24343</td>
<td>Repair lateral collateral ligament, elbow, with local tissue</td>
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<tr>
<td>24344</td>
<td>Reconstruction lateral collateral ligament, elbow, with tendon graft</td>
</tr>
<tr>
<td>24345</td>
<td>Repair medial collateral ligament, elbow, with local tissue</td>
</tr>
<tr>
<td>24346</td>
<td>Reconstruction medial collateral ligament, elbow, with tendon graft</td>
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<tr>
<td>20690</td>
<td>Application of a uniplane, unilateral, external fixation system</td>
</tr>
<tr>
<td>20692</td>
<td>Application of a multiplane, unilateral, external fixation system</td>
</tr>
<tr>
<td>20693</td>
<td>Adjustment or revision of external fixation system requiring anesthesia</td>
</tr>
<tr>
<td>20694</td>
<td>Removal, under anesthesia, of external fixation system</td>
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<th>Description</th>
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<tbody>
<tr>
<td>24342</td>
<td>Reinsertion of ruptured biceps or triceps tendon, distal</td>
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Apply modifier -22 for reconstructions of chronic distal biceps tendon injuries.
active intraoperative movement anesthesia. Also, early true active post-operative movement (as opposed to place and hold) is gaining ground rapidly in Brazil, as it has in the United Kingdom.

Hawaii will be a Great Meeting

Kauai is a true gem; beautiful and unspoiled. You may not get another chance to go there to enjoy both work and leisure. The annual meeting is in January 2014.

The educational program will be outstanding. Ten iconic speakers in hand surgery will give you 5 minutes of their best lifelong tips in hand surgery and therapy to improve your practice in a plenary panel.

The first day will include a panel on the latest developments in Dupuytren’s needle aponeurotomy, enzymes (the next generation of methods of use), and stretching with digit widget, splints and therapy. Now that these methods of treatment are here and found to be working, we will look at the latest and best ways to use them for improvement in our patient outcomes. The latest developments in surgery for awake vs. sedated flexor tendon repair as well as true active movement vs. place and hold will be debated.

The same format of highly rated short papers with discussion by respected experts, as we had in Naples this January, will be repeated in Kauai with the addition of therapists in the panels for practice changing discussions.

Dr. Bill Magee will warm your (and your spouses and children’s) hearts with his awesome speaking style and stories as our guest speaker. Internationally renowned Dr. Jin Bo Tang is also a keynote speaker and has assembled a group of the finest English speaking Chinese hand surgery experts to give us an eye opening Asian perspective on new techniques. Dr. Elizabet Hagert will surprise and impress you with new thoughts and concepts as the Danyo speaker.

Ghana Reverse Fellowship

I would like to thank all of those surgeons who have expressed an interest in spending two weeks in Kumasi, Ghana to share knowledge in hand surgery with the surgeons and residents of orthopedic, plastic and general surgery who look after hands there.

Hand Surgery Endowment

Our Hand Surgery Endowment is now focused on global hand health. If you are not able to give your time to help train or treat hand surgery for those less fortunate than we are in North America, consider giving to the Endowment when you register for the meeting.

AAHS ASPN ASRM ANNUAL MEETINGS

Abstract Submission Deadline: SUNDAY, JUNE 30TH, 2013

We welcome the submission of your abstract for the 2014 Annual Meetings of AAHS, ASPN and ASRM. Please visit the websites below for abstract submission instructions. For more information and details about abstract submission, please call the numbers below.

AMERICAN ASSOCIATION for HAND SURGERY
www.handsurgery.org (978) 927-8330
STEVEN L. MORAN, MD
AAHS PROGRAM CHAIR

AMERICAN SOCIETY for PERIPHERAL NERVE
www.peripherальнerve.org (312) 853-4799
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ASPN PROGRAM CHAIR

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LIZA C. WU, MD
ASRM PROGRAM CHAIR

Meeting registration materials will be available in September.

WE LOOK FORWARD TO SEEING YOU IN KAUAII!
HAND is the official journal of the American Association for Hand Surgery. HAND is an international peer reviewed journal which combines multidisciplinary expertise from surgical, medical, hand therapy and other specialties to advance the quality of care and health of patients with hand and upper extremity pathologies.

Download the HAND journal mobile app! The app is available to AAHS members for download on Apple devices in the App Store by searching for “HAND Journal” or “AAHS Journal”, or by scanning the QR code below, and provides instant access to all current and past issues of the journal.

Once the app has downloaded to your device, you will need to login with your personal AAHS username and password once for authentication (contact the AAHS administrative office to obtain your personal username and password).

Members can use the app functions to browse volumes and full text articles, search for work by specific authors, and more.

Vargas Award Committee Accepting Applications for a 2014 Vargas Mission!

What is the Vargas Award?
The Vargas International Hand Therapy Teaching Award is named in honor of Dr. Miguel Vargas, a hand surgeon who practiced in Puerto Rico and was an international emissary for education. The grant is an outgrowth of the AAHS’s mission and its intent is therapy outreach - to foster an exchange of educational ideas between therapists in the AAHS and in the host country to result in improved patient care for upper extremity problems. Education is the foremost purpose and mission, with a portion of the trip emphasizing hands-on postoperative care of the upper extremity in host countries where surgery is applicable and possible.

The Vargas Award is bestowed annually to an AAHS hand therapist member. One grant reimbursing up to $5000 in trip-related expenses, including supplies needed for the mission, will be made to the therapist recipient for a mission in 2014.

2014 Vargas Mission Sites
The Vargas Award Committee is currently accepting applications for a mission in 2014 to Guatemala (facilitated through Guatemala Healing Hands Foundation), Nicaragua, Peru, or St. Lucia (Nicaragua, Peru, and St. Lucia missions are facilitated through Health Volunteers Overseas; the selected recipient must become a member of HVO for a nominal fee). For more information visit http://handsurgery.org/volunteerism/vargas.cgi or contact the AAHS administrative office at 978.927.8330.

Who can apply?
The Vargas Award will be granted to an AAHS hand therapist member currently practicing in the area of hand therapy. A practicing hand surgeon may also volunteer for a mission; however, no funding will be awarded to surgeons.

Application deadline: June 10, 2013

2013 AAHS Research Grant Recipient

Sarah Pixley, PhD
University of Cincinnati
Cincinnati, OH

Peripheral Nerve Repair with Bioreabsorbable Metal
AAHS Members Named IFSSH Pioneers of Hand Surgery in 2013

At the 2013 IFSSH/IFSHT Triennial Congress in India, Drs. Robert Beckenbaugh and Alan Freeland were recognized by an international audience as Pioneers of Hand Surgery, a longstanding custom of the Federation which dates back to the 3rd Congress held in Tokyo in 1986.

To learn more about Dr. Beckenbaugh and Dr. Freeland, please read their bios below. To learn more about the IFSSH Pioneers of Hand Surgery, visit http://www.ifssh.info/pioneers.html.

**Doctor Beckenbaugh** has had a keen interest in hand and wrist joint replacement as an area of special interest during his career. His earliest involvement included assessment of the safety of the use of methylmethacrylate cement in total joint replacement in the late 1960s. In fact, his original work with Doctor Mark Coventry on total hip arthroplasty in 2000 patients was submitted to the FDA in 1971, directly leading to the FDA’s first approval of the use of cement in total joint arthroplasty. Subsequently, his expertise was focused on hand surgery at the Mayo Clinic after his fellowship with Doctors Ron Linscheid and Jim Dobyns. His initial investigations involved review of the function and longevity of silicone hand implants.

During the mid 1970s, Doctor Beckenbaugh and colleagues evaluated many of the newly developed polyethylene and metal prosthesis for the hand and wrist, identifying various types of prosthetic and fixation problems. As a result, Doctor Beckenbaugh and his colleagues developed some of these devices and new implants. Some of the early models represent the currently marketed SR replacement prostheses for the MCP and PIP. By 1980, Doctor Beckenbaugh had designed the first ellipsoidal total wrist arthroplasty (the Biaxial Total Wrist Arthroplasty) which was used extensively through the late 1990s. Doctor Beckenbaugh’s major interest in joint development was with pyrocarbon as a cementless prosthesis. This work was started in 1978 at the MCP level and continued through 1987 as a total joint prosthesis at the MCP level. After a period of delay related to original FDA lack of support, the revised implants were approved by the FDA in 1999. Subsequently, his interest in pyrocarbon has continued with the development of pyrocarbon prostheses for the thumb CMC, the digit PIP, and other devices for the distal ulna. This work continues through the present time.

**Dr. Freeland** received his BA from Johns Hopkins University in 1961 and his M.D. from George Washington University in 1965. He completed his internship and one year of general surgery residency at Church Home and Hospital in Baltimore from 1965-1967. He was a Fellow in Neurosurgery and a Fellow and Resident in Orthopaedic Surgery at Johns Hopkins Hospital from 1967-1971. He entered the United States Army in 1971. After spending a year on the Orthopaedic Surgery Service at the 121st Evacuation Hospital in Soule, Korea, he completed orthopaedic training at Letterman Army Medical Center in San Francisco. He later became Chief of Orthopaedic Surgery at the U.S. Army Hospital at Fort Campbell, KY from 1976-1977. He completed a Hand Surgery Fellowship at the University of Miami/Jackson Memorial Hospital in Miami, FL. He came to the University of Mississippi Medical Center in 1978 and achieved the rank of Professor in 1986. He served as Chief of the Medical Staff at UMC from 1986-1987 and in the same capacity at The Mississippi Methodist Medical Center from 1994 through 1995. He established the Hand Fellowship Program in the Department of Orthopaedic Surgery in 1991 and served as Director from 1991-2004. He is a Past President of the Jackson Orthopaedic Society, the Mississippi Orthopaedic Society, the Southeastern Hand Club, and the American Association for Hand Surgery. He was chosen American Association for Hand Surgery National Clinician-Teacher of the Year in 1998. He was the Vargas International Traveling Physician for the American Association for Hand Surgery in 1998.

Dr Freeland has published numerous articles and chapters and has lectured extensively on topics within his specialty both nationally and abroad. He authored Stable Fixation of the Hand and Wrist in 1986, The 25 Year History of The American Association for Hand Surgery in 1995, and Hand Fractures: Repair, Reconstruction, and Rehabilitation in 2000. He served as (continued on page 17)
Panel Discussion:

Common Elbow Problems

Scott: What is the best treatment for the 50-year old laborer with post-traumatic arthritis of the elbow?

Scott: And let me provide an example. Imagine you have a patient that had a radial head fracture and a small coronoid fracture, and the radial head is excised, and the coronoid fracture is not fixed because it's a small type one coronoid fracture, and the patient's now seen approximately two to three years later with pain in the elbow and on x-rays and CT scans you can see an obvious ulnohumeral arthrosis, in this patient, who's a laborer, who's active, what do we think in 2013 would be the treatment of choice, Eric can you start with that?

Eric: I think the first thing you want to do is get the completed history, a good exam, and make sure you're not missing something else, such as induced instability from his previous surgery or even a simple epicondyritis. And then of course, try to see if he can limit activities or if the use of anti-inflammatories helps with his symptoms. I think when you’re talking about the next step, which may be surgical, I think it’s important to try and figure out if he’s having pain all the time, if he’s having mechanical symptoms such as a loose body or something of that nature, and if he’s having impairment with his range of motion. I think you can consider an elbow arthroscopy and removal of loose bodies, and possible debridement of chondral surfaces or some spurring, if present. The other surgical option is if he is having a lot of pain, especially at terminal extreme range of motion and there is decreased range of motion associated with that, then I think a very good procedure would be some type of ulna-humeral arthroplasty.

Scott: And what were some of the other panel members think about this type of patient?

Mark: There is a difference for me if dealing with a very stiff elbow that has 40-50 degree arc of motion versus one that has a functional arc of motion, maybe 100-110 degrees. I want to know if they are having pain extremes of flexion and extension. I find a CT scan to be very helpful in this instance to determine the degree of wear in the ulnohumeral joint, the location of osteophytes and the presence of loose bodies. If is the patient has pain throughout the arc of motion and the CT scan shows obliteration of the joint’s surface, then I think you have a challenge in a 50-year old laborer. In this instance I would be thinking about interposition arthroplasty.

Scott: Do others contemplate possibly doing a formal elbow replacement or a hemiarthroplasty, or possibly a radiocapitellar replacement...a half hemiarthroplasty so to speak?

(continued on next page)
said are you doing these limitations and they all said oh no, when snow comes down here in Minnesota, I have to shovel the snow, no one’s going to shovel the snow for me. So you have to look at what the patient is ultimately going to do. You just can’t give limitations and therefore a formal replacement is not that successful, but I think in some ways what we’re saying in this patient is very difficult to work with, we don’t have a great answer, it’s not like a total knee in a 50 year old, or a total shoulder for that matter, and that we have to be careful, each patient’s an individual, and sometimes a radio-humeral replacement, sometimes arthroscopy, sometimes interposition are options for these patients.

Scott: The next question is should we repair the MCL in a terrible triad fracture dislocation?

Scott: I think what we’re talking about in that situation is there’s obviously, with Valgus injury to the elbow, if you fix or replace the radial head, which is the most obvious injury, when we examine most of these patients under anesthesia with fluoroscopy, the medial side opens up to Valgus stress quite readily, and we tend to either replace or fix the radial head. But should we also be doing something on the medial side? What do you think Jorge?

Jorge: Well, I tried that many years ago, and my experience doing medial collateral ligament repairs was that the elbow did not appreciate it, they developed more stiffness and heterotopic ossification. So I stopped going medially, and I repair only laterally.

Scott: Are there other thoughts?

Jorge: I also like to stabilize them with an internal joint stabilizer, which is a rigid form of stabilization that provides medial and lateral side stability. Scott: Why don’t you describe that a little bit more Jorge?

Jorge: The internal joint stabilizer is really a very simple concept... you
Jorge: That is correct. Usually around six weeks.

Eric: I think in the most part I agree. You want to make sure you get a stable elbow that you’re able to begin early range of motion. Often there is slight gapping, and I think it’s okay to leave those and think the literature would support that decision. However, if it’s grossly unstable and if there is any reason that they have medial instability and you’re afraid to move them early and aggressively, then that would be the indication to fix or repair the MCL.

Scott: Mark, and further thoughts?

Mark: There isn’t one thing that I will do every time. If I feel that I adequately restore stability by fixing the coronoid, placing a radial head and doing a good repair of the lateral complex I won’t touch the medial side. It require having a good anteromedial buttress in the form of an impact coronoid anteromedial coronoid. There is a subset of patients that I personally struggle with, and it tends to be heavy set women in the perimenopausal age group. If that person isn’t stable after I’ve fixed the coronoid, replaced the radial head and repaired the lateral complex, I decide whether there is an advantage to go to the medial side. I will do that recognizing that there may be some heterotopic bone formation, and recognizing that it may not be enough. In other instances, when I just feel that there’s very little connection between the upper arm and the forearm because of extensive soft-tissue stripping, I will go directly to a static external fixator.

Eric: Sure. When should we use an elbow external fixation device? What is the role of static or hinged fixation?

Scott: And as we know over the years we’ve struggled with this topic, and in my own practice, I’ve found that the end of a complex [elbow] reconstruction fracture reconstruction that then the labor of trying to put a hinge fixator on, after many complaints from other physicians, about six years ago or so I switched to doing a static fixator which I think most orthopedic surgeons can put on within half an hour as opposed to an hour to an hour and a half with the hinge. I have been reasonably happy with the results and curious what panel members’ thoughts are on this subject.

Eric: I agree with you Scott. I think that a static fixator is going to manage the situation nicely in the vast majority of instances. If it hasn’t been a horribly long time, I still will put in an axis and use the same sort of low profile easy to put on fixator, whether it’s static or dynamic, I’ll see if I can hit that axis pin, and if it comes easily and the elbow flexes and extends without opening, then I’ll take use it as a hinge fixator, but I won’t fiddle with it for a long time.

Scott: And I’m curious, Jorge, your internal fixator, how...that sounds very exciting. How do you compare that to standard hinge or static?

Jorge: The difference with hinged fixators is that the internal stabilizer is very close to the boney surface. The moment arms are much smaller, so it is very rigid. It is easily applied using an “antler guide” that covers two thirds of a circle. You slip it over the waist of the trochlea and push it medially until it settles on the medial side finding the center of the trochlea. The lateral side is easy to gauge by marking the center of the capitellum. In the past when I used a hinged fixator, it was very difficult to get the axis of rotation right. There followed pain due to motion of the skin against the pins. The static fixators work well but I think the internal hinge is better as it allows early motion.

Scott: Eric any thoughts from your practice?

Eric: I have to agree with everything that’s been said. I’ve put on very few hinged external fixators, and they are incredibly difficult to get it absolutely perfect, allowing for full motion. The few times I’ve used them is only after a difficult elbow reconstruction that still was just not stable despite fixing everything that I thought we could fix. But I really like the idea of putting on (a s Mark was mentioning) a static external fixator that you could turn in to a hinge, so using a much more simple one, and putting the hinge right at the center rotation, that way you could actually take a static external fixator and loosen it at some point. I think if I understood you correctly, Mark, you could actually range of motion through that and then relock it.

Mark: I will take 10 to 15 minutes to get an axis pin appropriately aligned so that the fixator can function as a hinge either immediately, or in a delayed fashion. If I’m able to achieve a good axis of rotation for the fixator, then I’ll treat it as a hinge either right away or later on. If I can’t easily place an axis pin, then place the frame as a static fixator. I typically will leave a static fixator on for about three weeks.

Scott: In my practice when I use a static fixator, I usually leave it on for anywhere between three and six weeks, depending on the injury. But I would add that because it’s relatively simple to put on. My threshold for putting a fixator on is lower than when I only used hinged, where I would groan and say, oh my, I guess we should probably spend another hour in the operating room putting a hinged fixator on. So it...I’m more comfortable relatively quickly putting a fixator on, although I would like to hear more and see the results of Jorge’s internal fixator, so to speak, in the future.

Well this kind of brings us to the next subject that we’re talking about CPM.
get patients in with a therapist two to three times a day starting the next day, and usually keep them in the hospital for two or three days. As was mentioned, I have not had much luck with CPMs either, they tend to be very large and bulky and not quite really fit the patient very well. I think one of the things to do beforehand is really make sure you’ve got the motivated patient that’s going to go on and continue to do very aggressive home therapy and is going to see their therapist on a very regular basis.

Scott: In my practice, I haven’t used CPM probably for about a couple years now. It’s hard to find any good literature to support for or against CPM in the elbow. We have very good literature in the knee, mainly in the arthroplasty literature showing that when you look at patients six months or a year later, that those patients that had CPM early on in the hospital and post-hospitalized periods, there’s no difference in knee range of motion at one year. And I have found that in my practice using a splint has been quite helpful, and in the active farmer or laborer, telling them to get back to work has been quite helpful. I remember one patient with a coronoid fracture that I treated, I gave him splints, and he came back, he had perfect range of motion. I was so happy with myself and I told the patient, see, that’s why I gave you splints, you worked very hard, I’m glad you went and used your splints. And he said doc, I didn’t use your splints at all. I went back to work and my motion...I got it on my own. So in my own practice I’m still unclear even who I should use splints on. I’ve spoken to some other elbow surgeons around the world and they’ve sort of taken the approach that no matter what you do, it really depends on the motivation of the patient and the inherent scarring or reforming of bone in that particular individual. So I think to summarize, we don’t have the answer. There are those that believe firmly in that CPM is effective. Those that insist on exercises and splinting, and in my practice I have to say I’m not sure what the correct answer is for 2013 on our patients, other than clearly some motion and some therapy is definitely helpful in the post-operative period.

Eric: Sounds like we all agree that a highly motivated patient is also one of the criteria for a good outcome.

Scott: Correct.

Scott: Should all coronoid fractures be fixed? Mark, your thoughts first?

Mark: The single asset in understanding what I am dealing with regard to a coronoid fracture is the CT. The work that you, Julie Adams and Shawn Driscoll have done has helped us understand the patterns of injury. So, for me, it really comes down to knowing what part of the coronoid is injured, whether it is an isolated coronoid fracture, or associated with a radial head fracture then an intraoperative examination under fluoroscopy to combine the effect of the broken bones with the instability created by the associated soft-tissue injury.

- Mark Baratz, MD

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Scott: Eric, your thoughts?

Eric: I agree with Mark that a CT scan is very valuable, but I would say the biggest determining factor for me whether they require an operative treatment is an exam, range of motion and stability — either at the time of their first initial evaluation, or which may need to be done under some type of intraarticular injection. If it is also in the setting of a simple posterior elbow dislocation that you reduce in the ER and a very small coronoid is present, you can range it, and they have full range without any instability, that is the single most important determinant for me.

Scott: Jorge, your thoughts?

Jorge: I would like to add that medial facet fractures are mostly unstable and should be fixed. Central coronoid fractures associated with posterior dislocations should be fixed only if the elbow is unstable after fixing or replacing the radial head.

Scott: In my practice as Jorge has pointed out, the anteromedial fractures that involve more than third of the sublime tubercle. I’ve treated a number of undisplaced coronoid fractures that involve the anterior one third and either fix the associated radial head fracture or the lateral ligament disruption, and they have done fine without a large medial approach. The ones that I am concerned about are those that get into the sublime tubercle more than 1/3 that have also displaced. We have also seen patients that have had half the sublime tubercle fracture but for whatever reason it is not displaced. You know, once those patients are cared for nonoperative treatment, I am surprised or maybe not surprised on how it has healed without intervention on the medial side. The ones that have involved a displaced fracture of the sublime tubercle and probably two-thirds of it.....those are the ones I have been aggressive about fixing. I would also say something I have learned over the past few years is a comminuted coronoid fracture that is in two or three pieces because of the nature of the bone and the curvature and the small bony fragments involved, I have been unsuccessful in fixing comminuted coronoid fractures and have been unable to put back together. So, I have used the 3D CT as we have spoken about as a way to determine this. In some cases, I will use the ex fix to unload the [sic] coronoid to allow it to heal and fix whatever I need to do on the lateral side. Any thoughts from the panel?

Eric: Sometimes if it is a comminuted coronoid.....if you can just suture some of the capsule in addition to the comminution with a lasso technique and that will lend a tremendous amount of stability to your elbow reconstruction.

Jorge: Yes. The internal joint stabilizer will help you there too.

Scott: Yes, I think that would be an excellent option to use the internal joint stabilizer.

Eric: Sometimes even if it is a comminuted coronoid......if you can just grab some of that with a lasso technique and, that will lend a tremendous amount of stability to your elbow reconstruction.

Scott: When should we use elbow replacement for distal humerus fractures?

Scott: As you know, there has been some articles in the literature, but surprisingly there are a very few articles actually addressing this. There is one multicenter study from Canada, another from Florida. There are numerous studies looking at cohorts of treatments of either fixing or replacing the humerus fractures, but there really aren’t a lot of controlled studies looking at two separate groups. So, with that as a preamble, Mark, any thoughts on your approach to say you have a healthy vibrant 72 year old who falls and breaks her distal humerus. She still likes to do gardening and a lot of activities around the house. How would you approach that patient......how would you work that patient up and when would you decide, fix, and replace that patient?

Mark: So, early in my practice, I was a very avid proponent of arthroplasty for older patients with commened fractures that looked like they would be difficult to reconstruct. My enthusiasm has waned and it has been born of early failures with total arthroplasty, particularly in active individuals. So, I would treat this 72 year old, a person who is independent and active, in the same way that I would treat Jorge. I would do whatever imaging I thought was appropriate to understand the fracture, and I would approach that fracture, being prepared for both open reduction and internal fixation, and the possibly of elbow arthroplasty. My number one goal is to rebuild their humerus. If that is not a viable option, then I would convert to an elbow replacement.

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Hand Table

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I’d do that by making an incision on the back of the elbow, leaving the triceps attached to the olecranon and then making two windows, one medial and one lateral I’d use those windows to assess the bone and assess the joint surface. If it looked like it was something that could be reassembled, I would consider an olecranon osteomy if I was unable to adequately see the joint. If it looked like it was a fracture that could be reassembled, convert an elbow arthroplasty.

Scott: Eric, your thoughts?

Eric: I see very few elderly people with distal humerus fractures in my practice, and generally due to the life long restrictions, I will try to fix with rigid internal fixation if possible unless they really are a low-demand type patient. I think the other group you have got to be a little worried about with a total elbow is the patient that has already had a total shoulder replacement and if you have enough room for a stem coming up from the distal humerus or if it is going to lead a stress riser. .

Scott: Jorge, your thoughts?

Jorge: I do see a fair number of elderly people in their 80s and my experience is that total elbow replacement in these patients do better than in rheumatoids. My experience with rheumatoids is that they had a very high complication rate, especially with infection.

I do see a fair number of elderly people in their 80s and my experience is that total elbow replacement in these patients do better than in rheumatoids. My experience with rheumatoids is that they had a very high complication rate, especially with infection.

- Jorge Orbay, MD

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25% loss of supination strength. It does vary from person to person. John Lubahn has a series of laborers who were treated non-operatively. With the exception of one patient, all realized excellent function after non-operative treatment. Clearly, that is not going to be the solution for every person.

Scott: Eric, your experience in the military......what are your thoughts on treating these patients?

Eric: Yes, I certainly council them on these exact same issues we are talking about. I have had one person......a little bit older than the most of my patients, who elected not have it repaired. Otherwise, universally everyone wants it repaired, even when you discuss with them the risks and the benefits. I think comparing the one incision versus two incisions......they both can be done well. They both have their own sets of complications, however, both an have minimal complications with good surgical technique. There tends to be more heterotopic ossification with a two incision technique, but I think a couple articles out of your institution Scott have discussed if you can stay off the ulnar periostem, this complication can be greatly decreased. Also, both have potential neuropraxias associated with these techniques.

Scott: And Jorge in south Florida, what sort of way do you go as far as approach?

Jorge: In terms of approach, I prefer the single incision approach. I use a technique in which I cut a bone anchor into the tuberosity with two sutures. I take two limbs of each suture and weave them into the biceps. Then, I pull the stump down to the tuberosity by pulling on the other ends. This way I am able to cinch the end of the tendon into the tuberosity. This is all done through a small transverse incision. Many of the distal bicep ruptures that I get are on 40 year old males that are going to the gym and building muscle. Many are taking steroids. To them, their image is important....they would never consider not repairing the biceps....if you avoid soft-tissue injury and minimize heterotopic ossification, this is a satisfactory procedure.

Scott: Well, the most recent study......actually from a prospective group from Canada looking at 90 patients half......two incision half single enter incisions......essentially the same results but slightly higher temporary neuropaxic injuries related in the lateral antebrachial cutaneous nerve, but essentially similar results. My feeling is, whatever works in your practice and if you are comfortable and you have good results with a single anterior approach, keep on doing it. If you are comfortable with the two incision approach and it works for you, I think both groups are right. If you are careful handling the soft-tissues, you should get a reasonable result post-operatively. We should keep in mind that Mark Baratz and Mark Lubahn mentioned about how patients do a non-operative approach also. I think that brings us to the end of the questions for discussion.

Scott: Thanks everybody for taking time out from your busy schedule to participate in the conference call tonight! Thank you!
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