

# HAND SURGERY

Q U A R T E R L Y

Autumn  
2009

- 3 From the Editor
- 5 President's Message  
AAHS Calendar of Meetings
- 6 Hand Therapy and Affiliates' Corner  
Hand Therapist Profile
- 7 2010 Annual Meeting Program at a Glance
- 9 AAHS Leadership Profile: Historian
- 10 Around the Hand Table: Wrist Replacement Arthroplasty
- 17 Coding Corner
- 18 New Members
- 19 Mentor Program
- 20 AAHS 2009 Review DVD



www.handsurgery.org  
444 E. Algonquin Road  
Arlington Heights, Illinois  
60005

## 2008 VARGAS INTERNATIONAL HAND THERAPY TEACHING AWARD

### Working as a Cohesive Team

Mary Nordlie, MS, OTR/L CHT

**D**estination EGYPT: What comes to mind? Camel rides to the pyramids and sphinx, belly dancers on a Nile cruise, gorgeous sunsets while camping Bedouin style in the desert, shopping in the crowded bazaar...all wonderful activities that I experienced before my most memorable week began.

The 2008 Vargas trip was

to specialize in this area. In my research before going, I was surprised to learn that currently there are only 10 OTs in Egypt and none work with hands.



Dr. Nash Naam and Mary Nordlie, MS, OTR, CHT

lowed by his introduction of me, the "highly valued hand therapist." I defined what the hand therapist provided for the team's follow-up care. This method of

lecturing proved to be a very successful method of capturing the all male physician audience and gaining respect for the female therapist's contribution.

After a week of sightseeing

and shopping in Cairo, camping in the desert and even attending the wedding of Dr. Naam's nephew, I was feeling quite comfortable with the warm and generous people of Egypt. I was ready to start our purpose for being there.

We started our first talks in Alexandria at the 2nd Annual Wrist Symposium presented by Alexandria University's Department of Orthopedic Surgery and the Egyptian Society for Surgery of the Hand (ESSH) where I was the only attending female.

I was concerned initially about my acceptance until I shared the fact that I have a genetic link to Egyptian ancestors through my father's DNA. I was then introduced as a "cousin" to everyone there and

*continued on page 2*



Faculty and host committee at the entrance of the conference hall. Naam Nash is fifth from left and Mary Nordlie is in the center.

arranged by Dr. Nash Naam to his homeland, Egypt, in November. His goal for our trip was to share how the surgeon and hand therapist can work as a cohesive team to provide the most effective treatment to patients with hand injuries and to encourage OTs/PTs in Egypt

to Dr. Naam. In order to demonstrate "our team," it was decided that we'd start our education and sharing process by presenting our lectures together instead of separately as had been done by previously. Dr Naam presented what surgical techniques are used for our selected topics fol-

## VARGAS AWARD

continued from page 1



I was treated like a special "cousin."



The audience in Alexandria's hospital during our lecture.

was warmly accepted from then on every where I went.

Our next stop was to speak at a local hospital's Scientific Meeting to the surgeons, PTs and students. We were warmly greeted by staff as this was where Nash had worked many years before. I was especially pleased to see the female audience participants here and wished I had more time to answer their eager questions afterwards.

Later that week, in Cairo we spoke to very receptive audiences at the 60th Annual International Congress of the Egyptian Orthopedic Association. I was impressed with the tremendous number of people attending and the expertise of the lecturers. Again, I was the only female presenter and attendee and felt honored to be included this international faculty of nearly 60 physicians.

It was here that I was approached by a vascular surgeon who wanted advice for rehabilitating his recent extensor tendon laceration injury. He had heard that I was there and wanted to learn



Mary consulting with the PT working with the injured surgeon.

about the therapy techniques I would provide for this type of injury. The next day he brought the PT who was treating him to consult with me and to learn what she could from my experience. She explained that she had no experience with tendon injuries and was eager to learn. I was having such a wonderfully intense 1-1/2 hour dialogue with them that I almost didn't make it to the next lecture I was presenting!

Our last stop was at the Cairo University's Department of Physical Therapy. Our first impromptu lecture was to an audience of faculty and a few students. I presented what Hand Therapy was and I was pleased to have a very successful exchange of knowledge with the professors. They expressed interest in including an introduction to hand therapy concepts in their curriculum in the future.

Here I met the assistant Dean of the PT school who had worked in the USA for 4 years and understood the reason for one of my questions: How do the female PTs treat patients when they only have their eyes unveiled and even wear gloves? (see photo)

I learned that nearly 3/4 of the PT students at the University were female and some, due to cultur-



al/religious reasons can only treat females.

During our tour of the classrooms, I was invited in to "pretend I was their new guest speaker".

It was delightful to see the eagerness in the faces of these future PTs and after my sales pitch, I hope there may be a few interested in hand therapy.

Another highlight for me was to be invited to see patients at the only clinic where there is a therapist (PT) working with a hand surgeon. I was amazed that after a day with the MD, the therapist saw patients from 6-10 pm, many of them driving all day from very remote areas! Missing were the typical "therapy" devices, goniometers, hand-related



Only I, a female, was allowed in the classroom where female students were learning how to measure range of motion.

equipment, etc. to use. Any splints he had were very basic commercial splints. The therapist only used his hands and strength (which he used with much more force than we are used to) while treating his patients. He stated his other office had more equipment but time didn't allow me to visit it. When asked to show what I might do for therapy with the 5 children patients with Erbs palsy, one man with a hand replant and a laborer with a severe crush injury, I had to use the creative OT skills I developed 25+ years ago to do "therapy" with common items that a person might have at home. I used what I had in my purse, like a Kleenex, a pen, and stick of gum for coordination activities, an ace wrap for flexion stretches and a heavy book to use for progressive extension stretches!

Here I realized how access to catalog items, expensive equipment and technology is so different for our patients and therapists.

continued on page 3

# Beware of the Black Swan

*This story takes place between 4 and 5 am.*

To paraphrase Jack Bauer...Put on your splint! I SAID PUT ON YOUR SPLINT OR I WILL OPERATE! For all of you "24" fans in withdrawal I have tried to live out my own 24 fantasy by renaming our office "Carpal Tunnel Unit Louisville" aka. "CTU Louisville". Like Kiefer Sutherland during the off season for 24, President Obama took some vacation time through the month of August. Maybe he could bring in Jack Bauer during his time off from 24 to shake things up in health insurance reform and help another President out of another bind. I am not sure Jack Bauers' tactics would be well received though, but with the rumors of death panels for granny, and biting off fingers, maybe Jack Bauer can help. You may have seen him on television in a public service announcement talking about medical care and his grandfather. Did I mean to say his father? You know, Donald Sutherland, the doctor of MASH fame. No, I did mean to say his grandfather. As it turns out Kiefer Sutherland's grandfather is the Greatest Canadian of all time! He even beat out Wayne Gretsky, The Great One, a point mentioned in the more recent movie "Sicko". Tommy Douglas, the greatest Canadian, had a daughter, actress Shirley Douglas, who married Donald Sutherland. The result is that Tommy Douglas is grandfather to Donald Sutherland's son, actor Kiefer Sutherland.

## A Short History of Socialized Medicine

Tommy Douglas was born in Scotland and moved to Winnipeg. Douglas became a member of the Canadian Parliament and went on to become the Premier of Saskatchewan in 1944, forming the first Democratic Socialist (there's that bad word) government in North America. He was elected with majority governments continuously up to 1960. His number one issue was Medicare. Working against strong tactics put forward by a wary medical profession, Medicare legislation was passed in 1962 by Douglas' successor. It became immensely popular and in 1966 a nationwide public health insurance program was adopted. This has been immensely popular in Canada and forms part of the foundation for Canada's identity and social fabric. Jack Bauer, or I mean, Kiefer Sutherland has spoken out on the need for health care



STEVEN MCCABE, MD

reform, calling back to the memory of his grandfather who died in 1986. In this sense he is once again fighting for the President, although this time in real life, for his vision of good for the United States. Will Barack Obama be "The Greatest American"?

## VARGAS AWARD REPORT

*continued from page 2*

Documentation was also minimal which made me even more aware of the "red tape" needed for payment in the USA. I have since sent forms I



use for documentation, measurements and patient education at the surgeon's request for his therapist to see and adapt.

Since I have returned, I have been in contact with several therapists in Egypt and I am very pleased to see that there is a seed



planted for more growth in the field of "Hand Therapy". We have recently been invited back to present a full day pre-course workshop at the Egyptian Society for Surgery of the Hand (ESSH) in April 2010.

Being sponsored by AAHS with the Vargas Award has been the pinnacle of my career. I wish to thank AAHS, Dr. Naam, and the wonderful professionals and "cousins" I met in Egypt for this incredible experience. **H**

## EDITOR'S DESK

continued from page 3

### Enter The Black Swan

Taleb has written "The Black Swan" an interesting book about the highly improbable. A Black Swan has three characteristics. 1) It is highly improbable. 2) It has a major impact. In fact Taleb suggests that most of the important events in history are Black Swans. 3) And in retrospect, we discuss these events as if we know why they happened.

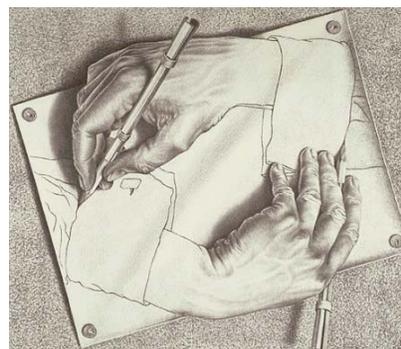
The first type of Black Swan is characterized by a lot of discussion and public discourse. I suppose the health care debate is one of these. The goal of the debaters is to have us use our limbic system to hang on to sound bites and to avoid having us use reason to evaluate what is happening. If we make snap judgments about health care and if we are thinking with our limbic system we will likely make mistakes. The incidence of this type of Black Swan is overestimated in our society. People who push this method count on it!

There is a second type of Black Swan of concern. These are not usu-

ally openly discussed in public. For example, Taleb discusses the difference between a non scalable entity, like Hand Surgery, where the individual surgeon gains benefit for what they personally do, and a scalable entity, where a person can make money off the work and effort of others. Surgery is essentially a non scalable entity. If you are on vacation you are not generating money. An MRI machine in your office however is a scalable entity. You can make money from it even if you are on the beach. Sounds like we all should get an MRI, and I know many have, but there is a potential problem. A scalable entity is more prone to the effects of an unpredictable Black Swan, a highly improbable event that has great consequences. From this perspective those of us who make a living performing "piece work" are fairly safe compared to those who have heavily invested in scalable enterprises. A once in a life time Black Swan, the unforeseen risk, can swoop in and undo the empire.

Health care insurance reform is a complex issue and it does not seem clear to me how it will turn out for Hand Surgeons. My opinion is that change is badly needed. We see, and may have experienced, the problems created by a pre-existing illness. My own family, for example, cannot obtain health insurance outside of a large collective because of pre-existing illness. But as Hand Surgeons we are also worried about the economic viability of our practices. We are often paid less than the cost of the care we provide and often not paid at all. To date, on average, we have made out well and enjoy a privileged position in society because of the quality and nature of our work. With change comes the unknown. If we as Surgeons are reimbursed for all of our patients, we could weather lower per patient reimbursement without an overall dramatic negative impact. If there are unforeseen ripple effects from drastic change, however, many unforeseen consequences can emerge.

Physicians must be on the correct side of history in this argument. We



**"My hands  
are drawing!"**

*(This is what patients tell us a lot)*

### NEW FEATURE COMING!

In the great tradition of hand surgeons' drawing we invite any readers to submit drawings they would like to share with the readership of the hand newsletter. Cartoons, drawings of patients' hands, cases and other drawings are welcome. Please add a short caption or description. High rez PDFs or JPGs can be sent to me via the Central Office.

— Steve

must truthfully advocate for the wellbeing of our patients. Thousands of Americans have died only because of the structure of our health care system. We must protect against false arguments and hyperbolic rhetoric. This is not about giving health care to illegal aliens, it is not about performing abortions, and it is not about "socialism". Let's use the appropriate part of our brain and have a reasoned discussion. While we think about the legacy of Tommy Douglas we should leave the tactics of Jack Bauer to the entertainment industry. We need to be wary of both types of the Black Swan. **H**

*Wikipedia was used as a source to learn about Tommy Douglas*

The Black Swan: The Impact of the Highly Improbable. Nassim Nicholas Taleb. Random House, New York. 2007 ISBN 978-1-4000-6351-2

## HAND SURGERY QUARTERLY

**President**  
Nicholas Vedder, MD

**Editor**  
Steven McCabe, MD

**Managing Editor**  
Anne Behrens

*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.

Copyright ©2009, The American Association for Hand Surgery. All rights reserved. No portion of this newsletter may be printed without express written permission from the publisher, 444 E. Algonquin Road, Arlington Heights, IL 60005, 847-228-9276.

## Looking Forward to Boca Raton

The major event of our organization is soon approaching. The annual meeting, January 6-9 at the beautiful Boca Raton Resort in Florida, has moved from dream to reality, thanks to the tremendous efforts of our program co-chairs, Kevin Chung and Gretchen Kaiser-Bodell, in collaboration with the program committee, who have developed an outstanding program. I know that you will enjoy both the scientific and social programs that we are planning. The Boca is a beautiful beachfront resort and will provide a congenial and relaxing environment for the meeting.

Specialty Day will include a number of exciting panels chaired by distinguished faculty, including panels chaired by Thomas Trumble, MD, on flexor tendon surgery, James Chang, MD, on medical-legal issues, Michael Neumeister, MD, on CMC arthritis, and a lively debate between Robert Szabo, MD, President of ASSH and A. Lee Osterman, MD, incoming President of AAHS on evidence-based medicine, moderated by Jesse Jupiter, MD. In addition, David Ring, MD will moderate a panel on controversies in the treatment of compressive neuropathies. The main meeting will include more instructional courses and panels on a variety of topics of interest to hand surgeons of all backgrounds. This year's Danyo Lecture will be given by AAHS Past-President Richard Berger on the critical link between the transformation of medical education and transformation of health care.

On Saturday, we are honored to have Paul Farmer, MD, PhD as the Joint Presidential Keynote Lecturer.

Dr. Farmer is a medical anthropologist and physician at Harvard, where he is the Chair of the Department of Global Health and Social Medicine at the Medical School, and a founding director of Partners In Health. He is truly a leader in global health and an inspiration to all. He will speak, among other things, on the role of the surgeon in global health and will be followed by a panel discussion. It should be a memorable event.

Most important of all, the Boca meeting will continue the theme of all of our meetings, being informal and inclusive, where open exchange is not only permitted, but encouraged, and where the most important interchanges are often held at the pool or on the beach. I hope that all of you can attend.

In keeping with the central theme of my presidency, promoting unity within the broad field of hand surgery, the program will include

several sessions featuring the leadership of the American Society for Surgery of the Hand, including Past President Andrew Koman, President Robert Szabo, President Elect Thomas Trumble, and Vice President Andrew Lee.

We will continue to have meetings between the presidential lines of the AAHS and ASSH and are pursuing several joint ventures that we feel will make the broad field of hand surgery stronger. The level of cooperation and collaboration between the two hand organizations has never been stronger. I believe that these efforts hold promise to advance clinical care, education, and research in the field of hand surgery.

It continues to be an honor for me to serve as your President. I hope to see all of you in Boca Raton! **H**



NICHOLAS VEDDER, MD

### AAHS Calendar 2009

**October 23-27, 2009**  
ASPS Annual Meeting  
Seattle, WA

**2010**  
**January 6-9, 2010**  
AAHS 40th Annual Meeting  
Boca Raton Resort and Club  
Boca Raton, FL

**March 6-8, 2010**  
Hand Rehabilitation Foundation  
2010 Philadelphia 12th Annual  
Hand Surgery Symposia  
Philadelphia, PA

**March 10-13, 2010**  
AAOS Annual Meeting  
New Orleans, LA

**June 24-26, 2010**  
8th Triennial Congress of IFSHT  
Orlando, FL

**October 1-6, 2010**  
ASPS Annual Meeting  
Toronto, ON, Canada

**October 7-9, 2010**  
ASSH Annual Meeting  
Boston, MA

**2011**  
**January 12-15, 2011**  
AAHS 41st Annual Meeting  
Ritz Carlton Cancun  
Cancun, MX

**February 16-20, 2011**  
AAOS Annual Meeting  
San Diego, CA

**September 8-10, 2011**  
ASSH Annual Meeting  
Las Vegas, NV

**September 23-28, 2011**  
ASPS Annual Meeting  
Denver, CO

**For information contact: AAHS  
Central Office at 847-228-9276 or  
www.handsurgery.org**

# 2010 Specialty Day Preview

There is an exciting program planned for the Annual Meeting in Boca Raton! This year's Specialty Day is a one day concentration and extension of the main meeting, and will supplement the action-packed agenda of the main program. The morning of Specialty Day is dedicated to interactive panels and debates. There will be expert panels on flexor ten-

don treatment and CMC arthritis, as well as what is sure to be a lively discussion on evidence-based practice.

The afternoon will continue with a discussion of neuropathy at the elbow, followed by an interactive workshop on splinting for stiffness. To conclude the day, there will be break-out sessions for the evidence-based management of the rehabilitation of distal radius fractures and therapeutic approaches to joint stiffness.

You will see hand therapists are incorporated into many instructional courses throughout the meeting. Many will be familiar faces, but there will also be a fair amount of

new faces presenting and attending the meeting. Please take the opportunity to welcome new members and new conference attendees, and talk with them about your experiences as a member of AAHS and offer to them your positive insights of membership.

Therapists: Don't forget to attend the Hand Therapist's Reception from 5:30-6:30pm, just prior to the AAHS Welcome Reception, for a chance to mingle and network with your friends and colleagues.

I look forward to seeing you there! **H**



**GRETCHEN KAISER, OTD, OTR/L, MBA, CHT**

## HAND THERAPY PROFILE



### Kristin Valdes, OTD, OTR, CHT

**Personal:** I have been married to my husband Jorge for 20 years. We have a 15-year-old son Alex.

**Education:** 2007 Clinical Doctorate in Occupational Therapy with a specialization in Hand Therapy from Rocky Mountain University of Health Professions in Provo, UT; Bachelors of Science in Occupational Therapy, Florida International University

**AAHS Involvement:** Affiliate Member of AAHS

**Best Part of My Job:** To go to work everyday "loving" my job. I enjoy the challenges that a varied caseload of hand injured clients present on a daily basis. It is

wonderful to treat a variety of patients that come from all walks of life and who have had variety of life experiences. It has been a fun part of my job to get personal historical accounts from patients who were on Normandy Beach on D-Day, in Pearl Harbor during the attack by Japan, in concentration camps in Siberia and Poland, and injured during a NFL playoff game. I enjoy that my profession has given me the opportunity to be a part of Guatemala Healing Hands medical mission. The friendships and mentoring that I have received from my fellow hand therapists and the close working relationships and friendships I have with hand surgeons have greatly enriched and enhanced my life beyond measure.

**Major Accomplishments (Professional):** Completing my Clinical Doctorate while employed full-time and being a full-time mom and wife was a career changing undertaking. Since my graduation, I was the recipient of the First time Author Award presented by the Journal of Hand

Therapy in 2009 for an article that I wrote comparing early and late range of motion following volar plating of distal radius fractures. I presented "Are Hand Therapists Practicing Evidence-Based Medicine?" that was chosen as a "Best Paper" at the combined ASSH and ASHT meeting in San Francisco in 2009. I have also taught instructional courses at the last two ASHT annual meetings.

I am the founder of Hand Works Therapy in Sarasota County, Florida. The practice has grown to four locations in four cities in South West Florida. Hand Works Therapy offers physical therapy in addition to hand therapy services.

**Clinical Specialties:** Splinting and promoting evidence-based medicine

**Greatest Professional Challenge:** Presenting my paper in front of an audience of 8000 hand surgeons and therapists at the 2009 ASSH and ASHT combined Annual Meeting

**Three Words That Describe Me:** Driven, energetic, compassionate **H**



# AAHS 40th Annual Meeting

January 6–9, 2010  
Boca Raton Resort and Club  
Boca Raton, FL

## Wednesday, January 6, 2010 Specialty Day Program

Examining the Evidence in  
Hand Surgery

- 7:00–7:30am** Continental Breakfast
- 7:30–8:30am** Session: President and Program Chair Welcome  
*Nicholas B. Vedder, MD, FACS, AAHS President*  
*Kevin Chung, MD, Program Chair*  
*Peggy Boineau, OTR, CHT, ASHT President*  
*Gretchen Kaiser, OTD, OTR/L, MBA, CHT, Specialty Day Chair*
- 8:30–9:30am** Panel: Flexor Tendon Surgery in the 21st Century  
*Thomas Trumble, MD, Moderator*  
*Peter Amadio, MD, Rebecca von der Heyde, PhD(c), OTR/L, CHT*
- 9:30–10:30am** Panel: Medical-Legal Issues in Hand Surgery  
*James Chang, MD, Moderator*  
*Ronald Palmer, MD, Mark Rekan, MD, L. Andrew Koman, MD*
- 10:30–10:45am** Coffee Break
- 10:45–11:15am** Discussion & Debate: Evidence Based Medicine – The Be All and End All?  
*Jesse Jupiter, MD, Moderator*  
*Robert Szabo, MD, MPH, A. Lee Osterman, MD*

- 11:15–12:00pm** Panel: What is the Evidence in Treating CMC Arthritis?  
*Michael Neumeister, MD, Moderator*  
*Alejandro Badia, MD, Robert Beckenbaugh, MD, Joseph Slade, III, MD, Susan Michlovitz, PT, PhD, CHT*

- 12:00–1:00pm** Past Presidents Lunch  
(Invitation only)

- 1:00–2:00pm** Panel: What is the Evidence in Managing CTS and Ulnar Neuropathy at the Elbow?  
*David Ring, MD, Moderator*  
*Joseph Slade III, MD, Joseph Imbriglia, MD, Joy MacDermid, BScPT, PhD*

- 2:30–3:30pm** Hand Surgery Endowment Board of Governors Meeting

- 2:00–4:00pm** AAHS Instructional Course  
2 AMA PRA Category 1 Credits™

- 101 Splinting for Stiffness (Workshop/Lab)  
*Aviva Wolff, OTR, CHT, Chair*  
*Gretchen Kaiser, OTD, OTR/L, MBA, CHT, Paul Brach, PT, CHT*

- 4:00–5:00pm** AAHS Instructional Courses  
1 AMA PRA Category 1 Credit™

- 102 Advances in Therapy: What is the Evidence for Treating Distal Radius Fractures?  
*Tambra Marik, OTD, OTR/L, CHT, Chair*  
*Kristin Valdes, OTD, OTR, CHT, Nancy Wesolowski, OTD, OTR/L, CHT*

- 103 Therapeutic Approaches to Treating Joint Stiffness  
*Chair: Ann Lund, OTR, CHT*  
*Cynthia Cooper, MA, OTR/L, CHT, Jeffery Cowdry, OT/L, CHT*

- 5:30–6:30pm** Hand Therapist Reception

- 6:30–8:30pm** AAHS Welcome Reception

## Thursday, January 7, 2010

- 7:00–8:00am** AAHS Instructional Courses  
1 AMA PRA Category 1 Credit™

- 104 Wide Awake Hand Surgery  
*Donald Lalonde, MD, Chair*

*Matthew Concannon, MD, Amanda Higgins, BScOT, OT*

- 105 Treatment of Regional Pain Syndrome: How I Do It  
*Catherine Curtin, MD, Chair*  
*William Dzwierzynski, MD, L. Andrew Koman, MD, Marilou Rubright, MS, OT/L, CHT*

- 106 Nerve Transfer Strategies  
*Thomas Tung, MD, Chair*  
*Allen Bishop, MD, Linda Dvali, MD, Christine Novak, PT, MS, PhD(c)*

- 107 Distal Radius Fracture: The New and Old  
*Steven Haase, MD, Chair*  
*Jesse Jupiter, MD; David Dennison, MD; Nancy Davidson, MOTR/L*

- 108 Bioskills Session: Collagenase Injection and Manipulation Training  
*A. Lee Osterman, MD, Chair*  
*Instructors: Lawrence Hurst, MD*

- 8:00–8:30am** Continental Breakfast

## AAHS Session A

- 8:30–9:00am** President and Program Chair Welcome  
*Nicholas B. Vedder, MD, FACS, AAHS President*  
*Kevin Chung, MD, Program Chair*  
*Robert Szabo, MD, ASSH President*

- 9:15–10:15am** Hand Journal Editorial Board Meeting

- 9:00–9:45am** Panel: Advances in Treating Dupuytren's Disease  
*Warren Hammert, MD, Moderator*  
*Vincent R. Hentz, MD, Lawrence Hurst, MD, Maureen Hardy, PT, MS, CHT*

- 9:45–10:45am** Scientific Paper Session: A1  
*David Smith, Jr., MD, Moderator*

- 11:00–11:30am** Presidential Address  
*Nicholas B. Vedder, MD, FACS*

- 11:30am–12:30pm** Panel: Treatment of the PIP Joint  
*Steven Moran, MD, Moderator*  
*Reid Abrams, MD, Nash Naam, MD, Cynthia Cooper, MA, OTR/L, CHT*

continued on page 8

Hand  
Surgery  
Quarterly

.....

Autumn  
2009

7

**Thursday, January 7, 2010**

*continued from page 7*

**1:30–2:30pm Panel: Soft Tissue Coverage of the Hand**  
 Michael Sauerbier, MD, Moderator  
 Nicholas B. Vedder, MD, FACS; Kodi Azari, MD; Douglas Sammer, MD

**AAHS Session B**

**9:00–9:45am Panel: Management of Hand Injuries in Athletes**  
 Dean Sotereanos, MD, Moderator  
 Daniel Nagle, MD, Paul Brach, PT, CHT

**9:45–10:45am Scientific Paper Session: B1**  
 Robert Russell, MD, Moderator  
 Jaimie Shores, MD, Co-Moderator

**11:30am–12:30pm Panel: What is New for the DRUJ?**  
 Richard Berger, MD, PhD, Moderator  
 Jennifer Moriatis-Wolf, MD, Jorge Orbay, MD

**1:30–2:30 pm Panel: Evidence in Treating Scaphoid Fractures and Nonunions**  
 Elizabeth Ouellette, MD, Moderator  
 William Geissler, MD, Eric Hofmeister, MD, Scott Duncan, MD

**3:00–4:00pm AAHS Instructional Courses**  
 1 AMA PRA Category 1 Credit™  
 109 Financial Strategies for Physicians in an Unstable Banking Environment  
 Grant Conway, President, Physicians National Bank  
 110 Life Financial Goals for Physicians and Their Practices  
 Jeff Palmer, Morgan Stanley Smith Barney

**Friday, January 8, 2010**

**7:00–8:00am AAHS Instructional Courses**  
 1 AMA PRA Category 1 Credit™  
 111 Treatment of Ulnar Sided Wrist Pain  
 Brian Adams, MD, Chair  
 Jeffrey Budoff, MD, Marco Rizzo, MD

112 Management of Fractures and Dislocations About the Elbow  
 Peter Murray, MD, Chair  
 Neal Chen, MD, Randall Culp, MD, Georgette Fogg, OT/L, CHT

113 Current State of Kienbock's Disease Treatment  
 Kyle Bickel, MD, Chair  
 Jeffrey Friedrich, MD

114 Bioskills Session: Distal Radius Fracture Fixation

115 Bioskills Session: Updated Fixation Techniques for Distal Radius Fractures  
 Scott Kozin, MD, Chair  
 Miguel Pirela-Cruz, MD, Robert Medoff, MD, A. Lee Osterman, MD

**AAHS Session A**

**8:30–9:15am Panel: Update on Outcomes Research in Hand Surgery**  
 Joy MacDermid, BScPT, PhD, Moderator  
 Steven McCabe, MD, Brent Graham, MD

**9:15–10:15am Scientific Paper Session: A2**  
 William Swartz, MD, Moderator  
 Donna Breger Stanton, MA, OTR/L, CHT, Co-Moderator

**10:45–11:15am Scientific Paper Session: A3**  
 Wyndell Merritt, MD, Moderator  
 Robert C. Chadderdon, MD, Co-Moderator

**11:15am–12:00pm Danyo Lecture: Transformation of Medical Education and Transformation of Health Care—A Critical Link**  
 Richard Berger, MD

**AAHS Session B**

**8:30–9:15am Panel: Advances in the Treatment of the RA Hand**  
 W.P. Andrew Lee, MD, Moderator  
 Robert Goitz, MD, Vincent R. Hentz, MD, Ann Lund, OTR, CHT

**9:15–10:15am Scientific Paper Session: B2**  
 C. Lin Puckett, MD, Moderator

**10:45–11:15am Scientific Paper Session: B3**  
 James Hoehn, MD, Moderator  
 Susan Michlovitz, PT, PhD, CHT, Co-Moderator

**11:15am–12:00pm Danyo Lecture (Unopposed Session A)**

**12:00–12:30pm Annual Business Meeting (AAHS Members Only)**

**12:45–2:45pm AAHS Board of Directors Luncheon**

**AAHS Instructional Course**

**1:00–5:20pm Comprehensive Hand Surgery Review Course**  
 4 AMA PRA Category 1 Credits™  
 Peter Jebson, MD, Chair

**1:00–1:20pm Tumors of the Hand and Wrist**  
 Edward Athanasian, MD

**1:20–1:40pm Compressive Neuropathies & CRPS**  
 Christopher Pederson, MD

**1:40–2:00pm Thumb Basal Joint Arthritis and Inflammatory Arthritis**  
 Gregory Merrell, MD

**2:00–2:20pm Distal Radius Fractures**  
 David Bozentka, MD

**2:20–2:40pm Distal Radioulnar Joint (DRUJ)**  
 Peter Jebson, MD

**2:40–3:00pm Scaphoid Fractures and Non-Unions, Kienbocks Disease**  
 Robert Goitz, MD

**3:00–3:20pm Carpal Instability, Wrist Arthritis**  
 Jose Ortiz, Jr., MD

**3:40–4:00pm Fractures of the Metacarpals and Phalanges**  
 Jerome Chao, MD

**4:00–4:20pm Flexor & Extensor Tendon Injuries**  
 Loree Kalliainen, MD

**4:20–4:40pm Infections of the Hand**  
 E. Gene Deune, MD

**4:40–5:00pm Congenital Hand Differences**  
 Robert Havlik, MD

**5:00–5:20pm Tendonopathies and Dupuytren's Contracture**  
 Miguel Pirela-Cruz, MD

**7:00–10:00pm AAHS Awards Dinner and Dance**

*continued on page 9*

continued from page 8

## AAHS/ASP/ASRM Combined Day

Saturday, January 9, 2010

- 6:30–7:00am **Continental Breakfast with Exhibitors**
- 7:00–8:00am **AAHS/ASP/ASRM Instructional Courses**  
1 AMA PRA Category 1 Credit™
- 201 **Congenital Hand Differences: How I Do It**  
*Amit Gupta, MD, Chair*  
*David Netscher, MD, Dorit Aaron, MA, OTR, CHT*
- 202 **Endoscopic Cubital and Carpal Tunnel Release**  
*M. Ather Mirza, MD, Chair*  
*Daniel Nagle, MD, Tyson Cobb, MD*

- 203 **Advances in Brachial Plexus Paralysis Reconstruction**  
*Susan Mackinnon, MD, Chair*  
*Gregory Borschel, MD, David Chwei-Chin Chuang, MD*
- 204 **Current Approaches to Functional Muscle Transfer to the Extremity Following Nerve Injury**  
*Neil F. Jones, MD, Chair*  
*Allen Bishop, MD, Milan Stevanovic, MD, Gregory Dumanian, MD*
- 205 **Intraoperative Neurophysiology**  
*David Houlden, PhD, Chair*  
*Leo Happel, PhD, Allen Van Beek, MD*
- 206 **Obstetric Brachial Plexus Lesions**  
*Martijn Malessy, MD, Willem Pondaag, MD, Chairs*

- 8:15–9:15am **AAHS/ASP/ASRM Joint Panel: Partial Nerve Injuries Are Never Easy**  
*Moderator: Allen Van Beek, MD*  
*Susan Mackinnon, MD, Peter Amadio, MD, Thomas Trumble, MD, L. Scott Levin, MD, Christine Novak, PT, MS, PhD(c)*
- 9:30–9:45am **Presidents Welcome**  
*Nicholas B. Vedder, MD, FACS, AAHS President*  
*Howard Clarke, MD, ASPN President*  
*William Zamboni, MD, ASRM President*  
*Michael McGuire, MD, ASPS President 2009-2010*
- 9:45–10:45am **AAHS/ASP/ASRM Joint Presidential Keynote Lecture**  
*Paul Farmer, MD, PhD*
- 10:45–11:45am **AAHS/ASP/ASRM Joint Outstanding Papers** **H**

## AAHS LEADERSHIP PROFILE

### Historian Randy Bindra, MD, FRCS

**R**andy Bindra is the current historian of the American Association for Hand Surgery. Dr Bindra has been an active member since 2002 when he moved to the US from Derby, England. Dr Bindra was introduced to the Association by his Dr Alan Freeland, past president of the AAHS. Dr Bindra has been involved with committee work from 2003 and currently chairs the membership committee. He also serves as the representative of the AAHS at the Board of Specialties of the American Association of Orthopaedic Surgeons.

Dr Bindra has devoted his professional life to academic hand

surgery. His clinical practice involves care of adult and pediatric hand, elbow and wrist problems. He currently practices at the Loyola University and the Shriners Hospitals in Chicago. He is Professor in the Department of Orthopaedic Surgery at the Stritch School of Medicine, Loyola University and also directs the hand fellowship program. He has authored several peer-reviewed journal articles and book chapters on various topics in hand surgery. Dr Bindra maintains a strong interest in resident and fellow education and has been recognized for his efforts by the residents of the University of Arkansas and Loyola University. Through his diverse background and his membership



with the AO, Dr Bindra has chaired and presented at several international courses on hand and wrist trauma management.

Dr Bindra considers himself a “family-man” and loves to spend every possible moment with his wife Lisa watching their little kids James (4) and Capri (1) grow and learn new skills every day. They love to travel as a family and look forward to escaping the Chicago winter every January to enjoy the warmth and friendship at the AAHS meetings. **H**

Hand  
Surgery  
Quarterly

.....  
Autumn  
2009

9

# Wrist Replacement Arthroplasty

Our moderator for this panel is Amit Gupta, MD, Associate Clinical Professor, Orthopaedic Surgery, University of Louisville, Louisville, KY. Joining in the discussion are hand surgeons Richard Berger, MD, Orthopedic Surgery, Mayo Clinic, Rochester, MN, Randipsingh Bindra, MD, FRSC, Professor, Orthopaedic Surgery, Loyola University Medical Center, Maywood, IL, and Kevin C. Chung, MD, MS, Professor of Surgery, Assistant Dean for Faculty Affairs, The University of Michigan Medical School, Ann Arbor, MI, and hand therapist Joy MacDermid, BScPT, PhD, Hand and Upper Limb Centre, London, ONTARIO.

**Dr. Gupta:** Dick, when did you start doing wrist replacement and what made you change from what you were doing before?

**Dr. Berger:** I started doing this right after the SBI version was available, so that would be five or six years ago. The reason I started doing it was that it was an attractive alternative for patients that wanted to preserve motion but otherwise were candidates for a wrist arthrodesis. And as long as the patients understood what was required of them, they seemed to really have a desire to preserve their motion.

**Dr. Gupta:** Were you unhappy with the wrist fusion results, or was this an alternative?

**Dr. Berger:** I wasn't particularly unhappy with it, but I think it was just that it was an alternative to patients, again, that had for one reason or another a very specific desire to preserve motion.

**Dr. Gupta:** What about you, Kevin?

**Dr. Chung:** I started doing total wrist arthroplasty about four or five years ago after there were promising results with Uni-one design. We all have seen other implant designs come and go, but the recent designs appear to be promising.

I perform total wrist arthroplasty to give patients an alternative to total wrist fusion, not because I am unhappy with the result of total wrist fusion. For certain patients, having mobility of the wrist may be an advantage. We are all enamored with new technology, and the time

for total wrist arthroplasty has come. We have invested a great deal of resources to perfect knee and hip implants and they have contributed a great deal to maintaining patients' active life styles. We are embarking on an exciting journey on hand and wrist implant arthroplasty procedures to hopefully enhance a patient's hand function.

**Dr. Gupta:** What about you, Randy?

**Dr. Bindra:** I have been a relatively recent adopter, having started replacing wrists in the last four or five years. The push for me has mainly come from my patients who have had every other joint replaced—hips, knees, shoulders, and elbows—and have always wondered why we cannot do the same for their painful wrists. I feel I've waited long enough for design improvements which I feel now make more sense. Less bone resection now makes salvage to arthrodesis a viable option. Therefore, the transition from arthrodesis to replacement with the new generation of implants has not been very difficult for me.

**Dr. Gupta:** Kevin, what are your indications and your ideal candidate for total wrist arthroplasty?

**Dr. Chung:** The ideal candidates do not come by very often. I think the ideal candidates are those with diffuse osteoarthritis of the wrist who are not amenable to a more conservative type of operation, such as proximal row carpectomy or 4-bone fusion, or some other motion spar-

ing limited-fusion operations. Because these implants still cannot withstand the stresses associated with strenuous work activities in farmers and heavy manual laborers, the ideal candidates should be those who are sedentary people with good bone stock and are motivated.

Unfortunately, the ideal candidates are in short supply and we do have to expand the indications to include rheumatoid patients who hopefully have sufficient bone stock to seat the implants and who obviously do have low functional demands.

**Dr. Gupta:** Okay. Randy, what do you think? What are your indications and who is your ideal candidate?

**Dr. Bindra:** I feel the ideal candidate still remains the rheumatoid arthritis patient, especially with bilateral wrist involvement where fusing both wrists would not be a good option for them as it would severely limit function. In these patients, I would consider at least replacing one of the two wrists. Having said that, they do need to have good bone stock to accommodate the



**WE ARE GRADUALLY  
MOVING AWAY  
FROM FUSING WRISTS  
AND GIVING OUR  
PATIENTS MORE  
ARTHROPLASTIES.**

AMIT GUPTA, MD

Hand  
Surgery  
Quarterly

.....

Autumn  
2009

10

continued on next page

## HAND TABLE

*continued from page 10*

prosthesis and a relatively well-preserved distal carpal row. These patients generally are low-demand individuals and I expect that they will put less stress on these implants with hopefully better longevity.

**Dr. Gupta:** Joy, let me ask you, what do you think are the indications of wrist arthroplasty in your center?

**Dr. MacDermid:** Well, I'm not a surgeon so I'm not sure I could speak to surgical indications. I think from a patient perspective it's always a matter of which procedure is going to give the best pain relief. That's their number one priority. And then the second priority would be to retain as much motion and strength as possible.

**Dr. Gupta:** Okay. Kevin, in rheumatoid arthritis, when do you choose not to do an arthroplasty and go on to fusion or some alternative?

**Dr. Chung:** The consideration for the rheumatoid patient will require some consideration to understand whether the patient should have a wrist fusion or arthroplasty. Certainly, the decision-making process for a patient with bilateral destroyed wrists to preserve motion in one wrist is actually a very attractive one. Patients who are having active disease, which we see less and less because most are well controlled with medications, should not undergo any type of hand surgery procedure until the rheumatoid flare-up has been controlled medically. And, of course, those with poor bone stock and arthritis mutilans-type patients are not really good candidates.

Other than that, the indications for rheumatoid patients have expanded quite a bit, to a point that almost every patient can be considered for wrist implant arthroplasty. However, having said that, I think that the shared decision-making process with the patient is very important. The patient really needs to understand the pros and cons by

considering how many years the total wrist arthroplasty can last, the complication rate associated with these implants during their lifetime, and the need for either a revision or fusion. So for the patient to understand the risks and benefits is very important.

**Dr. Gupta:** Dr. Bindra, if you have a lot of involvement of the lower extremities and the patient has to put a lot of stress on the wrist, would you consider doing arthroplasty in those situations?

**Dr. Bindra:** Yes, I still think so. I do see a lot of patients who have had elbow and shoulder replacements and are still able to ambulate with walking aids that place stress on their upper limb prostheses. So I don't personally think that use of walking aids is a contraindication to the use of wrist arthroplasty in these patients. I think if they need the wrist movement I would certainly consider doing a wrist arthroplasty, again, as Kevin said, providing they have adequate bone stock and they understand the risks involved.

**Dr. Gupta:** What about soft tissue stability?

**Dr. Bindra:** In situations with extensive synovitis, I would not consider replacement but recommend better disease control to begin with.

**Dr. Chung:** I worry about the effect of synovitis on the integrity of the implant because if there is active disease, I think that the implant will get loose very quickly. In the past, I used to be concerned when the pre-operative radiograph showed a palmar subluxation of the carpus that may be prone to implant dislocation, but using a deeper cup implant has overcome this difficulty. I will still obtain consent from my patient in case, intraoperatively, the wrist is too unstable to permit adequate seating of the implant. I may proceed with an arthrodesis, but I have not had to do that. I think I can even replace these more unstable wrists now.

**Dr. Gupta:** Joy, what do you think about these rheumatoid patients

with badly affected lower extremities who put a lot of stress on their upper limbs?

**Dr. MacDermid:** Well, I think you have to be concerned, first of all, about how long they're going to be out of commission because that's an important thing for them and they don't do well with inactivity. Immobilization of the wrist can affect their overall mobility and joint health. So I think about how much weight they can put through their hands, and how stable the wrist is. You may need to re-look at what mobility devices they use in their rehabilitation period to try to take some of the stress off their hand and/or to keep them functional during recovery.

**Dr. Gupta:** Do you make any alteration in their mobility devices? Do you transfer load bearing to their forearms, for example?

**Dr. MacDermid:** You may give them, for example, a forearm walker instead of something that they have to put weight through their hands. At minimum, evaluate their use of mobility devices and adaptive devices and see what they might be using currently.

**Dr. Gupta:** Let's change the topic to post-traumatic arthritis. Randy, what are your indications?

**Dr. Bindra:** I have not had the opportunity to do a wrist arthroplasty as yet for distal radius fracture but I can see a role for hemi-arthroplasty in some situations as a salvage.

**Dr. Gupta:** What about a long standing SLAC wrist?



**TOTAL WRIST  
ARTHROPLASTY IS AN  
ATTRACTIVE  
ALTERNATIVE FOR  
PATIENTS THAT  
WANTED TO PRESERVE  
MOTION BUT  
OTHERWISE WERE  
CANDIDATES FOR A  
WRIST ARTHRODESIS**

**RICHARD BERGER, MD**

Hand  
Surgery  
Quarterly

.....

Autumn  
2009

11

*continued on next page*

## HAND TABLE

continued from page 11

**Dr. Bindra:** In scapholunate dissociation with arthritis I would still primarily consider some form of partial fusion or proximal low carpectomy as the first salvage procedures. If in a given case these procedures would not work, for example the radiolunate joint is affected, or the proximal pole of the capitate and the lunate are both affected, I would consider doing a total wrist. The choice of procedure is made after due consideration to the patient's activity level and his or her expectations from the wrist procedure.

**Dr. Gupta:** What about you, Kevin?

**Dr. Chung:** I indicated previously that the ideal patient after post-traumatic arthritis is hard to find because one of the indications is pan-arthritis that cannot be solved by either a proximal row carpectomy or 4-bone fusion, or some kind of more limited-motion preserving operation. Many of these patients are manual workers with heavy wrist demands that may not be amenable to total wrist arthroplasty.

**Dr. Gupta:** Under what conditions would you consider converting a fused wrist to total wrist arthroplasty, Kevin?

**Dr. Chung:** I think that when somebody has a fused wrist, even though the patient may be dissatisfied, they may not want to go through another operation with the additional risk associated with the arthroplasty. It is certainly an elegant option that can be entertained for a highly motivated patient. I have not converted a fused wrist into a total wrist arthroplasty for the basic concern of adding more insult to the wrist when it is already fused and already functioning reasonably well in an adaptable patient.

**Dr. Gupta:** Randy?

**Dr. Bindra:** I think it is a very attractive option to offer a patient now. If I do see somebody with a fused wrist who is complaining of signifi-

cant limitation of their activities or hobbies I would certainly consider revision to a wrist replacement much more seriously now than I would a few years ago, as I get more comfortable with the technique. It's like hip surgeons first started doing hip replacements on arthritis joints alone. Over the years, the indications have expanded and now they are offering hip fusion patients the option to conversion to arthroplasty. In the hip joint, adequate abductor musculature is a pre-requisite and, in the wrist, reasonable extensor muscle integrity must be established preoperatively. This may be hard to assess, but I would look for muscle wasting and isometric contraction. Replacement would be contraindicated if the primary fusion was done for paralysis or sepsis.

**Dr. Gupta:** Joy, a Harvard study showed that a large proportion of the patients who had wrist fusion would consider having surgery which would give movement to the wrist. What do you feel about the patient who already had a fusion that might want movement?

**Dr. MacDermid:** In all procedures, but in this one in particular, patient expectations prior to surgery are a really big factor. With rheumatoid patients, we tend to see that they're satisfied no matter what we do. In fact they are sometimes just satisfied that you tried an intervention, even if their outcome is not as improved as we would like. They have so much disability, I think, that what they expect to get out of an operation is sometimes fairly low. In a post-traumatic patient, I think their expectations are quite high and so sometimes they are less satisfied, even though if you measure them functionally in terms of their physical impairments they've actually done quite well with the surgery. So that makes it difficult to compare.

I think there is a big role for understanding what people are expecting to get out of the surgery in terms of how important additional movement is, and you need to be careful to make sure that their expectations aren't beyond what the

capacity of the additional surgery is going to offer them.

**Dr. Chung:** In our recent study in which we surveyed patients and hand surgeons, we found all prefer the arthroplasty option when given the choice of preserving wrist motion and fusing the wrist. The considerations mainly reside on the longevity of the implant, and the risks a person is willing to take. Total wrist arthroplasty is a difficult operation and requires a lot of expertise. I think the learning curve is very steep. It is similar to the learning curve for pyrocarbon PIP implants. It takes more than a few cases before one is comfortable with making the precise bone cuts.

**Dr. Gupta:** Let's talk about what restrictions you impose on your patients.

**Dr. Chung:** I usually splint them for 8 weeks primarily to allow the soft tissues to tighten around the joint. I am much more conservative than my colleagues nationally. If a patient can get functional wrist motion, such as 30 degrees extension, 10 degrees of flexion and 10 degrees of radial and ulnar deviation—and most importantly, painless motion—I am happy.

**Dr. Gupta:** What do you let them do? How much lifting, what weight restrictions do you put on your patients?

**Dr. Chung:** I do not think there is any data to support what kind of weight restriction is reasonable, but I would say nothing over 20 pounds is a reasonable restriction for my patients.



**WE ARE EMBARKING  
ON AN EXCITING  
JOURNEY IN HAND  
AND WRIST IMPLANT  
ARTHROPLASTY  
PROCEDURES TO  
HOPEFULLY ENHANCE  
THE PATIENT'S HAND  
FUNCTION.**

KEVIN CHUNG, MD

Hand  
Surgery  
Quarterly

.....  
Autumn  
2009

12

continued on next page

## HAND TABLE

continued from page 12

**Dr. Gupta:** Okay. What about you Randy?

**Dr. Bindra:** You know, the hardest thing is trying to hold back a patient after their surgery. I don't think I can ever restrict anybody from doing what they want when they think they are able. It's at the selection process during the preoperative discussion when I help the patient to decide if wrist arthroplasty is going to work for them or not. We talk about their activity levels and what they do and things like that. If I feel they're going to impose a lot of stress on their wrist I would not offer them a wrist arthroplasty to begin with. But to be honest, postoperatively after a wrist replacement, there is no point telling them what to do and what not to do. As Kevin said, there is no evidence that any load is better than another and if they're able to do things, they're going to go ahead and do them. So I think the time to decide whether they should be restricted is before you do the operation, not after.

**Dr. Gupta:** Joy, are there any restrictions you suggest to your patients?

**Dr. MacDermid:** Well, I agree that the first 6 to 8 weeks you want them doing as little as possible, and for the frail rheumatoid patient even ADL activities are probably more stress than you would actually like for them to be putting through their hands at that point, particularly if they're using them for mobility aids and those kinds of things. For the more active patient, it's a matter of making sure they progress slowly.

I think where people get in trouble is if they go from doing nothing to doing something heavy really quickly. Having said that, I don't think they need extensive rehabilitation, and you have to be careful about sending patients to therapy with people who don't know anything about hands or the surgery, i.e., understanding that a goal is to actually have the structures tighten up and have some stiffness. It's

important that if they're going to any kind of practitioner for rehabilitation, that they understand that.

**Dr. Gupta:** Okay. Have you converted a failed PRC or failed 4-corner fusion, and, if so, what are some of the technical pointers?

**Dr. Chung:** In my patients who have gone through an unsuccessful PRC or 4-bone fusion, they are not interested in having me do an arthroplasty procedure. They just want one more operation and they are done. But nevertheless, I always discuss with them that total wrist arthroplasty is an option if they are good candidates, and this is actually an attractive option after 4-bone fusion because the 4 bones have fused, which makes preparation of the midcarpal joint that much easier. I do not have any reservation to propose the total wrist arthroplasty option to a patient after unsuccessful PRC or better yet, unsuccessful 4-corner fusion.

**Dr. Gupta:** Okay, Randy, any comments?

**Dr. Bindra:** Yeah, I have converted failed 4-corner fusions when the fusion has failed after circular plate fixation. I think one of the technical challenges is scarring of the dorsal capsule. I try to make skin and soft tissue flaps as thick as possible so we don't have skin breakdown. And then depending on the depth at which the circular plate has been reamed, I am cautious about fracturing the capitate while inserting the carpal stem. For the carpal cut, you can't use a jig, you have to eyeball it so that you retain enough capitate. But the rest is not technically much harder than a primary case.

**Dr. Gupta:** So what about just a primary total wrist? What are some of the technical challenges you wish to highlight, Randy?

**Dr. Bindra:** With a primary one, as Kevin said, I think it's important to have done this, learned the technique either on a cadaver or have assisted somebody. That's important. I think the usual principles of wrist surgery apply in midline dor-

sal incision. Raising an extensor retinacular flap that you can reinforce the dorsal capsule if necessary after insertion of the implants. I personally detach the dorsal capsule off the radius leaving it as a distal based flap, to prevent getting it wrapped around a burr and saws when cutting the radius and carpus. Although most systems provide a jig for the carpal cut, if there is any carpal collapse the cut must be made free-hand to prevent excessive resection of the distal carpal row. I think most of us as hand surgeons do not use intraoperative imaging routinely, but in this type of procedure—especially when reaming the radius—I think it's important to get a couple of images PA and lateral views intraoperatively to make sure the broaches and reamers for the radius are well centered and aligned. I think it's important to undersize initially. That's what I personally do, and then if I need to cut back more bone I think it's easier to do that than end up having cut too much bone and then try to get a press-fit with a bone graft or cementation.

**Dr. Gupta:** Okay, what about you, Kevin, any technical challenges that you face with primary total wrist?

**Dr. Chung:** All facets of this operation are technical challenges. Dr. Bindra described the operation sequences quite well and I think we all do it very similarly. This operation requires a methodical step-by-step process, and every cut one makes has to be precise. I use fluoroscopy liberally to be sure my broaching is also precise. This is a technically challenging operation.



**PATIENTS WHO  
HAVE HAD OTHER  
JOINTS REPLACED  
WONDERED WHY WE  
CAN'T DO THE SAME  
FOR WRISTS.**

**RANDIPSINGH BINDRA,  
MD, FRCS**

Hand  
Surgery  
Quarterly

.....

Autumn  
2009

13

continued on next page

## HAND TABLE

continued from page 13

**Dr. Gupta:** Joy, let me ask you, what is the rehab protocol for primary total wrist?

**Dr. MacDermid:** I don't think we do very much with these patients. So if we're talking about a rheumatoid patient they're easy patients to manage. They're quite used to dealing with their pain and disability, so they're immobilized for a period of time, about 6-8 weeks, so that they will stabilize. They may benefit

from some advice in terms of how to progress their function gradually, and from one or two visits in terms of a splint for comfort or a splint that would stabilize their wrist for some of their functional activities. They may benefit from assessment of the devices or tools they could use that would decrease the stress on their wrists for ADL, and their use of community/social support. They may benefit from having education about how to protect their wrists and how to protect their joints in general, if they haven't had that already. Rheumatoid patients have often had that kind of pro-

gram before they get to the stage that they have their hand surgery, so they may be well informed. If they don't know how to do that, they will benefit from reducing the stress on their hand and wrist from using devices and joint protection principles. For the traumatic patient, then gradual re-introduction of functional activities will help them to get their strength back. Very few patients need a structured in-clinic rehab program of more than three visits unless they have a chronic regional pain problem.

**Dr. Gupta:** Do you use a protective brace of any kind?

**Dr. MacDermid:** Usually when they come out of their immobilization they would have some kind of protective splint, yes.

**Dr. Gupta:** What about you Kevin?

**Dr. Chung:** My approach is similar to what Joy has described. I am by nature conservative and as I indicated earlier, I splint the patient for 8 weeks and after that I caution them from doing heavy activities. I give my therapists limits of what they can achieve, which is the functional limit to perform 90% of ADL. If patients can achieve that or if they exceed that goal, that is fine, but I do not push them to go beyond that. As long as they have minimum pain and are able to do most ADL activities, I think we have hit a home run.

**Dr. Gupta:** Okay. Randy, any addition to this?

**Dr. Bindra:** No, I do more or less the same as described by the others.

**Dr. Gupta:** How do you think your long-term results have been? This is a fairly new procedure: you see your patients back every year maybe. What are your long-term perceptions? I know there are not very many long term studies, but what are you feeling about

## Texas Scottish Rite Hospital For Children MICRO Hand Set

From The Hand Center At Texas Scottish Rite Hospital For Children

ASSI®•TSRHC1 Consists Of:



No Substitutions



accurate surgical & scientific instruments corporation

300 Shames Drive, Westbury, NY 11590

800.645.3569 516.333.2570 fax: 516.997.4948 west coast: 800.255.9378 www accuratesurgical.com

## HAND TABLE

*continued from page 14*

the long-term clinical results? Do patients maintain their movement? Are patients remaining functional?

**Dr. Chung:** The complications are well described in the literature. Some implants are still seating nicely, but what surprises me is that it takes a long time for patients to adapt to the implants because they complain about chronic wrist pain for a year until they get used to it. They may think that I do not want to listen to the complaints of pain, or they actually have no pain, I do not know. But after one year, they seem to be able to accept what they have and go on with their lives. The rheumatoid patients are a bit tricky: because of their rather debilitated states they are sometimes unsteady. I have a patient who fell and fractured the distal implant that I had to convert into a total wrist fusion.

**Dr. MacDermid:** Well, it depends on whether you're talking about self reported outcomes or measured outcomes. If you measure their strength it's going to be quite low, and obviously their range of motion is dictated by the procedure; but, if you measure patient reported outcomes their satisfaction is going to be high and they're going to report that they're more functional than they were, for the most part. They will have some residual pain but usually, particularly in the rheumatoid patient, they're used to dealing with pain. They may have persistent low grade pain but are satisfied that it is much less than before. They are not like a typical chronic pain patient who is debilitated by his pain: they're quite functional with pain.

**Dr. Gupta:** Do you see they're maintaining their functional status and their range of motion over 3, 4, and 5 years?

**Dr. MacDermid:** Yes. Interestingly, when we follow-up people who have unilateral procedures and remembering that you tend to do the worst hand first, then they may

not have a second procedure, they're operated hand may not be that different than their un-operated hand, and yet they're quite satisfied with the procedures. So because the nature of their problem is to worsen over time, without the procedure it's very difficult to indicate what the long term impact is, except for obviously in randomized control trials with long term follow-up.

**Dr. Gupta:** Randy, tell us about some of the problems that you've encountered.

**Dr. Bindra:** Fortunately I have not had any serious problems that have required revision. I have not had any infection or dislocations. In one rheumatoid patient I have noted some radial loosening, but it's asymptomatic so I'm just following her every year. I've always been concerned that somebody's going to fall and fracture on the prosthesis, but I haven't seen that as yet either.

**Dr. Gupta:** What about you, Kevin?

**Dr. Chung:** Well, mainly the problem is that one patient who fell and fractured the prosthesis. I tried to salvage the implant but the bones were just very poor quality so I went ahead with the wrist fusion and she is pleased with the fusion. Outside of that main problem, patients seem to do relatively well even though my follow-up time is short. If patients have a good understanding of potential problems and their expectations are reasonable, then there is usually good patient acceptance of the wrist arthroplasty procedure. Patient selection and education, as in all hand surgery operations, are critical.

**Dr. Gupta:** Joy, have you seen any problems with your patients?

**Dr. MacDermid:** Not usually with the patients with rheumatoid arthritis. Any problems with procedures has been with post-traumatic patients being dissatisfied, because they are not as functional, strong or as pain-free as they would like. Occasionally we see a patient who reports having more pain or problems after the operation. We have had a cou-

ple of dissatisfied patients off work and on worker's compensation, which may be a contributing factor.

**Dr. Gupta:** Okay. Do you see any role for a hemi-arthroplasty?

**Dr. Chung:** I do not have any experience with hemi-arthroplasty. I have seen it being discussed in national forums, and I am still waiting for more data from more experienced arthroplasty surgeons.

**Dr. Gupta:** What about you, Randy? Do you see any role for a hemi-arthroplasty?

**Dr. Bindra:** I think a hemi-arthroplasty certainly on the carpal side sometimes makes sense, when the radial articular surface is reasonably well preserved and there is a problem such as Kienbocks disease. I haven't done one yet though, but I would be interested to continue to watch how this field develops.

**Dr. Gupta:** All right, let me ask you, where do you guys see the procedure in the future, in the next 5 to 10 years?

**Dr. Bindra:** Well first I'd like to see results from those who are doing many more than I and can learn the true limitations and indications. I hope eventually we can come up with more guidelines on patient selection. I think as we understand some of the newer materials, such as pyrocarbon, and other alternatives, such as ceramic, we may have more viable options than just the steel-and-plastic option.

**Dr. Chung:** I am very enthusiastic about implant arthroplasty procedures for the upper extremity, particularly for the hand because the hand has lagged behind the hips



**WE NEED MORE  
DATA, AND  
ESPECIALLY MORE  
LONG-TERM DATA.**

**JOY MACDERMID, BSCPT, PHD**

Hand  
Surgery  
Quarterly

.....  
Autumn  
2009

15

*continued on next page*

## HAND TABLE

continued from page 15

and knees in the material designs and also in the technical features of these operations. Total wrist arthroplasty, when compared to hips and knees, is still in the infancy stage. I think in the next 5 to 10 years we will have longer-term data on the current implant designs but I don't think we should be satisfied with the current designs. I think that we have so much more to go in researching the materials that we use for the wrist, understanding the bio-compatibility of the materials we use, and coming up with new implant designs that are technically easier to use so that more surgeons can learn to apply this technology safely. Right now, the total wrist arthroplasty procedure is performed by selected surgeons who have a lot of experience. And you have to have a lot of experience with the current designs in order to be good enough to do it with safety and with some predictability in outcomes. But with new techniques and new implant designs, I would hope that this procedure can have a much broader application for a wider segment of the population.

**Dr. Gupta:** Randy, how do you think we'll get better acceptance of this procedure by hand and orthopedic surgeons?

**Dr. Bindra:** I think the first issue right now is training. I have done two hand fellowships on either side of the Atlantic and in both those hand fellowships I did not do a single wrist arthroplasty. Most people training to be hand surgeons may not see or assist a wrist arthroplasty. Once the procedure is adopted by more academic centers and more is written about the results, the procedure may become more widely accepted. That's going to be a major cultural change. I think there's a need for some prospective studies or even prospective data but some kind of longevity studies and clearer indications.

**Dr. Gupta:** Joy, do you want to add anything to that?

**Dr. MacDermid:** Well I think obviously there's improvements to be made in surgery, and I'm totally confident that surgeons will continue to improve the procedure. I think that the procedure will get better and better, but from a usage point of view, I think we need more data and especially more long-term data. Then, you can make more definitive clinical prediction rules about who needs one procedure versus the other. If you have very specific criteria about which people are going to benefit from which surgery, that increases confidence in surgeons who are starting out with the procedure about what group they should be targeting. We also know from arthroplasty and other surgical procedures that volume is a big predictor in terms of the outcome. It may be that not everyone wants to do this procedure. Maybe it should be localized with hand surgeons who do enough volume to get the better outcomes.

**Dr. Gupta:** Any more points anyone wants to make before we wrap up?

**Dr. Bindra:** I would be interested in hearing your points of view on the questions, Amit.

**Dr. Gupta:** I think my points of view are pretty similar to what you guys have talked about, and essentially I totally believe that we should preserve motion of joints and certainly of the wrist. With predictable designs and less bone resection, less fusions, less cement, I think our indications will increase and it will follow the same path that the hip and knee arthroplasties have followed. We don't fuse hips and knees anymore so I think gradually we're moving away from fusing wrists and giving our patients more arthroplasties. And certainly there's patient demand for movement. I've noticed that patients are not willing to accept wrist fusion as they want to preserve motion.

I agree with Joy that once we have long-term results, then people will be able to accept this procedure more. Certainly it's a new procedure and surgeons are sitting on the sidelines to see how these patients are doing. So we need long-term functional results.

Thank you very much, everyone, for joining us. 



## XI<sup>th</sup> TRIENNIAL CONGRESS OF IFSSH SEOUL, KOREA

October 31 – November 4, 2010

Reserve your time NOW for the XI<sup>th</sup> Triennial Congress of IFSSH to be held in Seoul, Korea from October 31 through November 4, 2010.

The science will be top notch, the tour/social events will be fabulous, and the memory will be engraved in the hearts of you and those whom you bring along.

FOR MORE INFORMATION, PLEASE CONTACT

Jaiyoung Ryu at [ifssh2010@gmail.com](mailto:ifssh2010@gmail.com) or [www.ifssh2010.com](http://www.ifssh2010.com)

Hand  
Surgery  
Quarterly

.....  
Autumn  
2009

16

# Joint Replacement (and Arthrodesis) in the Hand and Wrist

The topic for this edition of *Hand Surgery Quarterly* is joint replacement in the hand and wrist. There are a total of nine codes that relate to arthroplasty in the wrist and four codes that specify an arthroplasty procedure in the hand. I have also reviewed the codes for arthrodesis in the hand and wrist, since these procedures are often competing options for joint replacement.

Of the nine arthroplasty codes relevant to the wrist area, two of them deal with “interpositional” arthroplasty procedures which are not really the focus of this edition of the *Hand Surgery Quarterly*. Nonetheless, I have included these two codes in the table below for the sake of completeness. Code 25332 describes interpositional arthroplasty when performed at the level of the wrist joint, and code 25447 is the familiar code used to describe a CMC resection arthroplasty. When using the primary descriptor for interpositional arthroplasty, it is often appropriate to use additional codes to describe the work performed in obtaining fascia for the arthroplasty or using a tendon transfer.

There are six codes that describe a prosthetic arthroplasty at the level of the wrist. Codes 25441, 25442, 25443, 25444, 25445, and 25446 all correspond to joint replacement at the level of wrist depending upon which surface is replaced: distal radius, distal ulna, scaphoid, lunate, trapezium, or total wrist (distal radius and part or all of the carpus), respectively. Code 25449 is used to describe revision of a wrist level arthroplasty and includes the work performed in removing implants.

There are four codes that relate to arthroplasty at the finger level. Codes 26530 and 26535 describe either metacarpophalangeal or interphalangeal

joint arthroplasty, respectively, without use of a prosthetic implant (i.e. soft tissue interposition). Codes 26531 and 26536 are used to describe implantation of a prosthesis to replace the joint at either the metacarpophalangeal or interphalangeal joint level.

The arthrodesis code family for the hand includes eleven items. Fusing the thumb “in opposition,” which ostensibly would include fusing both the thumb CMC and MCP joints, is coded with 26820 (which includes obtaining autograft). Fusing the thumb CMC joint alone is coded with 26841; code 26842 is appropriate if autograft is used. Fusion of a CMC joint that is not the thumb is coded with 26843; again, if autograft is used, a different code (26844) is appropriate.

Arthrodesis of an MCP joint is coded with 26850; if autograft is used 26852 is the correct code. Fusion of an interphalangeal joint, either PIP or DIP, is coded with 26860. If autograft is used, the code becomes 26862. If several interphalangeal joints are fused, each additional joint (after the first one) is coded with 26861; if autograft is used for each subsequent joint, then 26863 is appropriate.

A total wrist fusion corresponds to code 25800; with local sliding graft, the code becomes 25805, and if iliac or other autograft is used, then the correct code is 25810. A limited wrist fusion without bone graft is coded with 25820. If autograft is used for a limited wrist fusion, the appropriate code becomes 25825. The Sauve-Kapandji procedure, which involves fusion of the distal radioulnar joint (with or without bone graft) is coded with 25830.

*continued on page 18*



LEON S. BENSON, MD

Wrist Arthroplasty	
25332	Arthroplasty, wrist, with or without interposition, with or without external or internal fixation
25441	Arthroplasty with prosthetic replacement; distal radius
25442	Arthroplasty with prosthetic replacement; distal ulna
25443	Arthroplasty with prosthetic replacement; scaphoid (carpal navicular)
25444	Arthroplasty with prosthetic replacement; lunate
25445	Arthroplasty with prosthetic replacement; trapezium
25446	Arthroplasty with prosthetic replacement; distal radius and partial or entire carpus (total wrist)
25447	Arthroplasty, interposition, intercarpal or carpometacarpal joints
25449	Revision of arthroplasty, including removal of implant; wrist joint

Hand Arthroplasty	
26530	Arthroplasty, metacarpophalangeal joint; each joint
26531	Arthroplasty, metacarpophalangeal joint; with prosthetic implant, each joint
26535	Arthroplasty, metacarpophalangeal joint; each joint
26536	Arthroplasty, metacarpophalangeal joint; with prosthetic implant, each joint

## CODING CORNER

continued from page 17

### You Code It

A 55 year old woman with psoriatic arthritis presents with pain and limited motion of the index, middle, and ring finger PIP joints. Radiographs show advanced arthritic changes and she elects to pursue PIP fusion in these three digits. No additional bone graft is needed.

**Solution:** Code 26860  
26861  
26861

Note that the modifier -51 is not needed for certain "add-on" codes, such as the 26861 or 26863 codes, which specify that they are to be used for "each additional" finger joint that is being fused.

A 72-year-old man with osteoarthritis undergoes a total wrist arthroplasty using an unconstrained device that resurfaces both the distal radius as well as the proximal carpal row.

**Solution:** Code 25446

**H**

Arthrodeses in the Hand and Wrist	
26820	Fusion in opposition, thumb, with autogenous graft (includes obtaining graft)
26841	Arthrodesis, carpometacarpal joint, thumb, with or without internal fixation
26842	Arthrodesis, carpometacarpal joint, thumb, with or without internal fixation; with autograft (includes obtaining graft)
26843	Arthrodesis, carpometacarpal joint, digit, other than thumb, each
26844	Arthrodesis, carpometacarpal joint, digit, other than thumb, each; with autograft (includes obtaining graft)
26850	Arthrodesis, metacarpophalangeal joint, with or without internal fixation
26852	Arthrodesis, metacarpophalangeal joint, with or without internal fixation; with autograft (includes obtaining graft)
26860	Arthrodesis, interphalangeal joint, with or without internal fixation
26861	Arthrodesis, each additional interphalangeal joint, with or without internal fixation (list separately in addition to code for primary procedure)
26862	Arthrodesis, interphalangeal joint, with or without internal fixation; with autograft (includes obtaining graft)
26863	Arthrodesis, interphalangeal joint, with or without internal fixation; with autograft (includes obtaining graft), each additional joint (list separately in addition to code for primary procedure)
25800	Arthrodesis, wrist, complete, without bone graft (includes radiocarpal and/or intercarpal and/or carpometacarpal joints)
25805	Arthrodesis, wrist, complete, without bone graft (includes radiocarpal and/or intercarpal and/or carpometacarpal joints); with sliding graft
25810	Arthrodesis, wrist, complete, without bone graft (includes radiocarpal and/or intercarpal and/or carpometacarpal joints); with iliac or autograft (includes obtaining graft)
25820	Arthrodesis, wrist; limited, without bone graft
25825	Arthrodesis, wrist; limited, with autograft (includes obtaining graft)
25830	Arthrodesis, distal radioulnar joint with segmental resection of ulna, with or without bone graft (e.g. Sauve-Kapandji procedure)

## AAHS NEW MEMBERS JULY 2009

### Active Members

Donald Joe Campbell, MD  
Gainesville, GA

Nitin Jagdish Engineer, MD  
Henderson, NV

Aaron G. Grand, MD  
Wexford, PA

Andrew W. Gurman, MD  
Altoona, PA

David T. Gwyn, MD  
Wichita, KS

Steven Carl Haase, MD, FACS  
Ann Arbor, MI

Kirk Alan Kaiser, MD  
Reno, NV

Srdjan Andrei Ostric, MD  
Chicago, IL

Wren V. McCallister, MD  
Edmonds, WA

Todd K. Runyan, MD  
Yuma, AZ

Jaswin Singh Sawhney, MD, FACS  
Red Wing, MN

Scott Michael Schulze, MD  
Lewes, DE

Andrew Alan Stoebner, MD  
Round Rock, TX

### Affiliate Members

Justin M. Brown, MD  
St. Louis, MO

Kristin Anne Valdes, OTD, OTR, CHT  
Venice, FL

### International Members

Carlos Henrique Fernandes, MD  
Sao Paulo, Brazil

### Candidate Applicants

Duncan B. Ackerman, MD  
Rochester, MN

Julie Elizabeth Adams, MD  
Minneapolis, MN

Jason Miller Anane-Sefah, MD  
Rochester, MN

H. Francis Farhadi, MD  
St. Louis, MO

Irfan I. Galaria, MD, MBA  
Salt Lake City, UT

Luis Alfredo Laurentin-Perez, MD, PhD  
Tampa, FL

Patrick Thomas McCulloch, MD  
Washington, PA

Jeffrey R. Scott, MD  
Seattle, WA

Hand  
Surgery  
Quarterly

.....

Autumn  
2009

18

# AAHS Mentoring Program Volunteers

Below is a list of AAHS members who have generously offered to teach their expertise in specific areas, letting our members continue to learn the way we were

taught, as residents and fellows, in the clinic and operating room with a surgical mentor. For more information, please contact the AAHS Central Office. **H**

NAME	EMAIL	PROCEDURE(S)
R. D. Beckenbaugh, MD	beckenbaugh.robert@mayo.edu	Technique of pyrocarbon arthroplasty of the thumb carpometacarpal; and metacarpophalangeal and PIP joints of the digits
Richard Berger, MD, PhD	berger.richard@mayo.edu	Wrist surgery
Kyle Bickel, MD	kbickel@sfland.com	Vascularized bone graft reconstruction for carpal pathology; complex fracture management in the hand and wrist; and arthroscopic wrist ganglion excision
Allen Bishop, MD	bishop.allen@mayo.edu	Brachial plexus reconstruction; carpal vascularized bone grafts; and microvascular free tissue transfers
James Chang, MD	changhand@aol.com	Dupuytren's Contracture; thumb reconstruction; flexor tendon surgery; trapezial excision arthroplasty; and medial epicondylectomy
Kevin Chung, MD	kechung@med.umich.edu	Rheumatoid and congenital
Tyson Cobb, MD	tycobb@mchsi.com	Endoscopic Cubital Tunnel Release
E. Gene Deune, MD	egdeune@jhmi.edu	Congenital hand anomalies; upper and lower extremity reconstruction for deficits due to trauma; cancer resection; and neurological disorders (i.e. brachial plexus)
Scott H. Kozin, MD	SKOZIN@shrinenet.org	Pediatrics
Don Lalonde, MD	drdonlalonde@nb.aibn.com	Wide awake approach to hand surgery
W. P. Andrew Lee, MD	leewp@upmc.edu	Post traumatic hand reconstruction; mini incision carpal tunnel release
Susan Mackinnon, MD	mackinnons@wustl.edu	Ulnar nerve surgery
Nash Naam, MD	drnaam@handdocs.com	SLAC wrist reconstruction; vascularized bone graft in treating scaphoid nonunions; ulnar shortening & radial shortening; PIP & MP joint arthroplasty; LRTI; arthroscopy of the CMC joint of the thumb
Daniel J. Nagle, MD	OOGIEN@aol.com	Wrist arthroscopy; endoscopic carpal tunnel release
Michael Neumeister, MD	mneumeister@siumed.edu	Basilar joint arthroplasty; peripheral nerve decompression
Jorge Orbay, MD	jlorbay@aol.com	Wrist fractures
A. Lee Osterman, MD	loster51@bellatlantic.net	Advanced wrist arthroscopy and small joint arthroscopy. Can also mentor a topic such as DRUJ problems, or wrist fracture.
Julian J. Pribaz, MD	jpribaz@partners.org	Soft tissue reconstruction; microsurgical reconstruction; spare parts surgery and extremity reconstruction
Michael Raab, MD	mikeraab1@earthlink.net	Corrective osteotomy (volar or dorsal) of distal radius malunion with iliac crest bone grafting
Jaiyoung Ryu	jryu@adelphia.net	Wrist reconstruction; distal radius fracture; and scaphoid fracture/nonunion
David Slutsky, MD	d-slutsky@msn.com	Use of volar wrist portals for wrist arthroscopy and arthroscopic repair of dorsal radiocarpal ligament tears; nonbridging external fixation of intra-articular distal radius fractures; nerve conduction studies for hand surgeons; and comparison of NCS and PSSD for the diagnosis of CTS
William Swartz, MD	william.swartz@verizon.net	Tendon transfer and ulnar nerve
Thomas Tung, MD	tungt@wustl.edu	Brachial plexus and nerve transfers
Joseph Upton, MD	jupton3@earthlink.net	Congenital hand surgery
Elvin Zook, MD	ezook@siumed.edu	Fingertip reconstruction

## AAHS 2009 COMPREHENSIVE HAND SURGERY REVIEW COURSE

### Tendonopathies and Dupuytren's Contracture

*Jennifer M. Wolf, MD*

### Compressive Neuropathies & CRPS

*Robert Spinner, MD*

### Thumb Basal Joint Arthritis and Inflammatory Arthritis

*Marco Rizzo, MD*

### Distal Radius Fractures

*David Dennison, MD*

### Distal Radioulnar Joint

*Brian Adams, MD*

### Scaphoid Fractures and Non-Unions, Kienbocks Disease

*Alexander Y. Shin, MD*

### Carpal Instability, Wrist Arthritis

*Steven L. Moran, MD*

### Fractures of the Metacarpals and Phalanges

*Brian Carlsen, MD*

### Flexor & Extensor Tendon Injuries

*Jeffery Friedrich, MD*

### Infections of the Hand

*Kevin D. Plancher, MD, MS, FACS, FAAOS*

### Congenital Hand Differences

*Steven L. Moran, MD*

### Tumors of the Hand and Wrist

*Carol Morris, MD*

### Soft Tissue Coverage in the Hands

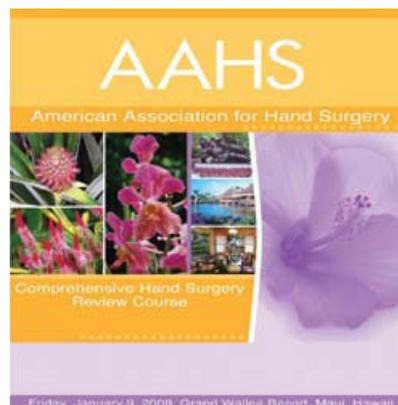
*William C. Pederson, MD*

### Tendon Transfers for the Hand

*Doug Sammer, MD*

### Vascular Disorders of the Hand/Replantation

*Peter M. Murray, MD*



## A must-have resource.

Purchase this special limited edition DVD and put the entire 2009 Comprehensive Hand Surgery Review Course at your fingertips. This invaluable resource includes faculty presentations of 15 topics covered on board examinations, the hand surgery certification examination and resident in-training examinations. Recorded during the AAHS 2009 Annual Meeting, it's a resource you'll turn to over and over again.

**\$175 per copy, includes shipping.**

*\*This DVD will operate only in a computer's DVD drive.*

To place an order, fill out the form below and mail it with a check payable to American Association for Hand Surgery to the following address –

American Association for Hand Surgery  
444 East Algonquin Road  
Arlington Heights, IL 60005

*Quantities are limited.*

*For additional information, please contact the AAHS Central Office at 847-228-9276.*

Deliver to	Suffix	
Company or Organization		
Address	Apt. or Suite	
City	State	Zip
Email Address	Daytime Phone	

[www.handsurgery.org](http://www.handsurgery.org)

Hand Surgery Quarterly

.....  
Autumn 2009

20