Inclusivity is the Core of AAHS

A. Lee Osterman, MD, FACS

I am deeply honored to serve as President of AAHS for this year. AAHS has been part of my life for the last twenty years and has been a lasting source of education, camaraderie, and good times.

The last two years have seen a reinvigoration of the society and my goal is to build upon that success. Under Scott Kozin, we navigated a sea change for central office management, becoming part of SAMS under the umbrella of the ASPS. This reaffirms our relationship to plastic surgery as well as opens up grant opportunities through the Plastic Surgery Research Council.

Kris Haskin now serves as our executive director. She has worked diligently on the myriad of projects that an active society requires.

Last year, Nick Vedder made unity and collaboration with other organizations a reality. More than ever, AAHS and ASSH are collaborating to promote the priorities of hand surgery. Annual presidential line meetings, a shared specialty day at the annual AAOS meeting, and dual representation on the Board of Specialties and at the AMA are tangible examples. Hand therapists continue to be integral to our organization serving as voting board members and liaisons to ASHT. Our longstanding relationship with ASRM and ASPN continues to thrive. In a medical climate which is uncertain, this unity of our hand and subspecialty organizations under the auspices of AAOS, ASPS, and AMA enhances our shared mission.

Other important developments saw the renewal of HAND as our official journal and as a member benefit. Mike Neumeister has assumed the editorship from Elvin Zook and will continue the dynamic

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growth of the journal which is already indexed and available to our members on line.

AAHS has long been a leader in hand surgery volunteerism. We continue to sponsor the Vargas award, which supports a hand therapy educational mission, physician participation at the hand clinic on the Navajo reservation in Chinle, Arizona, and the global educational effort in developing countries spearheaded by Nash Naam. The enthusiastic response to the timely presentation on Haiti by the Partners in Health at the Combined Specialty Day in Boca emphasized how many of our members dedicate their time to such efforts. When the earthquake disaster happened, many of our members were directly involved in the relief effort.

The Hand Surgery Endowment has been instrumental in funding these volunteer programs as well as other educational efforts. Steve McCabe (President-Elect) is leading a task force to address the ongoing mission of the HSE.

AAHS has adopted a new logo designed by one of our members, Miguel Cruz. It visually depicts our commitment to hand health around the globe.

In other news, Keith Brandt and the technology committee are upgrading our website www.handsurgery.org to make it more user friendly and attractive not only to members but to the general public. It provides member access to HAND and the newsletter and to upcoming meetings.

A core value of AAHS is its inclusivity. The society is open to all who are interested in hand care: to surgeons, regardless of specialty, fellowship training, or CAQ; to therapists, with or without a CHT. To further that goal, the membership application process has been simplified. It requires only the endorsement of an AAHS member and can be totally completed online. So phone some friends and introduce them to the benefits of AAHS membership.

Other initiatives include a member’s communication task group led by Charlie Eaton and Sue Michlovitz to define how AAHS can best serve its members with creative technology. Art Mirza is guiding a task force to optimize our relationships with commercial entities.

The 2011 annual meeting is in Cancun, Mexico from January 12-15 and is again in conjunction with ASRM and ASPN. The weather is guaranteed to be as warm as the hospitality. Jesse Jupiter (our vice president) is the program chair along with Mark Rekant and Sue Michlovitz. They have outdone themselves in orchestrating an educational extravaganza. The Danyo Lectureship Speaker is Professor John Stanley of Wrightington, England; and the Combined Specialty Day speaker is the American television journalist Bob Woodruff. After such intellectual stimulation, there will still be time to share a margarita, swim a lap, par the 8th hole, and climb a Mayan ruin. So lock the dates in your calendar!!!

A theme of my presidency is collegiality. When I think about why I joined AAHS and what it has meant to me, it comes down to friendships. Friendships made over educational discussions and shared leisure activities. Friends who share a passion for hand surgery, respect each other’s ability, and work together for a common purpose. So as your colleague and friend, my door is always open. Let me know if there is a way that AAHS can better serve you. See you in Cancun.

The American Association for Hand Surgery would like to thank the following sponsors:

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As you have probably noticed the AMA has made some major changes in the evaluation of permanent impairment. So far I have buried my head in the sand and continued to use the Fifth Edition although I don’t think this will be an effective coping strategy over the long term. The overarching change in the evaluation of permanent impairment is the shift to the ICF model, The International Classification of Functioning, Disability and Health. This is outlined in the first chapter of the Sixth Edition, “Conceptual Foundations and Philosophy”.

This chapter is important reading for any person who is calculating permanent impairment ratings for patients. To quote from this chapter.

“In this edition there is a paradigm shift, which adopts a contemporary model of disable-ment: it is simplified, functionally based, and internally consistent to the fullest extent possible.”

“The vision...is articulated in terms of five specific new axioms.”

1) The terminology and conceptual framework of the ICF are adopted.
2) diagnosis and evidence based where possible
3) simplicity and ease of application
4) functionally based
5) conceptual and methodological congruity between and within organ systems

The upper extremities are covered in Chapter 15 of the Sixth edition. For all surgeons measuring the permanent impairment rating it will be required to read the entire chapter from start to finish at least at the initiation of your use of the guides. Briefly the diagnosis is identified and a class of impairment is chosen based on the problems faced by the patient. Then grade modifiers are then applied and are based on the functional history, physical examination, and clinical studies. For some problems the range of motion can be used instead of this system.

On review, and for a concrete thinker, I find the new scheme to be complicated and more difficult to understand for hand problems. I have purchased a book from the AMA, “Transition to the AMA Guides Sixth” to get a handle on this new method. Working through the guide to the Guides, I was able to follow the examples and make some sense out of the ratings that followed.

Happily the impairment measurement method for digital nerve injuries and amputations has remained essentially the same as previous versions and we see the old familial diagrams in the new edition. Thank you. Thank you. A Rosetta Stone for Hand Surgeons.

These have made me see things in an entirely new light. Adding the possibility of rating many conditions using ROM to the unchanged measures of digital nerve injuries and amputations gives me enough familiarity so that I have strange optimism that the Sixth edition will catch on and will be adopted by Hand Surgeons.

I suggest we take a deep breath, read over the Transition book, and the entire upper extremity chapter from the new Guides. Don’t make a snap judgment but come back to it a couple of times and try to go with the flow. Be calm and don’t try to use the new Guides cold turkey in the heat of the battle. Ease into it and I am sure it will eventually fit like a pair of old gloves. You might even enjoy this recent advance in measurement.
Non-surgical treatment for Dupuytren’s contracture

As we all are aware there has been interest in the non-surgical treatment of Dupuytren’s contracture. Xiaflex is now approved and Auxilium is starting to provide training for its use. I have asked for a few factual points about Xiaflex for the interested reader. These have been provided by Auxilium for your information.

—Steve McCabe

XIAFLEX (collagenase clostridium histolyticum) is the only FDA-approved, nonsurgical option, indicated for the treatment of adult patients with Dupuytren’s contracture with a palpable cord.

XIAFLEX is only available through a managed distribution program called XIAFLEX Xperience. This program was developed as part of Auxilium’s commitment to patient safety. Healthcare providers interested in administering XIAFLEX are required to view the XIAFLEX training video and enroll in the program. More information is available on www.XIAFLEX.com or by calling 1-877-XIAFLEX (1-877-942-3539)

XIAFLEX was studied in two prospective, randomized, double-blind, placebo controlled trials, the first at 16 sites in the United States (Cord I) and the second at 5 sites in Australia (Cord II). (CORD = Collagenase Option for the Reduction of Dupuytren’s)

The treatment protocol consisted of injecting 0.58 mg Xiaflex into a palpable Dupuytren’s cord on day 1, and if needed, performing a finger extension procedure on day 2 to disrupt the cord if the contracture persists. Clinical outcomes were evaluated on day 30. Injections and finger extension procedures may be administered up to 3 times per cord at approximately 4-week intervals.

- Cord I primary endpoint: the reduction in contracture to 0-5 degrees of normal 30 days after the last injection was 64% for XIAFLEX vs. 7% for placebo (95% CI 47%, 67%)
- Cord I: secondary endpoint results:
  - Primary joint MP 0-5 degrees: 77%
  - Primary joint PIP 0-5 degrees: 40%
  - Mean increase in range of motion (MP + PIP)
    - 36° versus 4° placebo
- Cord II primary endpoint: the reduction in contracture to 0-5 degrees of normal 30 days after

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the last injection was 44% for XIAFLEX and 5.0% for placebo (95% CI = 14%, 62%).

Cord I: secondary endpoint results:

- Primary joint MP 0-5 degrees: 65.0%
- Primary joint PIP 0-5 degrees: 40.0%
- Mean increase in range of motion (MP + PIP)
- 35° versus 8° placebo
- The most common adverse reaction reported in > 25% of patients treated with XIAFLEX and at an incidence greater than placebo were edema peripheral (e.g., swelling of the injected hand), contusion, injection site reaction, injection site hemorrhage, and pain in the injected extremity.

In the controlled and uncontrolled portions of the clinical trials, flexor tendon ruptures occurred after XIAFLEX injection. Injection of XIAFLEX into collagen-containing structures such as tendons or ligaments of the hand may result in damage to those structures and possible permanent injury such as tendon rupture or ligament damage. Therefore, XIAFLEX should be injected only into the collagen cord with a MP or PIP joint contracture, and care should be taken to avoid injecting into tendons, nerves, blood vessels, or other collagen-containing structures of the hand. Out of 1082 patients who received 0.58 mg of XIAFLEX in the controlled and uncontrolled portions of the XIAFLEX studies (2630 XIAFLEX injections), 3 (0.3%) patients had a flexor tendon rupture of the treated finger within 7 days of the injection.
The AAHS Board of Directors and the 2010 Annual Meeting Program Committee would like to thank the following companies for their support and participation:

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- Synovis Surgical Innovations
2010 AAHS Research Grant Awards

FIRST PLACE
“Tissue Engineered Skin for Upper Extremity Wounds”
Principle Investigator: Natasha Luckey, MD
Co-Investigators: Christopher Chambers, PhD and Michael W. Neumeister, MD
Southern Illinois University School of Medicine, Division of Plastic Surgery Springfield, IL

SECOND PLACE
“Effects of Graft Variation in Peripheral Nerve Regeneration in the Long Gap Model”
Principle Investigator: Michael C. Nicoson, MD
Co-Investigators: Philip J. Johnson, PhD and Susan E. Mackinnon, MD
Washington University School of Medicine, Division of Plastic & Reconstructive Surgery St. Louis, MO

THIRD PLACE
“The Effects of Fibris Glue on Peripheral Nerve Regeneration”
Principle Investigator: Gregory Rafijah, MD
Co-Investigator: Ryan Vitali, MD
University of California - Irvine, Peripheral Nerve Research Lab Irvine, CA

Vargas International Hand Therapy Teaching Award Recipient
Paula Galaviz, OT

L to R: 2010 Specialty Day Chair Gretchen Kaiser OTD, MBA, OTR/L, CHT, 2010 Program Chair Kevin Chung MD, and Outgoing AAHS President Nick Vedder MD.

ASPS President Dr. Michael McGuire (at left) addresses attendees at the Awards Dinner Dance.

Attendees at the AAHS Awards Dinner Dance
HIGHLIGHTS FROM THE 2010 ANNUAL MEETING

Dr. Vedder and Jeffrey Friedrich, MD

Joseph Danyo, MD with Danyo Lecturer Richard Berger, MD and Outgoing AAHS President Nick Vedder, MD

Dr. and Mrs. Nash Naam at the Presidential Dinner

Presidential Dinner on Friday night

The 2009-2010 AAHS Board
Rehab for Wrist Injuries: A Brief Literature Update

Sue Michlovitz, PT, PhD, CHT
Sr. Affiliate Director

Patients who have difficulty recovering following wrist injury have consequences including: persistent instability and weakness; pain during activity, often involving weight bearing and torque; and joint stiffness that can lead to loss of functional range of motion. The therapist should be attuned to findings from research that may assist in promoting functional recovery in patient populations with wrist injury. Information that can assist the therapist can include knowledge of practice trends, assessment techniques and treatment strategies. Selected recent articles are listed for the interested reader. Any of these articles would serve for interesting discussions in your practice’s journal club or in-service education.

Practice Patterns

Patient-rated assessment questionnaires:
McMillan C, Binnhamer P. Which Outcome Measure is the Best? Evaluating Responsiveness of the Disabilities of the Arm, Shoulder, and Hand Questionnaire, the Michigan Hand Questionnaire and the Patient-Specific Functional Scale Following Hand and Wrist Surgery, Hand 2009;4 (3)

Intervention strategies:
(A summary of her research and clinical applications)

(Using low load prolonged stress to improve motion following joint contracture is not news to any of us. But well designed clinical studies to examine the effectiveness of orthotic are not abundant. This Level 3 study adds to our knowledge base)

2010 Vargas Award Recipient Paula Galaviz, OT (center) with Lynn Bassini, PT, and Scott Kozin, MD
Complications After Wrist Surgery

The topic for this issue’s Coding Corner is “Complications After Wrist Surgery.” This is a rather broad topic so this column will look at three groups of codes related to complicated wrist pathology: those that apply to wrist arthroscopy, salvage procedures, and recurrent nerve compression.

The relevant code family for wrist arthroscopy is from 29840 through 29847, summarized in the table below. Code 29840 refers to just a diagnostic wrist arthroscopy; surgical lavage for infection corresponds to 29843. A partial synovectomy is coded with 29844, whereas complete synovectomy corresponds to 29845. Arthroscopy, wrist, surgical; excision and/or repair of triangular fibrocartilage and/or joint debridement is coded with 29846. Treatment of the triangular fibrocartilage is coded with 29846, and arthroscopic treatment of a fracture with internal fixation is coded with 29847.

There is no specific code for arthroscopic treatment of a distal radius fracture, although some insurers may reimburse both for use of the appropriate distal radius fracture code as well as a suitable arthroscopy code. The code 25320 corresponds to a capsulorrhaphy or reconstruction, wrist, open (eg. Capsulodesis, ligament repair, tendon transfer or graft) (includes synovectomy, capsulotomy and open reduction for carpal instability).

Fusion of the distal radioulnar joint (i.e. Sauve-Kapandji procedure) would be coded with 25830 if autograft is used). Fusion of the distal radioulnar joint (i.e. Sauve-Kapandji procedure) would be coded with 25830.

There is no specific code that corresponds to a repeat (or exploration for “recurrent” carpal tunnel syndrome), so the primary code that would be used is the one that describes opening of the carpal tunnel. This would be 64721 for an open approach and 29848 for an endoscopic approach.

Some salvage procedures may also come into play for treating ulnar sided wrist pain. A limited fusion of the wrist, such as a four corner fusion, would be coded with 25280 (or 25825 if autograft is used). Fusion of the distal radioulnar joint (i.e. Sauve-Kapandji procedure) would be coded with 25830.

Use of a modifier may be helpful to indicate the additional complexity of operating through scar tissue. The modifier -22 might seem appropriate, although insurers are sensitive to its overuse and typically require an additional letter of explanation that explains why this modifier applies. The modifier -60 might be better; it refers to operating through “an altered surgical field” as was created in 2001 to address the increased complexity or time required to perform surgery in revision cases that involve additional scar from previous surgery, infection, radiation, or distorted anatomy for any other reason. It is not completely clear which modifier, -22 or -60, will reimburse better, and you may have to track your particular reimbursement data to know which one is more appropriate for an intra-carpal shortening, would be coded with 25394.

The code 25320 corresponds to a capsulorrhaphy or reconstruction of the wrist. Performing a wrist arthroplasty with interpositional material is code with 25332. Code 25337 is used for reconstruction or stabilization of an unstable distal ulna using a soft tissue procedure. Shortening the distal ulna would correspond to code 25390, whereas
Coding Corner

continued from page 10

your particular payor mix.

Other procedures that might apply to the scenario of recurrent CTS include use of the operating microscope to perform an internal neurolysis. This corresponding code is 64727 and this is reported separately to the primary code for the carpal tunnel release. The code 64727 takes into account use of the microscope, and it is not appropriate to add 69990 to this code.

Performing a flexor tenosynovectomy may also be a consideration in re-exploring the carpal tunnel, and the corresponding code is 25115. Use of a hypothenar fat pad flap to cover the nerve after exploration would correspond to a code for adjacent tissue transfer; an appropriate code would be 14040, which describes adjacent tissue transfer or rearrangement for the hands for a defect of 10 square centimeters or less.

### Recurrent Carpal Tunnel Syndrome

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>64721</td>
<td>Neurolysis, median nerve at the carpal tunnel</td>
</tr>
<tr>
<td>29848</td>
<td>Neurolysis, endoscopic approach, median nerve at the carpal tunnel</td>
</tr>
<tr>
<td>64727</td>
<td>Internal neurolysis, requiring use of the operating microscope (includes external neurolysis)</td>
</tr>
<tr>
<td>25115</td>
<td>Radical excision of bursa, synovia of wrist, or forearm tendon sheaths; flexors</td>
</tr>
<tr>
<td>14040</td>
<td>Adjacent tissue transfer or rearrangement, forehead, cheeks, chin, mouth, neck, axillae, genitalia, hands, and/or feet; defect 10 sq. cm. or less</td>
</tr>
</tbody>
</table>

### Hand Therapy Profile

**Ann Lund, OTR/L, CHT, CLT**

**Personal:** I grew up in Green Bay, Wisconsin, now living in Rochester, Minnesota, for 26 years. My husband’s name is Rahn, who works in finance, and I have one son Alex (19), who’s a freshman at the University of St. Thomas in St. Paul.

**Education:** BS in Occupational Therapy from the University of Wisconsin-Madison in 1983. I became a CHT in 1997.

**Employer:** Full time OT at Mayo Clinic for the last 25 years. Presently I work in the areas of hand, lymphedema, liver and kidney transplant, and oncology.

**AAHS Involvement:** I have had the opportunity to speak at several of the AAHS meetings, and am a present member.

**Best Part of My Job:** I get to see a wide variety of patients every day, and despite the diversity of their diagnoses, it never ceases to amaze me how so many of them have hand issues. I guess once a hand therapist, always a hand therapist. Working at Mayo has given me the opportunity to get exposure and experience in many treatment areas. It is one place where you can truly change jobs while still staying in the profession and not have to move your 401K. Lastly, the therapists and surgeons I work with are supportive, innovative, hardworking and humble, and make me laugh a lot. I really could not ask for a better job.

**Major Accomplishments:** I am probably most proud of and recognized for the work I have done in the area of small joint arthroplasty. I am also treasurer of the Minnesota Occupational Therapy Association, an experience that has brought a wealth of perspective, knowledge and friendships to my world.

**Clinical Specialties:** Wound care, splinting, orthotics, arthroplasties, breast cancer, and all aspects of lymphedema treatment.

**Greatest Professional Challenge:** Definitely the ever evolving world of continuing education! I serve on the PM&R Continuing Education Committee at Mayo. Economic, physical distance and time restraints dictate the need for more online learning, but I feel you simply cannot compare learning solely on your own to what you gain personally and professionally when you attend a conference. The experience is far richer and more meaningful when you are there in person. The challenge is to find ways to make that forum of learning accessible to all.

**Three Words That Describe Me:** Work in progress.
Junior Director at Large

Don Lalonde, MD

Dr. Don Lalonde got his BSc Hons (Life Sciences/Physiology) and MD at Queen’s University in Kingston, Ontario. He then received his MSc (Experimental Surgery) and FRCSC at McGill in Montreal from where he moved to Saint John, Canada, where he has been in practice for 25 years.

Don is past president of the Canadian Society of Plastic Surgeons and past chief examiner in Plastic Surgery for the RCPSC (Royal College of Physicians and Surgeons of Canada). He is in his 6th year as Chair of the RCPSC Plastic Surgery Specialty Committee (Canadian equivalent to chair of ABPS and RRC combined). He has examined for the ABPS for years, and is currently vice chair of the ABPS. Don is a section editor for Continuing Medical Education and Maintenance of Certification for the journal Plastic and Reconstructive Surgery.

Don Lalonde’s main area of research and publication is the field of Wide Awake Hand Surgery, which is hand surgery performed without tourniquet, without sedation, and without general anesthesia. This approach is now applicable to 95% of all hand surgery, and has many advantages over conventional tourniquet/sedation hand surgery. Don has published and presented widely on how wide awake hand surgery has significant advantages to both surgeons and patients over conventional sedation based hand surgery in carpal tunnel, basal joint, flexor and extensor tendon repair, Dupuytren’s, tendon transfers, and ulnar cubital tunnel release. When explained properly to patients, they are very accepting of this technique. From the patient’s perspective, it simplifies hand surgery to the point where it is like going to the dentist. There are no extra visits to the hospital to see an anesthesiologist (with associated costs like babysitting, parking, etc), no unnecessary hospital admissions to deal with anesthesia related medical problems, and no nausea and vomiting. Their surgeon actually gets to talk to them through the whole operation and so they have a better understanding of their procedure and how to look after their hand after surgery. When administered properly by the surgeon, the local anesthesia is minimally painful. Patients prefer this approach once they understand it and when it is offered to them as an alternative.

Don has been on 23 volunteer surgery missions in 16 developing countries since 1996. Most of the work has centered on cleft lip/palate reconstruction and hand surgery. He has observed that in most of the developing world, a large percentage of patients cannot afford hand surgery: not because of the cost of the surgery, but because of the cost of hospital based anesthesia/sedation. By eliminating the anesthesia/sedation, Dr Lalonde feels that hand surgery can become affordable and available to those less fortunate countries. Once wide awake hand surgery is widely accepted and practiced in the United States as it currently is in Canada, developing countries will feel empowered to incorporate this affordable hand surgery for their patients.

Dr Lalonde is heavily involved in resident education at Dalhousie University at all levels, but particularly in the training of Plastic Surgery residents. He has been visiting professor in 9 Canadian and 11 American training programs.

Although he has lectured in several subjects in Plastic and Reconstructive Surgery, he mostly speaks about many subjects in hand surgery. In addition to talking about all of the operations affected by wide awake hand surgery, he is also very interested in promoting early protected movement for finger fractures using the same principles as early protected movement for flexor tendon repairs.

Don is particularly interested in the AAHS. He loves the fact that it is populated by large equal numbers of open minded sharing Plastic and Orthopaedic surgeons, as well as a terrific group of bright, active hand therapists. Dr Lalonde is chairman of the Hand Journal Management Committee of the AAHS. Along with the rest of the committee and the new editor of the Hand journal, Mike Neumeister, Don is committed to improving our AAHS budding gem, the Hand journal. As of last year, our only 4 year old Hand journal is already indexed on Pubmed. This is an amazing feat. The new 2010 Hand white cover reflects many improvements that will take place inside it. There will be hand surgery and hand therapy video, more review articles, more CME, and more therapy papers. We look forward to many surgery and therapy members of AAHS sharing your knowledge with the rest of us by contributing articles for all of us to learn by.

Don’s greatest treasure is his wife and soul mate, Jan, who works tirelessly with him as his nurse. Together, they run his practice, private OR, and research in Saint John. They live on the beautiful Kennebecasis River with their 5 rescue Labradors and 4 rescue cats.
Complications After Wrist Surgery

Complications following wrist surgery are an unfortunate part of what we have to deal with. Today we will discuss reporting complications, consent, tendon issues, radius fractures and fixation, scaphoid fracture non-unions, as well as chronic pain, stiffness and even personality types that may be prone to pain or prolonged recuperation. Moderating our round table discussion is Herb von Schroeder, MD, Associate Professor, University of Toronto, University Hand Program, Toronto, Ontario, Canada. Joining him are hand surgeon Thomas Wright, MD, Professor of Orthopaedics, University of Florida in Gainesville, Florida, and hand therapist Paul Brach, MS, PT, CHT, owner of The Hand Center of Pittsburgh, Pittsburgh, Pennsylvania.

Dr. von Schroeder: Tom, beginning with a general question: do you have mandatory reporting for complications at your facility?

Dr. Wright: The only mandatory reporting that we have is for infections. An exception is if you’re using a device under an IDE or something of that nature we have mandatory reporting.

Dr. von Schroeder: At our facility we have mandatory reporting and we present all of our cases at quarterly rounds. The cases are also used for instructional purposes for our residents, which is very helpful for them, as they are for us.

Paul, how do you communicate and manage patients that have, for example post-operative tendon issues?

Mr. Brach: It depends on the complication. For example, something unassuming as a PIP flexion contracture after a trigger finger release is not something that I would bring up to the physician right away. If the contracture persists, well then it would need to be mentioned. Serious complications such as hearing a “pop” while rehabbing a flex-or tendon post-op would not only bring a therapist to their knees, but it also better bring them over to the phone and call the doctor right away!

Dr. von Schroeder: Tom, you’ve eluded to special devices, do you typically inform patients of any new procedures or implants that you’re using?

Dr. Wright: Yes, I do. Actually if they’re under an investigational IDE they actually have to sign a permission packet. But assuming it’s an FDA approved device, and we’re using it in an unusual fashion, or even if its relatively new I usually let them know in a discussion about these various devices, this is new, we don’t have a whole lot of experience with it however we think it may be an improvement because of A, B, C and D. That’s usually how the discussion goes, very seldom does the patient have any problem with this discussion.

Dr. von Schroeder: Pre-operatively, we generally talk to patients about tendon injuries, and nerve and blood vessel injuries. Are there things that we should be discussing with our patients before surgery that tend to be left out sometimes, Tom?

Dr. Wright: The discussion needs to be somewhat efficient because of numbers, I do mention anesthetic risks only briefly, and I say you’ll discuss that with your anesthesiologist. I do briefly cover neuropathic pain or causalgia or whatever we want to call it today, but very briefly and other than that it’s pretty much the basic things. I’m sure there’s bizarre things that none of us could possibly cover unless you wanted to spend a week talking about complications to one patient.

Dr. von Schroeder: Do you get a nurse to help you, or provide a video, or refer patients to a website for further information regarding surgery or complications?

Dr. Wright: I do not. We do have a couple of handouts and we do have some videotape and I’d like to do a better job of this, it takes time but actually is a time saver. I do have a video, educational tapes that we’ve made on a few very common procedures because you get tired of hearing yourself talk about it. But they’re a little bit dated and I probably need to put some more energy into that.

Dr. von Schroeder: Paul, are there complications that you commonly see that you wished had been discussed prior to surgery?

Mr. Brach: My biggest concern is with the potential to develop a stiff hand or stiffness in other non-involved joints. I would certainly hope that any conversation prior to surgery would also include the importance of moving all un-involved joints after surgery.

continued on next page
Dr. von Schroeder: Tom, have you noticed an increased rate of tendon ruptures or adhesions associated with fixation devices such as newer plates used for radius fractures?

Dr. Wright: We don’t have much trouble with adhesions of the fingers. Now the FCR probably gets stuck a little bit and that probably happens in everybody if you’re approaching them volarily through the FCR sheath. But I’ve seen a few, and a couple egregious ones. One of them was referred to me who had a volar plating that left their fast guides on. It was a DVR plate, and so those little guides stick out and they will shred flexor tendons very rapidly. So that is one, but that was really the doctors fault, that somebody just wasn’t aware that you had to take the fast guides off. But I haven’t had a lot. You certainly can still get the dorsal tendons as well and I think people who try to get the screw as close to the dorsal cortex as possible in most cases may actually be penetrating it because of Listers tubercle sticking out there and you’re unaware. You can’t use flouroscopy very effectively because the Lister sticks out and you could actually be into the extensor tendons with your screw or peg and think you’re well in bone when you’re not. So I always try to cheat them a little short unless it’s some kind of bizarre dorsal shear fracture that you need a little more help with.

Dr. von Schroeder: Those are great points. Another issue, depending on plate design, can be prominence of the hardware at the radial styloid for which the only remedy is hardware removal. Paul, how quickly do you like to get people going after a routine ORIF of the radius?

Mr. Brach: For a routine ORIF, I would think 3-4 weeks before starting any wrist motion. However, it would be nice to see the individual sooner if the physician feels as though the patient may be at risk of developing post-op complications such as joint stiffness or to assist with any post-op edema that has not resolved.

Dr. von Schroeder: And Tom, you have a shoulder practice as well, any tricks to help prevent some of the shoulder stiffness that we see after wrist surgery?

Dr. Wright: Well I think it’s keeping it moving. It is actually relatively common, especially after distal radius fractures, and I think people focus on the wrist and they tend to… when you hurt you tend to keep everything midline and I think that’s a problem, and we don’t focus on the shoulder. Even the elbow sometimes, but the shoulder seems to be particularly problematic because everybody wants to hold their arm. And especially if they get any kind of nerve ding, any kind of median nerve symptoms or a complex regional pain syndrome, that’s another whole group that almost uniformly gets stiff shoulder. So I think preventative maintenance, getting them moving early. We usually move the wrist pretty early, usually about 10 days or so depending again on the construct, but mostly using volar fixed angle plating and that’s a pretty stable construct. We usually also get the elbow and shoulder to get moving right away. We have a therapist, we’re lucky enough to have a therapist in the recovery room and they actually see the family. This has worked out really well for us. At first I thought it was a waste but it isn’t. They go through a therapy session with the family and the patient, the patient’s sometimes a little sedated but the family isn’t. And they work on elevation, talk about wound if there’s any wound care issues and movement of everything. So we get them started at least with wrist fractures, with elevation and finger movement right away. If I go by and tell them it’s about a 20 second deal, but a therapist will actually spend 15/20 minutes going over it with them and it seems to me, I think it’s a pretty good investment in our part because they seem to be way ahead when they’re coming back at that first post operative visit.

Dr. von Schroeder: Paul, are you able to see your patients that soon after surgery?

Mr. Brach: No, the soonest I have seen patients is 2 days after surgery

Dr. von Schroeder: Tom, have you seen any problems or complications in using bone substitutes?

Dr. Wright: Yeah, the bone morphogenic proteins, I’ve had maybe 3 or 4 that I have used that get an enormous inflammatory reaction. That’s how they work in part, and I had one radius that go so big and red and swollen you swore it was an infection, actually I think I’ve had 2 now. I have heard of this problem. It looks identical to an infection, which is really a problem because it could be if you open them up and wash it out you just washed out probably $5000 worth of material on the floor. And sometimes I may have put them on antibiotics, but generally I have sat there and waited it out and it settles down and it’s worked out pretty well. I actually had one wound on a humerus actually break down and drain. It looked like an infection and we treated it locally with antibiotics, I didn’t go wash it all out and she laid down more bone than I’ve ever seen. It can create enormous inflammatory reaction, and trying to figure out whether it’s an infection versus that substitute is tough. The other substitutes that are not so biologically active I haven’t really had much trouble with.
**Dr. von Schroeder:** We use one dose of antibiotics prophylactically in virtually all wrist cases. Tom, do you routinely use antibiotics in some or all of your patients?

**Mr. Brach:** Trying to educate the patient to use their limb as much as possible. As therapists, we really need to drive home the importance of the home exercise program and the fact that if they are not compliant, they may not improve.

**Dr. von Schroeder:** Tom, beyond therapy for a chronic regional pain syndrome (CRPS) or causalgia, do you recommend blocks or anything else, any tricks or anything that’s new?

**Dr. Wright:** I don’t know about anything new. We use medication, I still have been using Elavil some, Neurontin, Lyrica, those type of medications, and the blocks. If I can find somebody who does a T1 block it seems to be those work a little better than the typical stellate ganglion blocks. The problem is that not too many people have been trained in the T1 block.

**Dr. von Schroeder:** There have been a couple of papers that have shown Vitamin C at 500mg daily post operatively can reduce the chance of chronic regional pain syndrome. Have you ever told anybody to take Vitamin C after surgery?

**Dr. Wright:** Yeah, I actually did and I kind of stopped doing not only because I just kind of forgot about it and then somebody brings it up every now and then and I start doing it again. And it seemed to me there was one recent paper that brought Vit C effectiveness into question. Nevertheless it’s a pretty easy thing to do and maybe we should do it more often. Though I’ll tell you that our chronic regional pain syndrome after distal radius fractures is much, much less a problem than it used to be when we were using external fixators. It’s a fraction of what it used to be. Sometimes we label people with CRPS who actually have a median nerve injury and get allodynia as the median nerve is recovering. These patients get better although it takes a little bit of time. But I think really it’s been much, much less a problem than it was 10 years ago when we were fixing everybody with external fixators.

**Dr. von Schroeder:** Yes, we’d certainly agree with you based on our experience. Fewer external fixators, means fewer associated issues such as CRPS from excessive traction or injury to the sensory branch of the radial nerve. The devices also have a reputation of adding to finger and wrist stiffness. The same with the casts; in the past we’ve seen a lot of people who have had tight casts and related issues, so with the trend to internal fixation, we’re seeing fewer cast-related complications.

**Dr. Wright:** Tom, do you treat a lot of complications from other surgeons following really simple procedures like carpal tunnel release, de Quervain’s release, or ganglion excision?

**Dr. von Schroeder:** I wouldn’t say I treat a lot of them, but I definitely treat them, we definitely see them. The most egregious ones were following carpal tunnel release where we were first getting into the endoscopic mode I saw a number of median nerve injuries. This usually occurred by surgeons who really weren’t very high volume. I think we’re seeing less now for the surgeons are now more experienced with the technique.

**Dr. von Schroeder:** How do you do your carpal tunnel releases? Do you do them endoscopically?

**Dr. Wright:** I do them endoscopically, and I tell the patient that we’ll do them endoscopically and I probably bail on about 5% of them where I just don’t get happy with my view. I’ve been very happy with that approach, if you’re willing to convert to open, when you can’t see it real well, and then make it into a classic carpal tunnel release. That’s worked pretty well for me because to my knowledge we haven’t had a problem. I better not brag about it though, we’ll have one. But so far so good.

**Dr. von Schroeder:** Paul, what kind of complications do you see after simple procedures, or are they pretty rare?

**Mr. Brach:** There always seems to be something that has to develop no matter how benign the procedure. We typically see patients after CTR secondary to pillar pain/hyper-sensitivity to the scar. The other complication that can develop over time, which was previously discussed, is the PIP flexion contracture after a trigger finger release.

**Dr. von Schroeder:** Tom, do you see many scaphoid fracture non-unions in your practice?

**Dr. Wright:** Not a lot. I probably treat 5 to 10 a year. Typically it is a missed diagnosis. In my area it is usually a football injury in young kids who are diagnosed with a sprained wrist. Most have lost some.
motion after a long history of a nagging wrist injury. We get an x-ray and sure enough they’ve got a scaphoid fracture.

Dr. von Schroeder: Yes, is there anything we should be doing for the football players or any kind of team players such as checking their wrists at the beginning and the end of the season? Or educate them about wrist sprains or follow-up for their sprains? I think this is particularly relevant since many young people’s symptoms settle quickly following a wrist injury, and as such they don’t follow-up but come to see a physician many years later with issues relating to a scaphoid fracture non-union or chronic scapholunate ligament tear.

Dr. Wright: Maybe. We have athletic trainers at pretty much all the high schools in our area. I don’t know if it goes that way in all areas, but they’ve done a better job. They’re aware of scaphoid injuries. So I think we’re missing a few, and the ones we are missing generally are a little bit more out of our area. So I suspect in some places they don’t have the trainers there, or the trainers were not quite as sensitive to stuff box tenderness as they should be in somebody who’s had a fall. But in football I don’t see them wearing splints. Now what I would love to see is the guys on skateboards and rollerblades wearing splints, but that’s not very cool. So we’re just going to continue to treat distal radius fractures and scaphoid fractures on these guys.

Dr. von Schroeder: Yes, that’s a good point. Paul, after ORIF of a scaphoid, how do you help patients get those last several degrees of motion back for them, particularly for wrist extension that our patients want back to do pushups for example?

Mr. Brach: I have them perform a lot of weight bearing activities to their tolerance to achieve end range extension that they need for push-ups and weight training activities. If these activities do not seem to help, I will fabricate a static progressive splint that will provide end range stretching into extension.

Dr. Wright: Paul are you using static progressive splints or what are you using at that point? And do they work?

Mr. Brach: Yes, I do use static progressive splints. I typically do not use the commercial brands on the market since I can fabricate my own.

Dr. von Schroeder: Tom, what do you do with your patients who persistent wrist stiffness following injury or surgery?

Dr. Wright: Well I think they’re all stiff. And I’m wondering if I’m doing something wrong, but my scaphoid fractures – my main goal is to get the thing healed and I’m very happy when I get it healed. But maybe I hold them too long. Most of them tend to be young males who are a little raucous and so I have protected them and they seem to be very stiff, they get better over time and I think if I follow them long enough they probably get a lot better. But when I discharge them typically 3 or 4 months, or whenever they are healed I would say that – if they have 50% of the motion of the other side I think that’s pretty good. And so I think they’re all pretty doggone stiff.

Dr. von Schroeder: Yes, I do think they get better with time, but getting those last degrees out of them is a challenge.

Tom, you previously mentioned bone morphogenic proteins; do you ever use BMP’s for scaphoid fractures or other fracture non-unions?

Dr. Wright: I’ve used it for non-unions, not for fracture, I think it’s kind of expensive to do that, but for the non-unions I have. Now you don’t need very much unfortunately, so you really get more than you need, but I haven’t done it a lot. Usually I’ve got the radius just begging to be used as bone graft, or if I’ll use if I need to a vascularized distal radius bone graft which precludes the need for the fancy bone graft.

Dr. von Schroeder: Right. Do you ever use a bone stimulator for the scaphoid fractures or following other types of wrist surgery?

Dr. Wright: I do, not after surgery. Well, if I have somebody that I’m trying not to operate on for either
Dr. von Schroeder: Any thoughts about long term outcome following the two procedures: PRC vs. four-corner fusion?

Mr. Brach: They both do very well. I do not believe that there is any major difference in the amount of grip strength, or ROM that you get back.

Dr. von Schroeder: Tom, what’s your general preference of one over the other: PRC and a four-corner fusion?

Dr. Wright: I think no one’s really shown one is particularly better than the other, and it’s mostly been a tossup. The 4 corner is appealing to me in that you maintain everything out to length and the lunate stays in its native fossa. So you’ve got theoretically a good articulation, so that’s very appealing. The downside is you’ve got to get 4 little bones to heal together and that’s not a gimme. And so you end up having to protect them for a while as they’re fusing and that’s where we end up with stiffness. They end up very stiff. But I think the PRC’s are a little stiff as well. So the question I really have down the road, and I’ve forgotten what the longest term follow up is, is durability. If you get a good 4 corner I’m just wondering at 10 years if that would be a better solution because I have converted a few, PRC’s that I did earlier in my practice to fusions because the capitate radius articulation wore out and became symptomatic. But not very many when I think about how many we’ve done, really not that many.

Dr. von Schroeder: I’d agree with you in general that there’s a theoretical advantage to the four-corner. However, the surgical complication rate can be higher after a four-corner fusion.

Dr. Wright: I think so. And if they smoke and do other things then I think they have poor biological potential or they’re older I’m not going to bother with a 4 corner because I’m just afraid they may get a non-union.

Dr. von Schroeder: With respect to smoking, I generally tell patients that they should cut down and stop and recommend that they see their family physicians for further help. Do you mention or talk to your patients about stopping cigarettes?

Dr. Wright: I do. Just about every procedure, but I don’t mandate it. I won’t say I won’t do your procedure if you don’t quit. One of my partners won’t touch a non-union unless they quit and they actually test them.

continued on next page
Dr. von Schroeder: Paul from your perspective, is there a different healing rate in smokers?

Mr. Brach: I feel there is a difference in healing in smokers vs. non-smokers. If I suspect that a patient is smoking, I will educate them on the effects that smoking has on healing tissues, and then leave it up to the patient to decide.

Dr. Wright: Paul do you think that you see more complex regional pain syndrome in patients that smoke? Or is that just one of my prejudices?

Mr. Brach: Yes, I think it might be a prejudice. I don’t really see higher incidents in individuals who smoke who have or who may have CRPS. I think it’s more of a personality trait of the patient who develops CRPS than someone who might be a smoker. Not to say that smoking can’t contribute to it, I just think that it’s more of a personality trait of the individual.

Dr. von Schroeder: That’s an interesting point. Certain personality traits, including dependency, depression and catastrophizing, may affect pain or how pain is perceived. Do you screen your patients in any way Tom?

Dr. Wright: Well, it’s funny you ask that. We actually have been looking at over the last 3 or 4 years now looking at shoulder pain. We have an ongoing funded NIH study looking at shoulder pain. And the pilot study where we had about 60 patients in it, we looked at psychological factors using the pain catastrophizing scale, and we looked at genetics with the COMT gene, and actually it turned out that patients going into shoulder surgery who had bad genetics and bad psychology did worse. They had more pain. They also had more pain going into it but they also had more pain coming out. Although they did improve. Whereas the people who had either just the bad gene or bad psychology or neither one of those were all about the same. But statistically the guys who have the bad gene, which I call the wimp gene, and then the bad psychology which I think the pain catastrophizing scale is probably the best for that – were problem patients. Not necessarily so bad that I would say you should deny them treatment, but a discussion that you’re probably not going to knock out all their pain, is probably worthwhile. I’ll be able to tell you more when we get finished in about another year and a half, but the pilot study was pretty encouraging.

Dr. von Schroeder: Tom, can you tell us more about the “wimp” gene?

Dr. Wright: Yeah, it’s the COMT, there’s actually a number of them associated with pain and I’m not going to tell you I’m an expert at it because I’ve got a guy like Steve George who is the expert at it. But I supply the raw material which is everybody hurting. But yeah, its catecholamine omethyl transferase gene and it works by modulating the nocecepters. And there’s actually now I think 2 or 3 other ones that continued on next page
Dr. Wright: And how to you deal with that patient that comes back repeatedly over a long period of time after their surgery complaining of pain for which there is no mechanical explanation or surgical solution?

Dr. Wright: Well in the ideal situation, which I don’t have, I would let them know just that, I recognize you have pain, I empathize with you, but there is nothing mechanically that I as a surgeon can do to improve your life. Continuing to operate on you in a needless fashion can continue to hurt you, possibly make you worse, and I’m really not going to get anywhere. And at that point the problem is if you’re in a good situation they feel abandoned, and it’s tough to just cut somebody off when they’re in that kind of situation. And ideally what you’d have is somebody who can then have a very well established pain management program. The problem with us is that we seem to get one going for a while and then it fizzles, and some of the guys just want to do injections, some just want to write narcotics, and we’ve been kind of up and down and I’ve been a little disappointed with our ability to sustain a high level pain management program on a chronic basis.

Dr. von Schroeder: Yes, I think it’s a major unsolved problem for wrist surgeons. The most current approach is typically a multi-disciplinary approach in which several treatment components can be helpful. These include oral and topical pharmacological management, physio and occupational therapy, specific injections and blocks, behavior modification, psychologi-
think because you get rid of the edema they actually feel better too.

**Dr. von Schroeder:** In what kind of cases would you use that?

**Dr. Wright:** Total elbow is a classic one because anything I can do to make a total elbow not get a hematoma and wounds heal predictably is a good thing, because when the wound goes down on a total elbow replacement life is not good because you’re looking at metal and infections and it’s just a nightmare. So total elbow is a classic one. I use them in all my shoulder replacements now. And any of the high risk wounds, not so much around the wrist, but if I had somebody who has a really high risk problem with wound healing or I’m worried about a big procedure down there I would use it in that situation as well.

**Dr. von Schroeder:** Paul, any memorable cast or splint complications that you can tell us about?

**Mr. Brach:** Sometimes when the casting is too tight in the palm, I have seen the palmer fascia gets thick and the patients develop PIP contracture like a pseudo Dupuytren’s. Splint complications can obviously pose a threat as much as a cast—you have to make sure that there aren’t any areas on the splint that are causing friction or compressions around any of the superficial nerve sites where you might cause a nerve compression.

**Dr. von Schroeder:** Tom, what kind of complications are you still seeing that you wish you would just never see again?

**Dr. Wright:** Well, I would say any kind of deep implant infection is probably the worst thing short of an irreparable nerve injury associated with pain, that’s even worse. But the other thing that’s a close one is a well cemented implant that’s infected, it’s such a destructive thing to remove unless its’ gotten loose, and you really need to remove it all to really eradicate your infection. So probably if I could make one thing go away it would be deep infections. I don’t mean soft tissue infections, but bony infections.

**Dr. von Schroeder:** Any tricks you can leave with us on reducing complications? Tom, any closing words of wisdom?

**Dr. Wright:** Well, I think for high risk procedures and especially on immune-compromised patients, such as rheumatoid patients, and the immune-compromised patient with a total elbow replacement are high risk as far as risk for infection. I think the salient issues are you want to do everything you can to handle the skin well, use deeper flaps, not real superficial flaps; be careful with your retractors, and do a good job of hemostasis. We want to try to get that procedure done as expeditiously as possible because I think time is a real problem. The longer you take the higher your infection rate. I typically don’t move them right away, I hold them out in extension until that wound is absolutely healed. And as I said, I’ve added PRP, as well as antibiotic cement, and I actually usually use vancomycin which some people might say you shouldn’t do but for these high risk patients with big, metal implants that is what I do.

**Dr. von Schroeder:** Great. Good suggestions. Paul, any other tricks in addition to getting patients moving early?

**Mr. Brach:** Being proactive. If you see something that looks like a duck and quacks like a duck, it probably is a duck and you just have to get moving on it.

**Dr. von Schroeder:** With that, we’ll conclude our round table on wrist complications; we’ve covered a lot of useful information today.

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