

HAND SURGERY

QUARTERLY



THE DIGITAL HAND SURGEON

How Will Medicine Adopt Electronic Records?



J. DANIEL LABS, MD

A Viewpoint Perspective

Early Claims Unsubstantiated

Few professionals who follow the medical informatics sector can forget Jim Clark's boast in 1996 that within three years of that date, his new company, Healthcon, would have 500,000 doctors signed up for their complete e-mail, billing, and payer systems. When this prediction did not occur on the Netscape founder's timetable, many lost faith in the premise that doctors would eagerly pay for new technology. Rightly or wrongly, this perception became reality for many industry experts. The belief that doctors would not adopt new information technologies became pervasive. Several client-server software initiatives failed in the late 90's further supporting the supposition that doctors would use paper forever.

But, change appears inevitable in the industry. Like Healthcon before them, Microsoft released their vision for the Internet User Experience: "there will be a day when you're able to keep all of your...medical information, in a secure, private place out on the Web. You'll be able to give permission to appropriate doctors to put new information in and to view your medical history. You'll be able to pay your bills, interact with your healthcare insurer, receive notification when an appointment is necessary..."

(Remarks by Bill Gates and Steve

Ballmer: January 13, 2000.

Redmond, Washington, published on www.microsoft.com). The U.S. Government and the American Medical Association have both produced extensive guidelines and position statements defining everything from electronic medical record (EMR) archiving requirements to electronic signatures validation for the emerging EMR revolution. Clearly, it now appears not a question of whether doctors will use EMRs, but a question of which one.

continued on page 18



Hand Therapy in Uganda

Vargas Award 2001 winner Gail Groth, MHS, OTR/L, CHT takes us along on her visit with Dr. Scott Kozin to an orthopaedic ward in Uganda, where three-fourths of the patients had some form of trauma to their upper extremity. The full report begins on page 16.

Unintended Consequences

We all like to think that we function with the best of intentions. In most cases, I am sure that this is true. Yet even the best of intentions may lead to unintended consequences, which subvert the very goal originally sought. This is in itself not so bad. It's impossible to foresee every possible consequence of an action. What is bad is not to look for these unforeseen deviations from the plan, or to correct them. A good example of this bad combination is the current enforcement of EMTALA, the Emergency Medical Treatment and Active Labor Act.

EMTALA was passed into law by the US Congress in 1996, in response to several widely reported cases of community hospital 'dumping' of uninsured patients who appeared in their emergency rooms to distant public hospitals, often without even minimal emergency stabilization. To prevent future occurrences of this sort, EMTALA required that hospitals "provide for an appropriate medical screening examination within the capability of the hospital's emergency department, including ancillary services routinely available to the emergency department, to determine whether or not an emergency medical condition" or active labor exists, for any individual who comes to the emergency department and requests examination or treatment. If so, "the hospital must provide further medical examination and such treatment as may be required to stabilize the medical condition, either within the staff and facilities available at the hospi-

tal, or for transfer of the individual to another medical facility". Severe financial penalties were prescribed for non-compliance. One might well argue that this remedy was not the right one, and that the root cause—uninsured patients—was not addressed, but nonetheless EMTALA was, we could concede, a well-intended law.

The unintended consequences have, however, been significant. The "capabilities of the emergency department" have been construed to include not only hospital employees, but also the voluntary hospital staff physicians. Coming to the emergency department has been interpreted to include being pretty much anywhere on or near the hospital grounds, while the definition of an 'emergency medical condition' has been interpreted so broadly (anything that MIGHT cause harm if left totally untreated) that almost everyone who walks through the ER door is covered by the EMTALA provisions. As a result, hospitals that want to avoid the risk of big fines and bad publicity have two 'safe harbor' choices—close the emergency room, or staff it 24/7 to cover all services routinely provided in the hospital. The burden of compliance has all too often then fallen on the voluntary hospital staff, who, as a condition of maintaining staff privileges, are expected to take call, and come running when the ER calls. Especially in smaller hospitals, the result has been, first, frequent disruptions of office practices, home and family life, and sleep patterns, and then the flight of specialists to other hospitals with better ER coverage, to hospitals without ER's altogether, or to surgicenters. The result: patients are, more and more, traveling the same long distances to get emergency care that they did before EMTALA passed. Not because local hospitals refuse to see them, but because local hospitals no longer

offer those services at all.

Several solutions seem to offer themselves. Hospitals could hire more ER physicians, or at least compensate volunteer staff physicians for taking call. However, as many ER patients are uninsured, it is not clear where the money would come from. Hospitals and doctors could form regional networks, and rotate emergency call, so that each hospital was liable for emergencies only once every several days, instead of daily. Unfortunately, this runs afoul of antitrust laws, as well as the current interpretation of EMTALA, which does not accept this option. Doctors and hospitals might be given some freedom to decide which conditions require the specialist to leave their office and go to the ER, rather than sending the patient from the ER to the office, for less severe but common problems such as finger fractures, minor lacerations, and so on. In such cases, often the care is both better and cheaper in the office than in the ER, but again EMTALA does not allow this option, nor again for a payment mechanism for the uninsured. I am sure there are other options as well.

Here we run into a second problem: the lawmaking process, which is linear, not circular. When a law is passed, the lawmakers put their attention on the next topic. Crises aside, lawmakers rarely revisit a law once it has been passed. Yet EMTALA should be revisited, and soon, because its unintended consequences are having a very predictable and negative effect on the very problem EMTALA was designed to correct. A crisis is brewing, one that can be foreseen and could be prevented. Will it? That is something for each of us to take up with our federal legislators. **H**



PETER C. AMADIO, MD

The Silent Minority

It is a painful lesson in these trying times to realize that we, as physicians, are truly a minority. Indeed, we are perceived to be an affluent minority and subsequently generate little sympathy for a plight that we see as genuinely unfair and unjust. Our personal, collective, and financial influence on the political process has been only marginally effective. We are learning first hand what it is like to be disenfranchised and disempowered. That should certainly sensitize us to the plights of other minorities and their causes.

Past displays of arrogance, insensitivity, ostentation, aristocracy, and poor communication skills such as poor listening and lack of empathy have come back to haunt

us. We have sometimes been seen as the epitome of the "Ugly American" (William Lederer and Eugene Burdich). Yet, most physicians are dedicated to their patients and to their profession. Most patients and their families acknowledge and appreciate this fact.

If only we could see ourselves as others sometimes see us! A single discourteous act may be magnified out of proportion and misidentified as representative of our attitudes. We are beginning to better understand and respond positively and professionally to public perception. But we are early in the game and it is far from over. It will be a tough uphill battle against difficult odds.

We must advance our quest for social justice in all avenues of life, not just our own. We must bond with our fellow man and cut through the chains of all prejudice. We must be patient advocates - advocates for safe, effective, compassionate, and cost-contained medical care. This is the message that is carried on the train of public opinion that is gathering speed. We will either get on that train or be run over by it. And since we will have to board the train to survive, why not be the engineers? We need good leadership. We need good followers. We need multilateral participation among the public who are our patients and from citizens of all walks of life.

Reimbursements in general and sharp business practices by managed care organizations in particular are serious issues, but "Jackpot Justice" is an even more compelling problem. There needs to be legitimate redress of patient grievances. Good lawyers and judges are needed for fair evaluation and adjudication of these claims. Good doctors make honest mistakes and regretably there are some bad apples in the barrel. There must be distinctions between isolated incidents of maloccurrence and poor patterns of practice. Punishment and redress

must be proportionate to the event. Corrective action must be effective and fair.

Terrorism, like charity, seems to begin at home. Just as some terrorists have distorted religion and other terrorists have distorted national security to justify self-serving and inhumane nonsolutions to current world problems, some plaintiff attorneys have justified unconscionable awards as necessary to protect patients rights and to punish wayward physicians while many line their own pockets and indiscriminately annihilate physicians and their practices. They, like Al-Qaeda, have "cells" throughout the country. Unlike Al-Qaeda, we know where they are. They advertise. Medical malpractice and corporate product liability claims have become a social cancer. Plaintiff attorneys have a disproportionate impact on government at every level. They have invaded our courts. Atlas Shrugged (Ayn Rand) has gone from science fiction to reality. James Taggard, and his thugs, have too much control in our governments and our judicial system.

The current system is out of balance. It is totally lopsided and out of control. There must be parity in malpractice policy within the United States, just as there must be parity of United States foreign policy throughout the world. The lack of either one or both may ultimately destroy us. We must have fair adjudication and just solutions if we expect accurate and voluntary reportage of adverse events, truly corrective action, and voluntary participation. Currently, the little boy who steals the candy bar is taken behind the store and machine-gunned.

The development and implementation of health policy must be multilateral. Our government has declared "martial law" in the field



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FROM THE PRESIDENT

continued from page 3

of medical administration. It has even criminalized certain actions whether intentional or innocent. Every physician has a compliance auditor. Does this sound like the "Cold War" Russian scientists, each traveling with their own KGB officer. Does this sound like the Ministry of Love and Big Brother in 1984 (George Orwell – Eric Blair)?

Each day, America seems to be more and more like the countries we fought against in World War II.

Hillary Clinton excluded physicians from her health care task force in her aborted effort to change health care delivery. We can neither be excluded nor can we fail to serve. Greg Ganske has led a handful of physicians in giving us a voice in government. We must support him and others like him. Americans from all walks of life must retake our state legislatures and our federal government to truly have hope for "liberty

and justice for all."

People who were searching for social justice founded America. Indeed, all of the world's history is a story of the evolution of social justice. When you repair a machine, you put a part in and throw the switch. Then, the machine works. This constitutes an event. Bodily repair and biological healing, however, are processes and require patience, perseverance, and tenacity. The quest for social justice is a process, one that will probably never end. We must steel

Who's Who at the Central Office

Laura Downes Leeper, CAE
Executive Director

Laura was first introduced to the AAHS in 1994 while employed by Associated Management Services, a subsidiary of the American Society of Plastic Surgeons. She served as the organization's Executive Director until 1998. In 1999, she resumed her role as Executive Director when the organization moved their Central Office management from the ASPS to the Illinois State Medical Society's Division of Specialty Services.

In addition to her role as the Executive Director of the AAHS, Laura serves as the Assistant Vice President of the Illinois State Medical Society's Division of Specialty Services where she oversees the management of 13 state and national specialty organizations.

Laura currently serves leadership positions on several local charities, including: Children's Place and Fairy Godmother Foundation.

Laura received her BA from Michigan State University and hopes to enter graduate school in the fall. In her spare time, Laura



(Left to right) Chris Reed, Laura Downes Leeper, CAE, Celeste Martinez, Krista Greco, Emily Vetter, Rachel Elliott and Rachel Gudmundson.

enjoys golf, traveling, working out and shopping.

Rachel Elliott
Meetings Manager

Rachel assumed the role as the Meetings Manager in March of this year. As the meetings manager, Rachel is responsible for the planning and management of the annual meeting as well as the association's educational symposia and board meetings.

Rachel comes to the AAHS with extensive experience in the hotel arena; her first job being a concierge at the Ritz Carlton in Phoenix. After several months, Rachel was transferred to the sales department and her hotel sales career was launched. Subsequently, she worked for Loews hotels at the Loews Giorgio in Denver and Loews Coronado Bay Resort in San Diego. Rachel has

also worked for Hyatt Resorts Caribbean and Vail Resorts.

In her spare time, Rachel and her husband, Jon, like to travel, ski, and spend as much time outside while the weather is nice. They are expecting their first child in June.

Rachel attended the University of Arizona and received a BA in Communications.

Krista Greco
Account Manager

Krista joined the Specialty Societies division at the Illinois State Medical Society in March of 1999. Currently, Krista serves as the Executive Director for the American Society for Reconstructive Microsurgery and the American Society for Peripheral Nerve; however, she was previously the Administrative Coordinator for the AAHS. Krista grew up in Michigan and attended

ourselves for a lifelong campaign. The stakes will be the future of medical care and public health.

If we examine the thrust for social justice, it is apparent that we must have the strength and the courage to stand in front of the tank in Tiananmen Square if we are to be successful. Cesar Chavez and Nelson Mandela went to jail for social justice. Martin Luther King and Mahatma Ghandi went to jail AND gave their lives for social justice. The American Labor movement is replete with similar stories.

Samuel Gompers, John L. Lewis, Walter Reuther, Lane Kirkland, George Meany and many others defied unjust laws and policies and brought about the changes that have recognized and more fairly rewarded the value of every person and their labor. Women's suffrage prevailed in this country, but not without a prolonged battle. Nurses, hospital workers, policemen, firemen, teachers, and others, all with legitimate grievances, walk out on their jobs, but physicians are castigated for even thinking thoughts of

such actions and prosecuted, even persecuted, for organized efforts to negotiate the inequities that afflict us.

Our grievances are not going to disappear spontaneously. We cannot be like Neville Chamberlain who thought that Hitler would stop of his own accord. We cannot keep turning the other cheek. We must be willing to make sacrifices of time, comfort, and material possessions. We must maintain our dignity, ethics, values, and professional-
continued on page 6

the University of South Carolina majoring in Business Administration. Krista and her husband, Barry, are new parents to a baby boy born in September 2001. Krista enjoys to travel, shop, and watch movies in her spare time.

Rachel Gudmundson

Exhibits Coordinator

As the AAHS Exhibits Coordinator, Rachel is responsible for securing exhibitors for the annual meeting. Her responsibilities include: maintaining the contact database for exhibitors, soliciting booths for the annual meeting and coordinating the exhibit hall logistics at the annual meeting. She is also instrumental in managing communications with the AAHS accountant.

Rachel was born and raised in Chicago. She graduated from Loyola University Chicago with a BA in Biology and Spanish. Prior to joining the AAHS team, Rachel served as a College Admissions Counselor.

Rachel enjoys the local music scene, particularly her boyfriend's band, Lucius Warbaby. She also enjoys dancing in all its forms and camping.

Celeste Martinez

Administrative Coordinator

During her two-year tenure at ISMS, Celeste has had the opportunity to work with 10 different medical associations, ranging from anesthesiologists to psychiatrists to

surgeons. This past year, Celeste took on the monumental task of managing registration for the annual meeting.

Celeste is an undergraduate student at Columbia College Chicago studying music business management. Upon completion of her studies, Celeste intends to manage an artist or music group.

Christopher Reed

Membership Coordinator

Chris, as he's known by his friends and co-workers, is a Chicago native. He joined the AAHS staff last fall, and serves as the Membership Coordinator. He is responsible for membership and dues processing for the AAHS in addition to managing the membership function for numerous other clients of the Illinois State Medical Society's Division of Specialty Services.

Chris joined the AAHS staff after working at the American Medical Association for five years.

Chris graduated from George H. Corliss High School in 1987 and attended Iowa State University. Chris enlisted in the United States Navy in 1989, serving eight years of active duty.

Emily Vetter

Administrative Coordinator

Emily joined the AAHS staff in February of this year. In her role as Administrative Coordinator, Emily's primary responsibilities focus on the production of the

annual meeting registration brochure and program book.

Emily is a 2001 graduate of Illinois State University with a degree in Speech Communication. Following college, she completed an internship with Levi Strauss & Company. In her free time, Emily enjoys working out, beach volleyball, and jet skiing.

Anne Behrens

Newsletter Managing Editor

Anne has served as the Managing Editor of the *Hand Surgery*



Quarterly since 1996. Anne plans the production schedule and issue themes with the Editor, facilitates the submission of

AAHS volunteers' articles and produces the issue layouts and final art.

Since graduating in 1983 with a BFA from Washington University in St. Louis, Anne has been providing design, illustration, production and management services for a wide variety of corporate identity, direct mail, conference, newsletter and website projects.

Anne and her husband, Dan, have two small children, and look forward to introducing them to the joys of volleyball, cycling, backpacking and fishing. **H**

FROM THE PRESIDENT

continued from page 5

ism. We must use the legal system and the courtroom of public opinion. We must dissent and reform without the violence or corruption that tainted the labor movement. We must always be patient advocates. This is a tall order, but we can do it.

Many physicians who are able to do so are retiring early. Others are excluding high-risk patients, Medicare patients, Medicaid patients, and emergency room coverage from their practices. Some are moving to states that have capped malpractice claims. These measures underscore our desperation as a profession. Although individuals may feel that these measures are necessary for personal preservation and they do bring attention to serious health care administration problems, they are not in themselves a constructive step in addressing these problems.

Excluded patients are unwitting and innocent victims, collateral damage if you will. But physicians cannot operate below costs and survive. What a dilemma! This is not a happy situation.

What must we do? Clearly, no physician can stand on the sidelines. Although we have busy practices, families, and demanding lives, how can we live with ourselves if we don't stand up for patients' rights and our own rights? How can we survive? We must unify at both the state and national levels. We must work through our specialty societies, state medical societies, the American Medical Association (AMA), and the Health Care Liability Alliance (HCLA). We must contribute time, money, organization, and effort to advance the rights of all Americans to receive good, safe, and timely medical care. Practicing medicine alone is not enough. We must enlist the support of the public to allow physicians to provide this care without being terrorized. We must go to court when the courts can help us. We must

identify and support altruistic rather than self-serving politicians. We must advocate and enact malpractice reform similar to California's Medical Injury Compensation Reform Act (MICRA) in other states and at the federal level.

We cannot be a "silent minority." We must become more intimately involved in our communities and in community service. We must speak out. We must stand up. We must be counted. We must regain our self-respect and the respect of the public. Public respect and support are keys to our ability to influence public policy.

There is an intangible inside the souls of "winners." Rick Cleveland, the Sports Editor of the Jackson, Mississippi Clarion Ledger calls this quality "it." "It" is felt in a person's demeanor, in their carriage. "It" is a quiet, contained, yet very definite inner personal courage. "It" is a determination to succeed and to never quit. Do we have "it" as a profession? Do you have "it"?

H

AAHS Ahead in 2001 Despite Tough Times

Greetings, fellow members of the AAHS,

I am pleased to present this year's Treasurer's Report for the AAHS, for the dates January 1, 2001, through December 31, 2001.

As of December 31, 2001, the AAHS certainly had another excellent year, despite the terrible socio-economic and political insults that the United States and the world as a whole had to endure.

Total assets as of December 31, 2001, were \$890,101. The annual meeting revenue from 2001 revealed an income of \$272,093. The

Table 1

	2000	2001
Total Income	\$541,633	\$475,253
Total Expenses	\$527,400	\$424,364
Net Income	\$14,233	\$50,889
Total Net Assets	\$918,700	\$890,101

net profits after expenses in Hawaii were approximately \$80,000. Total year-end profit for 2001 for the entire association was \$50,889. Publication expenses increased 16% due to our expanded web site expenditures.

Our investment portfolio has now been completely turned over to Solomon, Smith, Barney and that is being directed by Mr. Jeff Palmer in Peoria, IL. We currently are invested in controlled managed accounts, which include a general growth fund, \$310,000. It was down less than 1% for the year. The second is invested in corporate and

government bonds in a controlled Madison account with \$186,292. The rest of it is in a money market fund, \$65,920. Despite the tremendous drop in the stock market that

Table 2

Income	2000	2001
Dues	\$235,390	\$196,985
Annual Meeting	\$297,982	\$272,093
Net Annual Meeting	\$57,282	\$80,000
Investment Profit (Loss)	(\$19,384)	(\$2,265)

we all experienced in our own portfolios for 2001, we still managed to skim by with a slight loss that was less than .1%, but still commendable considering the current market valuations.

Dues income for 2001 was \$196,985. That was down from the year 2000 because of members changing categories to retired and members discontinuing their membership in the association. It behooves all of us to talk to as many associates as possible to maintain our membership and all of us should do our best to recruit one new member this year for the association. Our primary source of income throughout the past two years with a down stock market, is our annual meeting, which requires our attendance and registration fees and our dues income. Until the stock market turns around, our investment income is not going to make up the difference.

As you know from our by laws changes at this year's meeting, the finance committee has been changed. The financial chairman of the association is now the treasurer and the treasurer also sits as a voting member of the endowment board. That streamlines the management of our finances and I believe will be a much more efficient way of handling the finance committee. The executive committee and finance committee continue to have monthly telephone conferences with our investment coun-

selors, so we are keeping a very close eye on investments and expenditures. It has been recommended and the finance committee voted to approve it, that starting in

Table 3

Expenses	2000	2002
Publication	\$37,872	\$31,999
Annual Meeting	\$240,700	\$182,243
Board/Committee	\$76,245	\$80,842
Administration	\$163,754	\$129,280

2002 we will add another \$50,000 to our investment portfolio to further diversify our current portfolio and that will include a large cap value fund and we will fund that this year, in order to continue our diversity and trying to come out ahead in this very difficult market.

In conclusion, I would like to thank you all for allowing me to be your treasurer. Despite these difficult times for all of us with commitments to practice, reimbursement problems and multiple organizations that we have to maintain our liaisons with, we greatly appreciate the American Association of Hand Surgery's members and their continued support. I am very grateful to the executive committee, immediate Past President Bob Buchanan, our new President Alan Freeland, our new President-Elect Alan Van Beek and our outgoing treasurer and new Vice President Dick Berger, Secretary Ron Palmer and Financial Chair Bob Walton. They were all very helpful to me in my year as Treasurer-Elect, taking time to counsel and teach me in the financial nuances of this organization. We are certainly very stable, very strong and it looks like 2002 is going to be another great year.

I thank you all for your support and I would remind you that we should all do the best we can to support the endowment. The

continued on page 8



N. BRADLY MELAND, MD

Junior Director at Large Scott H. Kozin, MD

Scott H. Kozin, MD is a newly elected board member of the AAHS. Scott first presented to the association at the 22nd Annual Meeting in 1992. Since that time, he has been attracted to the AAHS because of its balance between education, professionalism, and camaraderie. Scott initially participated in committee work with stints on the Education Committee (1997-2000), Annual Meeting Program Committee (1997-2003), Nominating Committee (2000-2001), and Internet Applications Committee (2002-2003). His increased involvement has culminated in election to the Board in 2002 and Program Chairman for the 2004 meeting in Sanibel Island.

Scott has focused his professional life on the care of children afflicted with congenital anomalies, brachial plexus birth palsies, tetraplegia, and traumatic disorders. In 2000, Scott relinquished his adult practice at Temple University to concentrate solely on children. His current position is head of Hand Surgery at the Philadelphia Shriners Hospital for Children. He has also maintained the academic rank of Associate Professor of Orthopaedic Surgery at Temple University. Scott's educational pursuits have resulted in numerous peer-review publications, textbooks, and book chapters. He is dedicated to teaching medical students, residents, and fellows. Residents from multiple orthopaedic programs about Philadelphia and fellows from the Philadelphia Hand Center spend dedicated time with Scott. In 2002, Scott chaired the residents and fellows' conference for the American

Society for Surgery of the Hand (ASSH).

Scott's interest in helping others extends beyond his daily work at Shriners Hospital for Children. Volunteerism has been a thrust throughout his career. As an active member of Orthopaedic Overseas, a subsidiary of Health Volunteers



Overseas, he has traveled to South America and Africa, and has recently been elected to serve on the Board of Directors (2001). As part of a combined effort between Orthopaedic Overseas and the AAHS, Scott accompanied Gail Groth to Uganda as part of the Vargas Fellowship. This

endeavor was an experience of a lifetime and has resulted in a cherished friendship.

Scott is an active member in both the AAHS and the ASSH. He is involved in committee work for both organizations and values his participation in both societies. Scott received the Sterling Bunnell Traveling Fellowship in 2002 awarded by the ASSH. This honor afforded Scott the ability to travel throughout the world and visit centers of excellence in pediatric orthopaedics. The goal of the fellowship was to acquire and disseminate knowledge about difficult problems that afflict children.

Scott is a dedicated father to his two young children, Bryan (8) and Samantha (5). Their relationship is a treasured segment of Scott's life. Despite an arduous work schedule and considerable travel, a unique bond exists between them. The membership can expect to see them together at future AAHS meetings.



continued from page 7

endowment has also had a very difficult year in investment income. If we could all manage to fund the endowment, just \$1000 each, which is tax deductible, for the next five years, the endowment would total close to a million dollars and that would do nothing but help defray the costs for our annual meetings and perhaps even lower our registration fees to nil. So, I challenge all of you to try and put \$1000 towards the endowment every year for the next five years and see if we can hit that magic million-dollar mark.

Yours Sincerely,

N. Bradly Meland, MD
Treasurer of the AAHS **H**

In Recognition

The following notice was accidentally omitted from the Spring issue wrap-up of the AAHS 2002 Annual Meeting:

Resident Essay Awards

CLF Temple, MD; DC Ross, MD; JD Bennett, MD; Garvin, MD; GJW King, MD, MSc; KF Faber, MD; JC MacDermid, PhD

CT vs Plain Film Radiography in the Diagnosis of Scaphoid Fractures

G. Jackie Yee, MD; Matthew J. Concannon, MD

The Effect of Magnets on Wound Healing: An In-Vivo Analysis

Therapist Paper Award

Carol Page, PT, CHT; Sherry I Backus, MA, PT; Mark Lenhoff, BS

Electromyographic Activity in Stiff and Normal Elbows During Active Elbow Flexion and Extension

Congratulations to the winners!

Application of Electrothermal Technology in Arthroscopy of the Hand and Wrist

In this issue of *Around the Hand Table*, we will be discussing the application of thermal tissue shrinkage in hand and wrist arthroscopy. Our moderator for this topic is **Steven Topper, MD**, Clinical Assistant Professor of Hand Surgery, President, The Rampart Hand Clinic, Colorado Springs, CO. He is joined by hand surgeons **William Geissler, MD**, Professor and Chief, Arthroscopic Surgery and Sports Medicine, Professor, Div. of Hand and Upper Extremity Surgery, Univ. of Mississippi Medical Center, Jackson, MS, **Daniel Nagle, MD**, Associate Professor of Clinical Orthopaedics, Northwestern University Medical School, Chicago, IL, **Felix H. Savoie, III, MD**, Mississippi Sports Medicine, Jackson, MS, and hand therapist **Brad Jordan, OT, CHT**, Rampart Hand Therapy, Colorado Springs, CO.

Dr. Topper: The last ten to fifteen years has seen the resurgence of an ancient technique—the use of thermal energy to modify tissues. Now we've moved far beyond pouring hot oil into open wounds to stop bleeding, however, I suspect there are those skeptics out there that view thermal tissue shrinkage as analogous in some respects. Predominantly, this technology has been applied to large joints such as the shoulder. However, many companies have expanded their market by producing smaller probes. Consequently, thermal tissue modification is being done in the hand and wrist despite a paucity of case series to support its use. I thought it would be valuable to gather surgeons who are applying this technology clinically to discuss our experience.

To me the attraction of thermal shrinkage must be viewed in light of the alternatives—a series of procedures such as limited fusions, capsulodesis, and ligament reconstructions all of which certainly make patients different but not necessarily better. The idea that we can restore tension to structural collagen utilizing minimally invasive techniques has many potential applications in the hand and wrist.

Dr. Savoie, I'd like to start with you. You published one of the first reported series involving the use of electrothermal capsulorrhaphy in

the shoulder. In your practice, what are the most frequent indications for thermal shrinkage in the hand and wrist?

Dr. Savoie: Dynamic instability, and then distal radial-ulnar instability, related to ulnar capular laxity.

Dr. Topper: Can you give us your impression of the results so far?

Dr. Savoie: Overall, my impression has been good. We have done less than 20 cases of dynamic carpal instability, and I usually add one or two pins that are left in for approximately four weeks. Overall, I can only think of one failure in probably 18 or 19 patients. As far as the radial-ulnar instability or ulnar capular laxity, again, about 15 to 20 patients, with no failures in that group. And that's usually supplemented with one stitch just to protect the shrinkage area.

Dr. Topper: You put that stitch between the ulnotriquetral and ulnolunate ligaments, correct?

Dr. Savoie: Yes, I do.

Dr. Topper: Dr. Geissler, as we discussed, I understand that you recently reported the results of a series of 19 patients who had intercarpal ligament shrinkage at the Arthroscopy Association meeting. Can you share with us how your study was organized and your results?

Dr. Geissler: We looked at 19 patients with chronic partial tears to the interosseous ligament. We had ten patients that had a partial tear to the scapholunate interosseous ligament, and nine patients with a partial tear to a lunotriquetral interosseous ligament. We basically did a shrinkage of the membranous portion in the dorsal capsule with a thermal probe. We casted the patients for approximately eight weeks, and then a removable splint for an additional four weeks. We looked at these patients using a modified Mayo wrist score. We found no differences between a tear of the scapholunate or lunotriquetral ligament. What we did find was a big difference on the type of tear. With a partial or a grade two tear, where the ligament was stretched and attenuated, seven of those ten patients had excellent results. All ten had a good or excellent result by the modified Mayo wrist score. When patients had a grade three tear, where there's actu-

continued on page 10



I FAVOR A MONOPOLAR PROBE BECAUSE MOST OF THE CLINICAL LITERATURE RELATIVE TO SHOULDER WAS ACCOMPLISHED WITH MONOPOLAR PROBES.

STEVEN TOPPER, MD

AROUND THE TABLE

continued from page 9

ally a gap and a probe could pass between the carpal bones, only two of nine had excellent results. So, we feel that for a partial grade two tear, this technology works. If there's a gap in the ligament, then we would not recommend the procedure.

Dr. Topper: And did you pin the intercarpal interval in addition to the shrinkage?

Dr. Geissler: No, we did not. And we went with the straight cast for eight weeks. We backed down the traction to about five pounds when we did the shrinkage, and you can clearly go back up to the mid carpal space and see how the gap closed down and the alignment improved.

Dr. Topper: I wanted to ask you about that because I have found over the years, your arthroscopic classification for inter-carpal instability to be quite useful. But I've been wondering if you can demonstrate translational motion at an inter-carpal interval from the radial carpal

or ulna carpal perspective. And there's no preoperative clinical evidence of mid-carpal pathology. And you're clearly dealing with a ligament that has continuity to it. Is it really necessary to establish the mid-carpal portals so as to apply your system?

Dr. Geissler: I strongly feel that it's important to establish mid-carpal portals. I think you can see the amount of rotation much more clearly up in the mid-carpal space

and judge the translation in the mid-carpal space more so than in the radial carpal space. In addition, I think occasionally you'll find some pathology in the mid carpal space that you would not expect, especially with lunotriquetral instability. You may see some loose bodies or some kind of chondromalacia changes off the capitate or hamate area that may affect the final prognosis.

Dr. Topper: Dr. Savoie and Dr. Nagle, do you agree with that?

Dr. Savoie: I agree 100%. I think you have to do mid-carpal arthroscopy if there's any suspicion of instability. Basically any time you do a wrist arthroscopy, if you don't look in the mid-carpal space, you risk missing a significant amount of instability.

Dr. Nagle: I certainly agree with Dr. Savoie and Dr. Geissler.

Dr. Topper: When you're doing an inter-carpal interosseous ligament shrinkage, do you find that you do most of it with the probe in the radial carpal or ulna carpal portals or do you do it in the mid-carpal portals?

Dr. Geissler: I do most of it with the probe in the radial carpal portal. If I'm doing a lunotriquetral instability, I'll have the scope in the three-four and the probe over in the 6-R portal. And then I would evaluate my reduction up in the mid-carpal space.

Dr. Topper: Dr. Nagle?

Dr. Nagle: I have used both the RF devices and the Holmium YAG laser for capsular shrinkage. I have used this technique primarily for ulnocarpal ligament shrinkage. I place the scope in the 3-4 portal and pass the probes through the 4-5 portal.

Dr. Topper: Dr. Savoie?

Dr. Savoie: I pretty much agree with Dr. Geissler. It's all radial carpal and ulna carpal. And for ulna sided instability, the scope is in 3-4, and actually rotate between the 6-U portal, and then either a 4-5 or a

6-R portal, depending on the instability.

Dr. Topper: Dr. Nagle, you mentioned your experience with the laser. Based on our conversation earlier, I understand you also occasionally use electro thermal probes. I'd like to know if you have a preference of one over the other, and if so, why?

Dr. Nagle: My preference is to use the laser. I've been using a laser for over twelve years and have become very comfortable with this tool. I feel the laser allows me to precisely titrate the amount of energy imparted to the tissues. I can achieve this control by changing the pulse frequency, the amount of energy per pulse, and the distance from the probe to the tissue. I have used the radio frequency devices as well. The RF devices work well for shrinkage but I have been less pleased with RF debridement of TFCC tissue. The newer small joint RF probes do however, seem to debride TFCC tissue better today than they did in the past. The depth of penetration of the two devices is different. The Holmium YAG laser energy penetrates the tissue 500 microns per pulse while the RF devices penetrate the tissues several millimeters. The question can be asked, is a penetration of 500 microns enough for capsular shrinkage, or is 2-4 millimeters better? Capsular shrinkage occurs as a result of the denaturation of type I collagen with a disruption of its triple helix. It would seem logical that the more collagen exposed to the "shrinking" energy the more shrinkage will occur. While this would seem logical, I have noted that the laser produces excellent shrinkage of the ulnocarpal ligaments. As far as I know there are no studies that address this question.

Dr. Topper: Has there ever been an instance where you were doing a laser shrinkage and you didn't feel that you got a sufficient shrinkage and you switched to the electro thermal probe?



**WITH THE LASER,
IT'S A VISUAL
ASSESSMENT
BECAUSE YOU CAN GO
BACK OVER IT
SEVERAL TIMES
BECAUSE YOU'RE ONLY
PENETRATING ABOUT
400 MICRONS.**

FELIX H. SAVOIE, III, MD

Dr. Nagle: No. As I stated earlier, the amount of shrinkage is proportional to the amount of energy imparted to the tissue being shrunk. The laser energy is easily adjusted to permit optimal shrinkage. I set the laser to between 0.2 and 0.5 joules and 15 Hz for capsular shrinkage. I have attempted unsuccessfully to shrink the scapholunate interosseous ligament with both the laser and the RF devices. I believe the histology of these ligaments (incorporation of fibrocartilage in the ligament) impedes capsular shrinkage. Scapholunate stabilization must rely on the creation of a thermally induced capsulodesis of the dorsal radiocarpal capsule in the peri scapholunate region.

Dr. Topper: That is certainly true for the central 1/3 of the scapholunate interosseous ligament but we have learned that the dorsal and volar 1/3 portions of the ligament are composed of structural type 1 collagen. Dr. Nagle, could you give us an idea of the number of patients that you've done shrinkage procedures on and what your impression of the results is?

Dr. Nagle: I believe I have performed 12 capsular shrinkage procedures. The majority of these have been for subtle ulnocarpal ligament laxity. The few scapholunate shrinkages I attempted were of limited benefit. This is not say there is not a roll for SL stabilization with these techniques. I believe Dr. Geissler and Dr. Savoie have had success with SL stabilization. I need to learn their technique.

Dr. Savoie: We've been relatively pleased as well with some of the chronic ulna carpal tears. For patients in persistent pain, shrinkage along the ulna carpal ligament combined with a stitch has really given us good pain relief.

Dr. Topper: It's been my experience that the shrinkage that occurs in an intercarpal ligament is not nearly as dramatic as what you see in shoulder capsular tissue. Therefore, I've relied on tissue color change and dynamic interoperative exam to

judge the sufficiency of the procedure. I'd like to know from each of you if there are any other parameters or pearls that you utilize.

Dr. Nagle: I look at two things. One is the color of the tissue as you have suggested. I like to see a yellowing of the tissue but not charring. Second, I stop the process when I see no further shrinkage.

Dr. Savoie: Basically, with the laser, it's a visual assessment because you can go back over it several times because you're only penetrating about 400 microns. I think one pass is sufficient, and it usually shrinks it quite a bit. And then the only question is whether you add a stitch if it's an ulna capsular problem or a pin if it's an intercarpal problem.

Dr. Topper: Dr. Geissler?

Dr. Geissler: I would agree with Dr. Savoie, but also we do monitor our reduction up in the mid-carpal space. I want to see a difference in the gap and a closure of the step-off from the mid-carpal space after we're done with the shrinkage. And I think it's important to shrink both the interosseous ligament and the dorsal part of the capsule as well.

Dr. Topper: Do you take that dorsal capsular shrinkage all the way back to the radius?

Dr. Geissler: Yes.

Dr. Topper: Okay. I'd like to talk for a minute about the issue of monopolar versus bipolar. Currently both types of probes are available. I favor a monopolar probe because most of the clinical literature relative to shoulder was accomplished with monopolar probes. Additionally, the four millimeter depth of penetration and temperature specific nature of the probe is attractive to me. I also have some concerns about bipolar probes in small joints because the current arcs through the arthroscopy fluid, and may heat it to an undesirable level and potentially damage the cartilage. I'd like to know from each of you what your preferences are and why?

Dr. Geissler: Well, we favor the monopolar probe as well, primarily because of our experience. And I've been relatively pleased with the newer probes they designed for cutting the articular disc. It's important to monitor the temperature of the fluid. When we do a shrinkage, we have a separate inflow and separate outflow for our fluid. So we really turn up our inflow and monitor the fluid that exits the wrist so potentially not to cause any type of burns, and I think that's important.

Dr. Savoie: I agree with Dr. Geissler. I really don't have much experience with the bipolar. I don't think it's a big issue with the laser and we do exactly the same thing that Dr. Geissler does when we use the monopolar probe.

Dr. Topper: Do you think the concern with the bipolar—the current arching through the arthroscopy fluid—is valid?

Dr. Savoie: I do. It's a small joint as opposed to a shoulder or a knee or even an ankle, and I think that a small rise in temperature because the fluid volume is so low could potentially cause significant problems.

Dr. Nagle: I have been using a monopolar device as I like the variety of monopolar probes and the amount of tissue shrinkage/ablation I am able to achieve with this device. Of course, there is literature that suggests the energy generated by monopolar devices penetrates tissues more deeply and therefore places deep non-articular structures at risk. There is also literature that suggests monopolar and bipolar devices produce similar amounts of collateral damage.

continued on page 12



I WANT TO SEE A DIFFERENCE IN THE GAP AND A CLOSURE OF THE STEP-OFF FROM THE MID-CARPAL SPACE AFTER WE'RE DONE WITH THE SHRINKAGE.

WILLIAM GEISSLER, MD

AROUND THE TABLE

continued from page 11

Dr. Topper: In the shoulder, complications such as recurrent instability, stiffness, and adjacent neural tissue damage have been reported. I'd like to know if any of you have experienced any of these complications.

Dr. Geissler: Well, for recurrent instability, it would be grade three tears where there was a gap. We would avoid it in those types of tears. This hasn't been a successful procedure. I've really not seen a problem with overall increased stiffness in the wrist following this procedure.

Dr. Topper: Dr. Savoie?

Dr. Savoie: The same. We haven't really seen a problem as far as stiffness. I do only use 20 watts power when I use the monopolar probe. You can set it up to 40, so we put the wattage down. I think that may make a difference. But in general, we haven't seen any nerve injuries that I'm aware of, or stiffness. And I would agree with Dr. Geissler, it depends on the degree of instability. We'll have stitches or pins as necessary, and I think that's partly why we don't get much recurring instability.

Dr. Topper: And, Dr. Nagle, with the laser?

Dr. Nagle: I haven't seen any problems with the laser. I have not had

anyone go on to develop more severe instability.

Dr. Topper: Dr. Savoie just mentioned the power setting that he uses. It seems that based on basic science data, the ideal temperature setting in the shoulder is about 67.5 degrees. My practice has been to set the wattage at 30 and the temperature to 68 degrees. What temperature and power settings are you using?

Dr. Geissler: Well, again, we closely monitor the temperature—67 degrees. We turn down the wattage. I think the big difference between the wrist and the shoulder is the temperature on the probe jumps up so quickly in the wrist as compared to the shoulder, and that you have to watch it very closely.

2003 Application for Research Grants

The AAHS Research Grant Awards were established to further the purpose of the Association as stated in its Bylaws and to foster creativity and innovation in basic and/or clinical research in all areas pertinent to hand surgery.

Awards and Eligibility

Grants will be made for a one year period to up to three investigators. Grants are available to all AAHS members. One of the investigators must be an **active** or **affiliate** member of the association.

Grant Application

Applications may be obtained from:
American Association for Hand Surgery
20 N. Michigan Avenue, Suite 700
Chicago, Illinois 60602

Applications (**an original plus seven copies**) must be received by the committee chair no later than **Friday, November 1, 2002**, in order for the judging to be completed in time and the recipients to be announced at the Annual Meeting.

The AAHS and the Research Committee are required by the IRS to document disbursement of grant funds. Award recipients will be required to sign a letter of accep-

tance and submit a progress report once each year. The AAHS must be acknowledged as the source of funding in any presentation or publication. A final report must be submitted at the completion of the study. It is expected that the results of the funded research be submitted for presentation at an Annual Meeting within two years of the receipt of the award.

Funds must be returned to the AAHS if the study is not undertaken within twelve months of the receipt of the award.

Failure to follow these guidelines will disqualify the recipient from any further grant opportunities and from presenting any papers at the AAHS Annual Meeting for a period of three years following such default.

Mail Grant Proposals to



Saleh M. Shenaq, MD
Baylor College of Medicine
6560 Fannin Street, Suite 800
Houston, TX 77030

This goes again to the small amount of fluid that's in the wrist.

Dr. Nagle: I turn the wattage down to 30 and set the temperature to 68 degrees.

Dr. Topper: One of the expressed unknowns of electrothermal shrinkage and capsulorrathy has been the affect on the proprioceptive nerve endings. I'm curious if any of you have had patient complaints regarding diminished proprioception?

Dr. Savoie: I haven't seen it at all.

Dr. Topper: Dr. Geissler?

Dr. Geissler: I have not. I'm a big fan of the ANI/PIN neurectomies. I think that works extremely well for chronic wrist pain. And I think potentially if there was some involvement to the sensory branches, that may be a good thing.

Dr. Nagle: I really haven't seen any proprioceptive problems.

Dr. Topper: How long are you all immobilizing your patients postoperatively, and what kind of rehab protocols have you developed?

Dr. Geissler: When we do an interosseous ligament, we will immobilize the wrist for eight weeks in a short arm cast, and a removable splint for an additional four weeks. At eight to twelve weeks, they can remove the splint and start a gentle range of motion program. We hold off strengthening until three months. If we do a shrinkage for the ulnocarpal ligaments or for joint instability, we'll immobilize the wrist in slight supination with a splint over the elbow for approximately four weeks, then a removable splint for an additional three, and then start a strengthening program.

Dr. Savoie: We go four weeks for interosseous ligaments. But again, we're supplementing with a solitary pin. We'll pull the pin at four weeks, go to a short arm removable cast, and start flex and extension exercises. At six weeks, we begin global motion. Usually at eight

weeks we start strengthening. When we do an entire ulna capsular shrinkage and add a stitch, we're a little bit more conservative. They're in a munster cast to control pronation and supination for six weeks. Then they start range of motion. Somewhere between eight and twelve weeks, depending on how the wrist feels, we'll start strengthening.

Dr. Nagle: I believe the capsule must be protected for about 6 weeks after the capsular shrinkage. This approach is consistent with basic science research which shows the failure strength of heat treated capsule to be about 85% of normal at 6 weeks and 100% of normal at 12 weeks.

Dr. Topper: Mr. Jordan, would you share with us the protocol we've developed for electrothermal shrinkage at the Rampart Hand Clinic?

Mr. Jordan: Sure. The patients are immobilized in a postoperative sugar tong splint for two weeks. Then they go into a short arm cast for intercarpal shrinkage or a long arm cast for ulno carpal capsule shrinkage until they are six weeks postoperative. At about six weeks, we start the rehab process. At that point in time, we establish baseline measurements for later comparison. We begin an active range of motion program that they take home with them to work on supination, pronation, wrist extension and flexion, radial and ulnar deviation. We also initiate a scar management program as necessary. At about the six and a half week mark, we add active assisted range of motion and passive range of motion. We also begin functional activity in the therapy office. At about seven weeks we start adding gentle strengthening activities to the program. This is specifically done in the clinic, and our primary focus has been strengthening the dynamic wrist stabilizers: FCR, FCU, ECR, L&B and ECU. Then we try and blend in secondary wrist stabilizers: FDS, FDP and EDC. Around eight

weeks, we have achieved approximately 40 to 45 degrees of wrist flexion and extension. Once we have achieved that, we back off on the active assisted and passive range of motion. They can actually accomplish further gains in mobility on their own. Our primary focus then changes to progressive assisted exercises. At ten weeks, they have 85% recovery of strength and are actually ready for discharge.

Dr. Topper: What is your impression of the results we're getting compared to alternatives such as limited fusion, ligament reconstructions and capsulodesis type procedures?

Mr. Jordan: I'd like to answer that in two parts. They usually come in preoperatively and we go through a discussion with them. Their pain is running around eight to ten. And this is what prompts them to seek medical attention. At the time of discharge, we've got their pain and overall symptoms down to the one out of ten category. So from a patient perspective, they're really quite pleased with this. But the only limitation as they leave the clinic—the biggest complaint I've heard—is that the wrist flexion isn't as great as their other non-involved extremity but in every case this has returned with time. The second part of this is when you want to compare this between the old invasive surgical techniques. This has been a real easy and quick rehab. People don't have the residual pain—the compromises to the wrist seen with some of the major reconstructive procedures. You're not



AT THE TIME OF DISCHARGE, WE'VE GOT THEIR PAIN AND OVERALL SYMPTOMS DOWN TO THE ONE OUT OF TEN CATEGORY.

BRAD JORDAN, OT, CHT

Hand Surgery
Quarterly

.....

Summer
2002

continued on page 14

AROUND THE TABLE

continued from page 13

coming up against any types of limitations. So basically these people are using it and they're able to return to not only their normal work activities, but they're headed right back into their avocational activities with minimal restraint and are progressing on to a normal

lifestyle. I particularly like this as an operation. Heading into this, if somebody were to sit me in a room and say, hey, we can do this and shoot for anatomical restoration, or we can change your anatomy with a tendon graft or intercarpal fusion, I think I would opt for the thermal shrinkage initially because you can always default back to some of the other more aggressive procedures.

Dr. Topper: As we all wait for the clinical series to be published, followed by comparative clinical trials, is it your impression that this technology represents an advance in the management of dynamic instability in the hand and wrist? Let's start with Dr.

Geissler.

Dr. Geissler: Yes, I've been very impressed. I think with a relatively simple procedure in patients that have chronic pain from instability, this is a significant advancement. Like Mr. Jordan was saying, you don't burn any bridges. You can always come back with a different type of salvage procedure.

Dr. Topper: Dr. Savoie?

Dr. Savoie: I think it is. I think it's our best chance to restore normal anatomy. Instead of doing a substitution operation, instead of just making them different, as you have said, Dr. Topper, I think it's a good opportunity to get them back to their normal functional level with a relatively minor procedure.

Dr. Topper: Dr. Nagle?

Dr. Nagle: Capsular shrinkage has the potential of stabilizing mild forms of intercarpal instability without subjecting the patient to the rigors of an open procedure. In addition, (please excuse the pun) this technique burns no bridges. More invasive stabilization techniques can always be done if the capsular shrinkage fails.

Dr. Topper: I am in agreement. We have all struggled for years over what to do with minor degrees of instability in the wrist. The available open procedures seem too aggressive and non-operative treatment is often insufficient. In my practice, electrothermal shrinkage has allowed me to offer a reasonable and effective intervention to this group of patients. On behalf of the American Association for Hand Surgery and its members, I would like to thank each of you for your participation on this panel. The experience, pearls and pitfalls that you've shared with us all will be greatly valued by the readership.

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CAPSULAR SHRINKAGE HAS THE POTENTIAL OF STABILIZING MILD FORMS OF INTERCARPAL INSTABILITY WITHOUT SUBJECTING THE PATIENT TO THE RIGORS OF AN OPEN PROCEDURE.

DANIEL NAGLE, MD

Hand Surgery
Quarterly

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Summer
2002

14



Orthopaedic Research and Education Foundation Announcement of Grants and Awards

Applications are invited from individuals working at institutions in the United States, orthopaedic organizations and orthopaedic societies for grants and awards that advance musculoskeletal research. All programs require formal proposals that are subject to the peer review process. All applications must be received by August 1, with the exception of the OREF Clinical Research Award which must be received by July 1. Applications are available after April 1 at www.oref.org.

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Submission Deadline
August 1st

What's Up with Focal Dystonia?

Keith Bengtson, MD

Focal dystonia is a painless, uncontrollable posturing of the hand or digits which occurs with a patterned or repetitious movement of the upper limb. This movement may be writing, keyboarding, or playing the violin. Even though it is painless, focal dystonia may be severely disabling to those who rely on their hands for a living. And, unfortunately, it is one of those disorders for which we have no good answers.

In the old days, when resources were plentiful, hand therapists could afford to spend an hour a day for up to a year painstakingly working on neuromuscular and sensory re-education. This was classic rehabilitation therapy utilizing principles of engram formation and redirection. Using this approach alone, we achieved some cures – not many, but some. Unfortunately, resources have since become depleted, and no insurance company in the world is willing to pay for daily therapy that may go on for months on end. Subsequently, this hand-therapy-intensive approach has fallen by the wayside over the past twenty years.

Then along came botulism toxin. Here was a way to take those offending, spasmodic, uncontrollable muscles and knock the stuffing out of them. It was really quite simple. By using EMG recordings one could identify the muscles with the most activity. Next, one could inject the botulism

toxin where the activity was greatest and watch the muscle contractions melt away. Sure, there was a certain art to the dosing of the toxin and some muscles may have been overly weakened. But, hey, if you just waited a couple of months, the strength would gradually return. Subsequently, botulism toxin became popular for use in everything from cerebral palsy to plastic surgery. Not only was it effective, simple, and quick to use, but it was also really expensive, justifying fat charges for the practitioner. Plus, because the injections had to be repeated 3-4 times a year, one could develop a repeat customer base that never went away. The doctors were happy, the patients were happy.

However, there were a few flies in the ointment. The injections never really restored normal function to the hand. Most of the people affected were expecting a high degree of function from their hands and the weakness of botulism injections was enough to stop the posturing, but too much to continue a high demand task. Therefore, secretaries, pianists, and professional musicians were rarely able to return to their respective professions. Moreover, some patients became resistant to the toxin and required higher dosing or a switch to a different strain of toxin. So we had a cure, but it wasn't the perfect cure.

Now comes the interesting part. Since then, a number of innovators have rediscovered what hand therapy can do for focal dystonia. Candia and Altenmueller in Germany have been using "constraint-induced movement" therapy for brain injury rehabilitation, as well as focal dystonia, for a number of years.¹ To the best of my understanding, they use a number of different hand splints to restrain the normal digits while retraining movement in the affected digits. This neuromuscular re-education begins with the very basic building

blocks of movement and advances to more complicated engrams as the patient progresses. Similarly, Nancy Byl and others in the San Francisco area have been working with what sounds to be a more sensory-focused program to re-educate the movement of the affected digits.² Results have been promising and we can expect more published studies to show up in the near future.

These innovators are taking the old therapy-intensive approach to neuromuscular re-education and transferring it from the hand gym to the home. Now, with splinting and proper instruction, the patient is developing new engrams at home. The therapist's role is limited to advancing the home program on a regular basis and trouble shooting problems, thus requiring much less therapy time. This is much more cost-effective than the old approach and, therefore, insurance companies may actually be willing to pay for such treatment. As with any program that tries to reprogram the brain's engram, results may come slowly. Most patients would be expected to improve gradually over the course of 6-12 months. However, unlike the use of botulism toxin injections, results tend to be more long lasting or even permanent.

Keep your eyes open for more published studies on the subject in the future. Since this is a relatively rare condition and results are slow to develop, expect these studies to be few and far between.

As to old saying goes: "Everything old is new again." **H**

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Helping Out Becomes an "Elixir for the Soul"

Vargas Hand Therapy International Teaching Award 2001: Kampala, Uganda

Gail Groth, MHS, OTR/L, CHT

May 16, 2001

The 'Pearl of Africa' or 'The Heart of Darkness', where am I today? Uganda is both of these, compressed in a small space. As I open my eyes and look up at my mosquito net, I am grateful. Though the mosquitoes aren't nearly as prevalent as in Wisconsin, each has the potential



Hand surgeon Dr. Scott Kozin was both partner and mentor.

for carrying malaria. This is my first morning in a third world country. Dr. Scott Kozin, my partner in this volunteer effort, has done this once before. I remind myself of his words, "Once you do something like this, you're hooked." Frankly, I wonder how many times I will disagree before our two weeks are over.

The Hospital

On the grounds of the Makerere University, the Mulago Hospital sits atop one of seven large hills in Kampala. Makerere University was founded in the 1930's (the oldest medical school in East Africa) and provides the only orthopedic residency program for 1,000 miles.

Patient care is provided at two separate sites, new and old. The

passed, but the smiles broadened and we felt welcomed.

Ward 7 consists of a long single room with about 50 or 60 patients lying in cots along the wall. The ceilings are high, the walls unfinished, and the windows without screens or glass. The dim lighting within is mostly natural, making for a large contrast from the bright equatorial sun outside. Patients lie on their cots. Family members sit



A sweet 13-year old orphaned girl, whose dominant hand was twisted radially at the wrist, is treated by Gail Groth, MHS, OTR/L, CHT (right) and a Ugandan physical therapist.

New Mulago Hospital was built in the early 1960's and is a 5 story open building in disrepair. Sepsis and infectious cases, internal medicine and maternity wards are contained within. Old Mulago Hospital was built in the 1930's. We spent most of our time here. It is not one building, but a series of eight or ten small one-story buildings interconnected by sidewalks.

It was with some excitement that we made our way from the Occupational Therapy school to the Orthopedic ward. We passed by laundry drying in the sun-drenched grass, smoky fire pits, smiling dark faces of children playing in the dirt. Happy native chatter slowed as we

and sleep on beautifully woven mats next to the cots and provide for most of the patient's needs.

I'm told Ugandan wards are similar to those in other third world countries. We shouldn't be too quick to dismiss the benefits of this arrangement. In *The Gift of Pain*, Dr. Brand has observed that when a patient is surrounded by a loving community who will stand by him when pain or tragedy strikes, there is less fear and suffering.

There were four or five nurses for the ward who still dress in the old attire: dresses, governmental badges to signify rank, and little white hats, a throwback to colonial days under British rule.

The Patients

Three-fourths of our patients had some form of trauma to their upper extremity. Large bony defects from old gunshot wounds, finger and hand amputations, burn scar contractures, and surgical scar contractures came to us. We saw previously undetected Bouttonierre deformities and upper extremity fractures from moving vehicle and farm machinery accidents. We also saw syndactylies, radial deficiencies, post-polio patients, and some leprosy. I admired Dr. Kozin's remarkable clinical skills and the deep compassion he was able to convey to his patients.

A sweet 13-year old orphaned girl came with her aunt to see if the American doctor could help her. Her dominant hand was twisted radially at the wrist, virtually perpendicular to her forearm. Her aunt reports that when she was only one or two she broke her wrist. She was in no pain, but had significant difficulties in writing, preparing meals, and dressing herself. It was thought that the growth plate had been previously damaged. Dr. Kozin performed a Darrach procedure. Several days later we reduced the bulky dressing and replaced it with a splint. In the mean time I had been working with the OT and PT faculty on pattern-making and post-operative care. The local therapists were able to fabricate the splint with minimal assistance from me.

Serial casting was unfamiliar to the therapists, though Plaster of Paris was prevalent. It was, as someone said, an "elixir for the soul" to bring the OTs and PTs together, train them, and watch them rectify a PIP joint flexion contracture in only 4 cast changes.

Teaching

Dr. Naddumba, chief surgeon of the Orthopedic Department, organized



Orthopaedic faculty and residents at the Mulago Hospital at the Makerere University

a continuing education program structured around our visit. In attendance were fourteen orthopedic residents and faculty, 60 OT and PT students and faculty, and several health professionals from the community. Dr. Kozin was well prepared to lecture with a large 3-ring binder of slides, and his laptop with several digital presentations.

We struggled through several formal lectures in small rooms with poor lighting and ventilation. But the greatest hindrance to education was our American accent. The orthopedic residents made their preferences for informal clinical teaching known.

Dr. Kozin commandeered our schedule and increased surgical teaching opportunities for the residents and clinical teaching for the OT and PT faculty. This made for a more workable arrangement on a daily basis. Dr. Kozin, by the way, is a gifted teacher who adapts easily to changing circumstances and needs.

Preparations

Health Volunteers Overseas was vital to the success of our trip. We were advised on which vaccinations were necessary (I needed 14), how to buy prophylaxis against malaria, which airline to fly, and even the

acceptable length of skirts and dresses. No question was too small. My home church, medical organizations and vendors all willingly donated supplies and needed items—totaling 69.5 pounds of an allowable 70 lbs. My children readied themselves for African pen pals. Sleeping pills helped to offset the 24-hour trip with 8 time-zone changes.

The Country

Sandwiched in-between Kenya to the east and the Democratic Republic of the Congo to the west, Uganda is located in East Africa. Her southern border is Lake Victoria. The equator passes through the southern part of the country. Uganda is about the size of Oregon. The terrain is beautiful—70% forest, woodland or grassland. Just over 10% of the land is dedicated to national parks, forests or game reserves.

The weather is fabulous. The temperature hovers at a comfortable 65 degrees at night and 77 degrees during the day... year round! The trees and flowers are thick and lush. Only precipitation levels differentiate the seasons.

With 1 million people, the capital city of Kampala is the largest city in

continued on page 18

VARGAS AWARD

continued from page 17

Uganda. Twenty million people live in Uganda and speak 52 different tribal languages. These are 'home' languages with English being the official or public language. Their spoken English was heavily British in accent and word usage, creating some difficulties in communication.

Ugandan People

Two-thirds of the Ugandans profess Christianity (strong Baptist presence, also some Catholic, Methodist, and Lutheran). Theirs is an overt, fundamentalist faith with gospel services on television, open prayer on the wards, frequent 'God bless you' and impressive church attendance on Sunday. Also impressive was the length of time spent in worship: four or five hours are not unusual.

The health status of the country is abysmal by western standards. Fifty percent of the women are illiterate (and therefore not able to speak English) and have an average of 6.9 births. Infant mortality is nearly ten percent. Average life expectancy is 37 years. Ugandans are quick to point out that theirs is the only country in Africa with a decreasing HIV rate. Government statistics report that 20% of the population is HIV positive.

The dreadful Ebola Zaire virus surfaces every now and again. The same day AAHS notified me of the Vargas award, I read in the newspaper that there was a large and unconfined outbreak of the virus just north of Kampala. I resolved not to worry about it, which became more difficult when health professionals began to die. The outbreak ended 3 months before we arrived.

Leisure

Uganda's Lake Victoria is the source of the Nile River that flows north and offers extreme whitewa-

ter rafting. Class V and VI rapids were too much for this novice, though Dr. Kozin fared much better. Thrown from the raft, I was plucked out of the Nile by Moses, a Ugandan kayaker strategically placed to save drowning customers. (I would have thought it more appropriate if Moses was in a basket and I plucked *him* from the Nile.)



A chimp from the Jane Goodhall Chimp Orphanage also benefits from the visit.

We also had the good fortune of treating a chimpanzee with a serious hand injury at the Jane Goodhall Chimp Orphanage in the nearby city of Entebbe.

Sobering visits to an orphanage kept us cognizant of our many blessings, and made each of us sharply miss our own children.

Finals Thoughts

Dr. Scott Kozin had it right. Having done it once, I can't wait to volunteer in a third world country again. The various physical discomforts pale in comparison to the unqualified enrichment of the experience. I do believe we helped quite a few people along the way and hopefully more individuals will benefit indirectly from our efforts in the future. The people I encountered haven't changed my life, but have made it more interesting and less routine. Dr. Miguel Vargas and his family have shown great foresight in establishing the means and structure for these experiences. We are deeply grateful to them and to the AAHS for making this possible.

H

DIGITAL HAND SURGEON

continued from page 1

Medical Records: The Physician's Responsibility

By tradition (and law), physicians record the medical record. The document is the joint property of the physician and the patient with duties and privileges for both parties. Beginning in the 70's, medico-legal issues escalated the demands on the medical record. In the 80's, it became popular to link the completeness of the record to billing, with Medicare leading the way for spiraling upward requirements. In the 90's, patients themselves began a heightened interest in their own medical information with the blossoming of the "information age."

Combined with the increasing complexity of medical documentation is the staggering cost of duplication. In the current state process, re-dictating, faxing, copying, collating, filing, and refilling of the same bits of medical information are routine throughout the entire medical delivery system. Each and every time a patient endures a new medical encounter, old medical information is re-recorded, typically from the patient's memory.

Therefore, at the outset of the new millennium, doctors can no longer scribble a note, meaningful only to them, and call it a medical record. Rather, the complete demands of patient medical information management have been relegated to the doctor, in addition to the expectation of providing detailed written instructions, rationales for treatments, medication lists and warnings, etc... all without any corresponding increase in reimbursement.

David B. Nash, MD, Associate Dean for Health Policy at Jefferson Medical College in Philadelphia, was quoted in the 8/21/00 *American Medical News*:

"The barriers to physician adoption of this technology are more

cultural than technical. In five years we won't be having this conversation because the current generation of interns and medical students are very computer savvy. We call them the Nintendo generation. This Nintendo generation assumes computers will be an everyday part of practice and they look at their colleagues, particularly those over 45, and wonder—what's taking so long?"

The National Academy of Science in a March 1, 2001 release delineated serious flaws in our medical delivery.¹ The committee recommended construction of an "infrastructure to support evidence-based practice" in order to deliver "safe, effective, patient-centered, timely, efficient, and equitable medicine"—a tall order, indeed.

The healthcare industry, therefore, stands at a critical juncture. While facing a significant increase in the number of patients and providers that need to be serviced, the industry is under pressure to increase the quality of results. Yet, in the midst of these demands, the greatest pressure is to lower costs. More for less... information technology forms the infrastructure that will become part of the solution. Global data management with pattern recognition, treatment predictability, and outcomes optimization are the technology engines that can deliver quality and economical healthcare services.

The solution: collect clinical data once and use it many times.

The Internet ASP model optimizes data and communications from anywhere to anywhere, flowing freely but securely. On-line, real-time data used to simultaneously create medical documents while spinning off high-grade longitudinal analytic medical data as an effortless by-product represents the dream solution. Duplication cannot be tolerated!

The U.S. Government, the American Medical Association, WebMD, Microsoft, IBM, The National Academy of Science, and many, many others, along with

800,000 U.S. doctors and most of their patients, have predicted medical records will be managed electronically in the near future. Doctors document medical encounters once and ONLY once, resisting ALL forces that add to their documentation work load OR their documentation costs. While patients view medical records as an "included service," doctors, to date, have not found a favorable cost/benefit ratio for upgrading to EMR technology as they did with electronic billing systems. And yet, the day-to-day detailed medical data collected routinely has the collective potential to satisfy the \$18 billion annual pharmaceutical clinical research demand in spades!

The pharmaceutical industry pays for duplicated medical information, vital to understanding their therapeutic products and in meeting the Federal Food and Drug Administration's requirements. Electronic collection of medical data, through a singular process, useable for both documentation and analysis creates a strong value proposition for physicians, patients, and pharmaceutical manufacturers simultaneously. Cost savings from the elimination of duplication in medical data collection can support universal deployment of the Internet EMR along with rapid, continuous, and significant advancements in medical information management technology. Software sales fees from doctors alone CANNOT possibly support the evolution of the EMR in the U.S.



REFERENCE:

1. *An Agenda For Crossing the Chasm: A New Health System for the 21st Century*, (Committee on Quality of Health Care in America, <http://books.nap.edu/books/0309072808/html/5.html#pagetop>).



PEOPLE IN THE NEWS

Peter Amadio, MD, former AAHS

President ('98-99), was elected to serve as the COMSS Chair for 2002-2003.

Paul and Jennifer Brach welcomed their daughter, Marilyn Louise, on March 23rd.

Commander Michael E. Jabaley, Jr., son of **Dr. and Mrs. Michael E. Jabaley**, has been granted command of the *USS Louisville*, a submarine in the United States Navy, Pacific Fleet, based in Honolulu, Hawaii.

People in the News is dedicated to recognizing the accomplishments of AAHS members and their families. Submissions should be sent to the AAHS Central Office at VETTER@ISMS.ORG. Submissions will be included on a space available basis.

Hand Surgery
Quarterly

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Summer
2002

American Association for Hand Surgery Calendar

2002

July 12–14, 2002
Mid Year Board of Directors' Meeting
Ritz Carlton Hotel
Chicago, IL

October 3–5, 2002
57th Annual Meeting
American Society for Surgery
of the Hand
Phoenix, AZ

2003

January 8–11, 2003
33rd Annual Meeting
Hyatt Regency Kauai
Koloa, Kauai, HI

April 10–12, 2003
Post Traumatic Reconstruction of
the Upper Extremity
Hotel Inter-Continental
Chicago, IL

July 18–20, 2003
Mid Year Board of Directors
Meeting
Casa Del Mar
Santa Monica, CA

September 17–19, 2003
58th Annual Meeting
American Society for Surgery of
the Hand
Chicago, IL

2004

January 14–17, 2004
34th Annual Meeting
Westin Mission Hills
Palm Springs, CA

2005

January 12–15, 2005
35th Annual Meeting
Sanibel Harbor Resort
Sanibel Island, FL

2006

January 11–14, 2006
36th Annual Meeting
Loews Ventana Canyon Resort
Tucson, AZ

2007

January 10–13, 2007
37th Annual Meeting
The Westin Rio Mar Beach Resort
Rio Grande, Puerto Rico

**For information contact: AAHS
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Inside This Issue:

- 1 *The Digital Hand Surgeon*
- 3 *From the President*
- 4 *Who's Who at the AAHS Central Office*
- 7 *Report from the Treasurer*
- 8 *Leadership Profile: Scott Kozin, MD*
- 9 *Around the Hand Table: Electrothermal
Technology in Arthroscopy of the Hand &
Wrist*
- 15 *Hand Therapy & Affiliate Corner*
- 16 *Vargas Award 2001 Report: Uganda*
- 19 *People in the News*

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