Better: Getting Our Cht Together

Nathalie Barr Lecture delivered at the ASHT Annual Meeting, Boston, October 2008

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"Lend me your ear and I'll sing you a tune…it's getting better all the time…" (The Beatles 1967 from Sargent Peppers Lonely Hearts Club Band album)

The theme I will be discussing today is how to combine both education and information from research to improve our practice as Certified Hand Therapists (CHTs). How can we facilitate the best functional recovery for our patients by maximizing the use of appropriate and effective treatments? I have invited the members of the American Society of Hand Therapists (ASHT) Educational Council and Research Division to be with me on the lecture stage with me, as they will be a critical mass to help move this charge forward for our members. They have contributed comments that I will be sharing with you throughout this Nathalie Barr Lecture.

"Challenge yourself beyond what is needed for recertification (as a CHT)" (Jane Fedorczyk, PT, PhD, CHT, Educational Council Member)

This statement frames the title of my talk today. Challenge yourself, move forward, and be better (at what we do for our patients). Although my examples will be different, the themes of ingenuity, diligence, and doing right are similar to those presented in Dr. Atul Gawande's book, "*Better: A Surgeons Notes on Performance*".[1]

- What can we do to be better (as) CHTs?
- What can we do to better serve our patients?

I have developed my "to do" or "how-to-be better" list that I would like to share with you (Figure 1).

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DILIGENCE

Apply Knowledge to Practice

CHTs must stay current by continuously reading and assessing the literature (Teresa Brininger, PhD, OTR/L, CHT, ASHT Research Division Chair)

I believe it is incumbent on us as hand care professionals to regularly read current research in scientific peer-reviewed journals and use the knowledge gained to optimize patient care.

…especially evidence-based applications to therapeutic intervention (Barbara Haines, OTR/L, CHT, ASHT Education Division Chair)

The *Journal of Hand Therapy* (*JHT*) is the flagship peer-reviewed periodical of our profession. I suggest that you read the articles and use these articles for in-services and journal clubs in your clinic. Share information from the journal, for example, figures or tables during sessions with your patients.

There are a number of other journals that have research information related to our patient population, including but not limited to, the *Journal of Hand Surgery, Hand, Physical Therapy, Journal of Orthopaedic and Sports Physical Therapy, American Journal of Occupational Therapy, Australian Journal of Physiotherapy, and Archives of Physical Medicine and Rehabilitation*. All of these are indexed in Medline and will come up on a PubMed search. There are also Open Access Journals online, such as BMC Musculoskeletal Disorders that are free to everyone, for example, you do not need to pay for a subscription.

Clinical Commentary in JHT

There is a new feature, a Clinical Commentary, in *JHT*, that many other health professional journals have had in place for years. There have been four Clinical Commentaries and the fifth commentary will appear in the January/March 2009 issue of the

Diligence

- Apply knowledge to practice
- Advance through education
- Collaborate with others

Ingenuity

- Paradigm shift from new research
- Learn from our failures

Doing right

- Listen to our patients
- Give back

FIGURE 1. *The ''How-to-be-Better'' list as per Sue Michlovitz.*

JHT. The purpose of the Clinical Commentary is to give an interpretation on how information from a study relates to daily clinical practice.

The commentary is written by a therapist who was not one of the original reviewers of the article and who acts to translate scientific knowledge to meaningful practice. The general layout for commenting on studies addressing intervention had been adapted from The Bottom Line, a feature of *Physical Therapy* and includes the following:

- What was the purpose of the study?
- What did the authors do to answer stated study purpose?
- How and what subjects, for example, patients were selected to study?
- What treatments did the subjects receive?
- How were results of the treatment measured?
- Did one treatment fare better than the other?
- Are results of the study applicable to your patients?

Use Information from ASHT Scientific Sessions to Frame Practice

In my opinion, both the scientific articles and posters are the most important part of the ASHT Annual Meeting. They often get the least attention of the events at this meeting, particularly during promotion of the meeting. The scientific articles and posters teach us new concepts, validate older ones, and establish justification for our practice (or not!). New ideas for clinical practice are often generated from the studies presented during the meeting. During the scientific sessions yesterday, I had a brief questionnaire passed out to all session attendees. The queries were as follows:

- Choose one article from (Friday) session
- What is the take-home message?
- How would you apply this to your clinical practice?

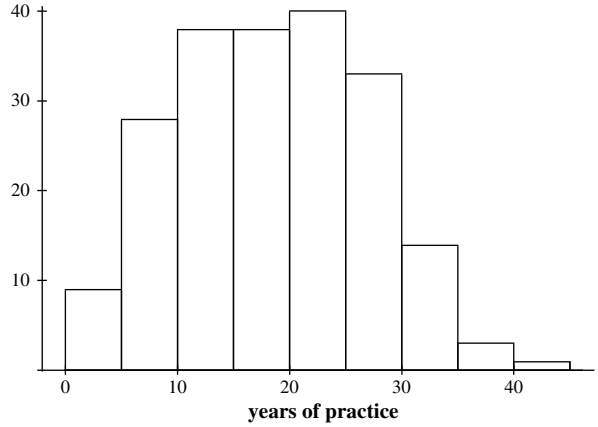

FIGURE 2. *Years of practice in hand therapy of attendees who answered survey ($n = 204$). Note that 220 surveys were returned. Sixteen respondees did not list years of practice in hand therapy.*

- How many years have you worked in hand therapy?

Two hundred twenty ($n = 220$) of more than 800 conference attendees returned the surveys. Mean years of practice of the respondents were 17.5 and standard deviation was 8.2 with a range of 1–42 years (Figure 2). (Note that there is a discrepancy between the number of returned surveys and the number of therapists who did not fill in their years of practice.) I will share some of the ''take home'' thoughts of the respondees. Related to Cowen et al's article *Assessing MCP Flexion in Amputated and Adjacent Fingers in Children with Severe Hand Burns*, some comments are included as follows:

- This brings to light, the challenge of the small finger
- Need a patient-centered outcome measure for children

Related to MacDermid et al's article *Relationship between Impairment of Pain and Self-Reported Disability in OA Hand*, some comments are included as follows:

- Pain is such a large component of self-reported disability
- Perhaps (we should) focus more on strength than range of motion

Related to Ruff et al's article *Functional Outcomes of Individuals with CMC Arthritis After Surgery*, some comments are included as follows:

- We should use the Disabilities of the Arm, Shoulder and Hand Questionnaire in measuring patient status and outcome.
- This article provides timeframes for recovery to pass along to patient.

I believe if you think about how you can apply work from scientific articles to your clinical practice,

more will be gained from attending these sessions. You can also consider providing your own ''clinical commentaries'' on articles for your practice's inservices that could add a spark of enthusiasm to your practice and for your patients.

Practice Guidelines

We should keep abreast of practice guidelines published by our society and other societies that can have a direct impact on our patient care! When practice guidelines are developed, a group of experts does the work for you, for example, reviews the scientific literature, summarizes, and draws conclusions for practice. An example of such guidelines is those for managing carpal tunnel syndrome (CTS) approved by the American Academy of Orthopaedic Surgery (AAOS) in September 12, 2008 (http://www.aaos.org/Research/guidelines/CTStreatmentguide.asp). The evidence-based practice guideline is titled *Treatment of Carpal Tunnel Syndrome* and is a systematic review of nonoperative, operative, and postoperative care. ''A course of nonoperative treatment is an option for patients with CTS. Early surgery is recommended if there is clinical evidence of median nerve denervation or the patient elects to proceed directly to surgery.'' There is support for nonoperative care, including local steroid injections, splinting, oral steroids, and ultrasound. If there are no positive results from these treatments in two weeks, for example, injection, splinting, or oral steroids, then an alternative treatment should be considered. If there is no improvement with ultrasound in seven weeks, another intervention technique should be considered. (*Note*: I am not sure whether ultrasound is the most time- or cost-efficient alternative considering that the evidence level is at moderate support.) There are no recommendations for or against laser, iontophoresis, phonophoresis, stretching, activity modification, or exercise. You should think of all the therapists who use these treatments for CTS and where the evidence is. Would well-designed studies using these techniques show an effect or not? The AAOS recommendations state that after surgery for a carpal tunnel release (CTR), the wrist does not need to be immobilized. There are no recommendations for or against therapy after surgery. How many of you see patients after CTR surgery? If you have these patients referred for therapy, how often and for how long do you see them? Are the patients referred for therapy just the ones who have protracted recovery or complications after surgery? I suggest you go back and review your postoperative CTR cases to examine what the patients' problems were, how you intervened, and what the results of that intervention seemed to be.

I am not saying that I disagree with the AAOS recommendations. Their guidelines have said that many techniques therapists ''typically'' use for patients with CTS is neither supported nor refuted by best available evidence. Do we have any evidence to show otherwise for laser, iontophoresis, stretching exercises, strengthening exercises, activity modification, or postoperative therapy?

- Academic doctorate (PhD, EdD)
- Clincal doctorate (post enty- level OTD)
- Post-entry level MS , MPH

FIGURE 3. *Some examples of advanced degrees for the Certified Hand Therapist.*

Advance Through Education

We need to continue our education to ''make us better,'' for example, better therapists, to stay current to date and to best serve our patients.

We should participate in both self-directed learning and formal educational opportunities (Sarah Goldman, PhD, OTR/L, CHT, Research Division Member)

Educate others: Teach those less clinically experienced on a regular basis

Take interns (Marta Brinkley, OTR/L, CHT, Research Division Member)

We need to create educational opportunities that communicate results of research and apply them directly to practice (Gary Solomon, MS, OTR/L, CHT, Educational Council Member)

One of my goals as American Physical Therapy Association (APTA) Research Division Director for 2009 and 2010 is to ensure that all ASHT sponsored continuing education courses have presentations earmarked to cover research content related to course topics. Each course should ideally have a researcher in that topic area on faculty. Small discussion groups and workshops are also encouraged as a working format to generate research ideas during these courses.

Donna Breger Stanton, the 2007 Natalie Barr Lecturer and past-President of ASHT, is a proponent, as I am, of hand therapists studying for an advance degree with a professional goal in mind. (There are certainly other ways to continue your education, including formal continuing education courses, self-study home courses, and reading journals!). If you choose to earn an advanced degree, for example, beyond the entry-level occupational or physical therapy degree, there are a number of options based on your professional goals (Figure 3). The academic doctorate, for example, PhD or EdD, is often pursued by those who seek a career in academics and research. Master degrees obtained past entry-level serve to increase expertise in a specific area, such as gerontology or public health.

I hear plenty of reasons against getting an advanced degree, including but not limited to, 1) ''they'' cost too much, 2) I don't have time, 3) Why do I need

one?, 4) I won't make more money, and 5) blah, blah, blah…

In my opinion, if we want to advance our hand therapy specialty area of practice, we have to increase our scholarship. The rigors in acquiring an advanced degree and then applying those skills to improving practice seems like a logical starting point.

I asked a few of my former students in the CHT Elective Track of the Clinical Doctorate in Occupational Therapy (OTD) at Rocky Mountain University of the Health Sciences the following: "Have your studies in the OTD program changed your practice (or professional life) or not?" Let me share some of those responses with you.

- *My studies did change my practice, greater emphasis on patient outcomes, more critical review of the literature, and even more basic "knowing how" to review the literature (Nancy Wesolowski, OTR/L, OTD, CHT)*
- *My practice now uses a patient-centered approach. I find the best evidence to support interventions that I believe would benefit my patients and I involve them in goal setting and the decision-making process (Kris Valdes, OTD, CHT)*
- *I have the confidence and leadership that I would have never had 3 years ago (Tambra Marik, OTR/L, OTD, CHT)*
- *I can better critically interpret the literature and analyze my own practices and treatments. I have increased motivation to promote our profession and more engaged in doing so (Gretchen Kaiser Bodell, OTR/L, OTD, MBA, CHT)*

Reflect, think about our practice and what your individual educational needs may be. You never can tell, you may be off for a new adventure!

Collaborate with Others

Collaborate by mentoring: The best way to grow is to share (Ann Lucado, MS, PT, CHT (Doctoral student and Educational Council Member)

Collaborate with hand surgeons for development of both professions; with universities to implement our research ideas; and with our parent organizations, our members, and our patients (Jeanine Biese, MEd, OTR, CHT)

When surgeons and therapists share together they create a total safe place for the patient (Susan Mackinnon, MD)

A model for therapist–surgeon collaboration is shared by Christine Novak, MS, PT, and Susan Mackinnon, MD. Novak and Mackinnon have partnered together in clinical practice and research mostly related to peripheral nerve injuries and disorders. They have 68 clinical articles and research coauthored publications from 1992 to present. Most recently they are coeditors of *Hand Clinics*, November, 2008. Drs. Robert Szabo and Joy MacDermid have partnered to coedit *Hand Clinics* for February 2009 on evidence-based practice. Consider partnering with a surgeon in your area for research or case conferences or both! You both can add your unique professional experiences to the mix.

Support fellow therapists in their quest to learn and teach more.

…organize study groups; research and publish. Invite others to join your efforts in teaching and learning (Gail Shafer-Crane, PhD, OT, Research Division Member)

Collaborate with other therapists for research teams and study groups.

We had just an idea in 2007 (we are ten hand therapists, including myself, Dorit Aaron, Lynn Bassini, Sue Blackmore, Carla Cleary, Jerry Coverdale, Lynn Festa, Maureen Hardy, Joy MacDermid, and Donna Breger Stanton). We wanted to work together to mentor others and to foster advancements in our profession. We wanted to accomplish this without the structure of a formal professional organization. We call our group the Hand Therapy Think Tank, for example, HT3. Our group met for the first time in Ithaca, NY, in September 2007. Our vision statement was created in 2007 and amended in 2008 to say the following:

- The HT3 is a group of hand therapists working together to integrate evidence, critical thinking, and advanced clinical skills to guide optimal recovery of function in our patients.

HT3 planned a retreat for September 2008 in Ithaca. We extended invitations to 50 hand therapists to join us in the retreat with the intention of having 20 participants beyond our core ten. All participants came to Ithaca, September 5–7, 2008, enthusiastically volunteering time and sharing expertise. Participants were from the United States, Canada, and even one from Ireland! The 34 participants (10 physical therapists, 24 occupational therapists) were engaged in two full days of work and play. The focus of our work was on therapist evaluation and interventions for osteoarthritis of basal joint of thumb. Jean Wessel, PT, PhD, Emeritus Faculty from McMaster University, the "home" of evidence-based medicine was our Keynote Speaker. We spend most of our work time in small groups discussing evidence for practice in examination and treatment. There was a 50–50 work and play-time split over the weekend with time to get to know each other and form professional relationships for collaboration. In fact, Eileen Kane, PT, CHT and Jerry Coverdale, OT, CHT, who never met each other before, joined together shortly after the weekend to provide the next Clinical Commentary for the *JHT*! The weekend in Ithaca concluded with summary statements of consensus on selected topics related to therapist's evaluation and treatment for thumb basal joint arthritis. We encourage others to form similar (or different) groups. Think outside the box and use your creative passions and knowledge to "make us better" as CHTs.

INGENUITY

Paradigm Shift from New Research

We need to use fundamental science and apply this to our practice (Rebecca von der Heyde, MS, OTR/L, CHT, Educational Council Member)

We should apply basic science information to rethink and/or develop treatment strategies. The injured wrist is a challenge to manage and this has been one of my clinical interests for years. Two lines of research are exciting related to the wrist, including 1) the kinematic work done to describe and define the dart-thrower's motion of the wrist and 2) ligamentomuscular reflexes in the wrist. Elisabet Hagert, MD, PhD, a hand surgeon from the Karolinski Institute in Sweden, presented the last in a series of three articles for her PhD at the American Assocation for Hand Surgery (ASSH) Annual Meeting in Chicago, Illinois, just last month. Hagert looked at others' work that showed similar reflexes in the shoulder and knee. She then went on to study, identify, and study a ligamentomuscular between the scapholunate interosseus ligament (SLIL) and forearm muscles. Hagert and colleagues studied mechanoreceptors in wrist ligaments[2] and found the dorsal wrist ligaments and SLIL to be richly innervated. When she applied an electrical stimulus to the SLIL in humans, there was an electromyographic response in certain forearm muscles, including the flexor carpi radialis. Early reactions in antagonists were recorded. She opined that those early responses may have a joint protective role with the latter co-contractions having a role in neuromuscular control. This supports an SLIL sensory function. She proposes that we generate rehabilitation programs to include proprioception re-education in patients who have sustained wrist ligamentous injuries. Does this represent a paradigm shift from what we have been doing to manage these patients? Further details can be read in her publications.[2,3]

Learn from our Failures

Consider retrospective review of charts. Therapists and surgeons should go over problem cases together (Robert Szabo, MD, MPH)

For many of our patient cases, we should look at and try to analyze "length of stay." Why are some patients in therapy for so long? I could go on about this today, but why don't you go back to your clinics and give some thought to how you can do things better and perhaps reduce length of stay if justified. We should also study what other factors are involved in our problem cases and failure to recover as would be expected from mechanism of injury or disease process.

DO RIGHT

Listen to Our Patients

Spend time in the clinics with your surgeons and have patient problem-centered discussions with the patient there (Robert Szabo, MD, MPH, President-Elect American Society of Surgery of the Hand)

Joy MacDermid, BSc, PT, PhD, addressed patient-centered care in her 2005 Nathalie Barr lecture.[4] I often wonder and do routinely ask patients what their goals and expectations are from therapy. Do patients need (or want) to come in two to three times per week? Do they have the time to drive over to your clinic; can they spend that time doing a well-designed program at home? Give them choices/alternatives to accomplish goals. Educate your patients about their condition, the timeframe to healing, and how to improve their function!

Give Back

And finally but NOT least important of the "to-do" list is give back to others but NOT volunteer for outreach missions. I have had two wonderful experiences with Guatemala Healing Hands Foundation going to Guatemala City for patient care. Volunteer at local free clinics. In my town, we have the Ithaca Free Clinic that is under the auspices of the Ithaca Health Alliance. There are physicians and alternative care practitioners, including a chiropractor, herbalist, acupuncturist, and massage therapist. I have recently started providing a few volunteer hours a month in physical therapy for the Ithaca Free Clinic.

CONCLUDING REMARKS

In my Natalie Barr Lecture today, I have intended to provide some suggestions to better ourselves as individual therapists and as discipline. I could not end this presentation without my thanks and gratitude to those who made me better.

A Tribute: Reflecting on those who made me BETTER

- Noubar "D" Didizian, MD (Philadelphia, PA), In 1973 at Medical College of Pennsylvania, "D" took me under his wing and introduced me to the world of "hands."
- Risa Granick, PT, EdD, was my Program in PT Chair at Hahnemann University (1980–1998) and presently at Columbia University (2006 to present). Dr. Granick fostered growth in my academic faculty life and let me be "just me."

- Mary Watkins, DPT, MS (Boston, MA), my friend, mentor, and colleague in teaching. We worked together at Hahnemann University (1980–1992). She is the guiding spirit for rational thought (professional and social) (1980 to present). Thanks, buddy, for being here today.
- Steve Wolf, PT, PhD, FAPTA, Professor, Emory University, mentored me through the creation of *Thermal Agents in Rehabilitation* (ed 1, 1986) (now *Modalities for Therapeutic Intervention*).
- Former (Hahnemann University, Temple University) and present students (Columbia University and Rocky Mountain University of Health Professions) who teach us and push our limits. You really learn a topic when you try to teach it.
- Collaborators in writing, teaching, and play, including Joy MacDermid, BSc, PT, PhD, Ken Flowers, PT, CHT, Bette Ann Harris, PT, DPT, MS, and Mary Watkins, PT, DPT, MS.
- Collaborators in editing the *JHT* Special Issues, including Scott Kozin, MD, in 2000 and Sue Blackmore, MS, OTR/L, CHT, in 2006.
- Lynn Bassini, MA, OTR/L, CHT (Founder, Guatemala Healing Hands Foundation), for giving me the opportunity to give back and do outreach in patient care and teaching in Guatemala City (2007 and 2008).
- Hand Therapy Think Tankers (Ithaca 2007 and 2008) for having the trust, dedication, and creativity to embrace ''just an idea.''
- Annie Lawson, PT (Whitefish, Montana), 1954–2005 (in memory), who moved me to new heights—spiritually, intellectually, and physically! (My dear friend and hiking buddy)
- Paul Velleman, PhD, my husband-partner in love and life
- Jacqui Martone (doctoral student), my stepdaughter, for teaching me the ins and outs of being a (good) mom

And a special thanks to my friends Donna Breger Stanton, Joy MacDermid, Dorit Aaron, and Scott Kozin who put forth the time and effort to support me for the Nathalie Barr Lectureship. To ASHT and my colleagues, thanks for the honor.

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