

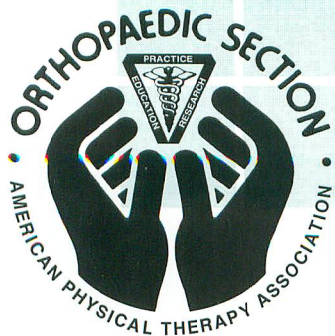
ORTHOPAEDIC

PHYSICAL THERAPY PRACTICE

THE MAGAZINE OF
THE ORTHOPAEDIC SECTION, APTA

VOL. 13, NO. 4

2001



American Physical Therapy Association

The Orthopaedic Section, APTA, Inc.
and the
Occupational Health SIG, Orthopaedic Section
proudly present:

“OFFICE ERGONOMICS: The Basics and Beyond”

Wednesday, February 20, 2002
Combined Sections Meeting * Pre-Conference Course
Boston, Massachusetts

COURSE OUTLINE:

Wednesday, February 20, 2002

8:00 —8:30	Introduction & Background
8:30 —9:30	Musculoskeletal Ergonomic Problems
9:30 —10:00	Basic Office Ergonomics
10:00 —10:15	Break
10:15 —12:00	Ergonomic Evaluations
12:00 —1:00	Lunch
1:00 —2:00	Ergonomic and Alternative Interventions
2:00 —3:15	Practical Application of Ergonomic Evaluations
3:15 —3:30	Break
3:30 —4:00	On-Site Musculoskeletal Screening Evaluation
4:00 —5:00	Ergonomic Program Evaluation and Marketing

SPEAKERS: Bonnie Sussman, PT, MEd

TUITION:

	Early Bird (prior to 12/17/01)	Advanced (prior to 1/21/02)	On-Site
Orthopaedic Section PT Members:	\$ 150.00	\$ 200.00	\$ 225.00
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Questions About the Course? Contact Bonnie Sussman, Vice-President of the Occupational Health SIG at 603/643.7788, or Stefanie Snyder at the Orthopaedic Section office: 800.444.3982



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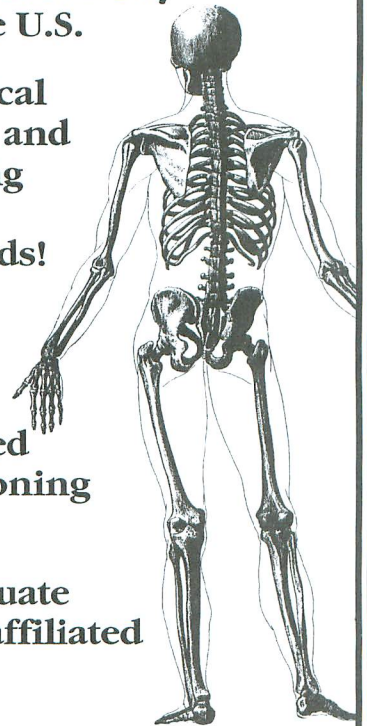
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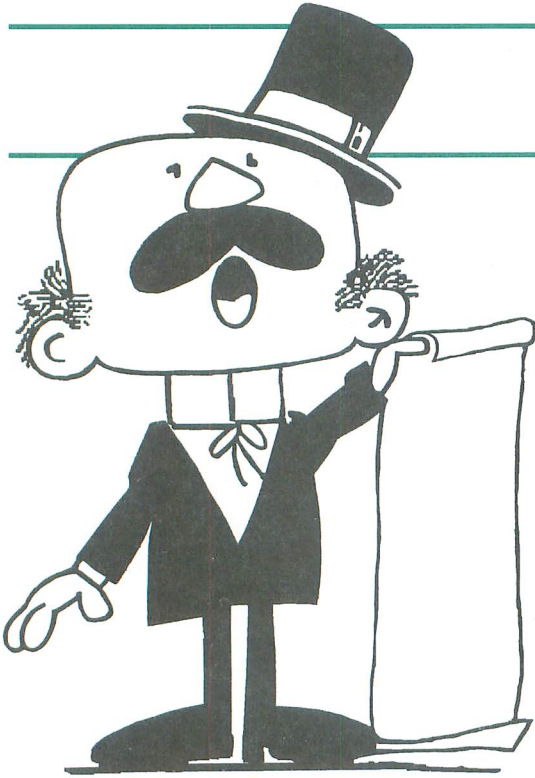
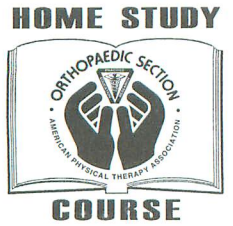
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ORTHOPAEDIC PHYSICAL THERAPY PRACTICE

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MISSION

The mission of Orthopaedic Section of the American Physical Therapy Association is to be the leading advocate and resource for the practice of orthopaedic physical therapy. The Section will serve its members by fostering high quality patient care and promoting professional growth through:

- Advancement of education and clinical practice,
- Facilitation of quality research, and
- Professional development of members.

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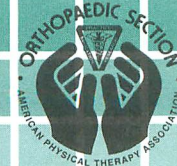
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Editor's Message



From Shock to Fear to Patriotism and Healing

Every fall I teach "Physical Therapy in Orthopedics II: Management of Non-surgical Conditions of the Extremities" to second year physical therapist students. Within that course, we cover neural dysfunction related to the musculoskeletal system. During my lecture on neuromuscular hypertension—defined as excessive muscular tension or a hypertonic muscular state—it occurred to me that this is an especially prevalent problem for many Americans right now. In light of the events of September 11, 2001, the war on terrorism, and the recent anthrax scares, many of us are in a heightened state of muscular tension. Watching the events unfold before our very eyes left us in a state of shock. It is still difficult to believe that this kind of thing could happen to us, that someone could harm so many innocent people.

Neuromuscular hypertension is a learned behavior of muscular activity in which subconscious habits of muscular contraction are carried over into any or all activities. If this hypertonic muscular state or muscle guarding is maintained over time, it can lead to musculoskeletal dysfunction. As a result of these acts of terrorism at home, all Americans are at risk of developing symptoms associated with post-traumatic stress disorder, including neuromuscular hypertension. These symptoms include feelings of numbness, sleep disturbances, inability or difficulty in concentrating, increased levels of discomfort or pain, and a sense of helplessness.

We are not so secure in our homeland as we previously thought. We are concerned with not only hijackings, but also with the risks of bio-terrorism. We are fearful of the unknown, of what might happen, of the threat of impending danger. As a Nation, this fear is new for us. However, this kind of fear, this fear of what *might* happen, is not especially new to many of our patients. Patients who live with chronic pain are often fearful that anything they do will increase their pain and symptoms, and therefore do nothing. Patients who have had heart attacks are often fearful that physical exertion will kill them. It

is this fear of the unknown, this fear of the potential implications of some action that immobilizes many of our patients. Experiencing the stressful events of September 11th may leave those of us who have no real physical pathologies with an increased level of discomfort, as well as disturbed sleep and other symptoms. So, it is logical to expect that our patients may have an even more marked response to the recent events. I certainly have noticed this with a number of my patients. One patient in particular—who has multiple diagnoses including fibromyalgia, lupus, DJD, and a history of cervical fusion—routinely describes to me how she cannot seem to tear herself away from the television and how she doesn't feel like doing anything. Her symptoms have gotten worse since September 11th, and it takes more and more of my energy to motivate her. I'm sure many of you could tell similar stories.

So, what do we do about it? Our new APTA slogan gives us good direction. Physical therapy is "The Art of Healing, the Science of Caring." In terms of physical therapy intervention, we must address the physical findings with science, and we must address the humanistic aspects with our caring. We must recognize the emotional and psychological components of the patient's condition and help the patient address those as well. That may include listening to the patient verbalize their concerns, or it may include referral for mental health services. While I know this is familiar to us all, we don't usually consider what some might call "political events" as a contributing factor to a patient's signs and symptoms. We must recognize that a patient may not understand or recognize the potential connection between worsening of his symptoms and the events of the day.

While most of us have experienced an increased level of stress since September 11th, the events of that day and the subsequent related events have led our Nation to the strongest sense of patriotism I have ever seen in my lifetime. The last time I remember so many American flags being flown at homes and businesses was in 1976 during our bicentennial year. Then, we celebrated

pride in our rich history as a Nation. Today, we celebrate that too, but we also celebrate our future. We celebrate our ability to come together as one Nation, although we are made up of many different peoples. We celebrate the lives of those lost and the heroism that has been shown. We are more aware of our behavior to one another as well. I don't know about you, but I've noticed an increased effort of people to be kind and courteous one to another. As a Nation, we have seen an overwhelming outpouring of support—financial, physical, and emotional—to those most affected by these tragedies. While these events were horrendous acts that hurt us, they also have made us stronger. We are beginning the long path of healing, and one step along that path is a renewed sense of pride in our country and ourselves. Along with our patients and our neighbors, let us continue to move along that path.

As I was editing this particular issue of *OP*, I found myself making notes along the way so as not to forget to use the information I was reading. Ron Scott's article reminded me of a recent conversation I had with my students regarding the importance of informed consent for physical therapy interventions, and not just spinal manipulation. In this day and age, assuming consent just because the patient showed up for physical therapy is just not adequate. From the book reviews, I found that there is an interactive CD reference to use when studying lower extremity evaluation. It sounds like it would be a great reference to have on hand for my students. I also learned about the potentially harmful effects of a commonly used antibiotic on tendon. What makes this especially interesting is that it is the same antibiotic that is currently being recommended to treat anthrax infection. However, this article was received long before we were worried about anthrax.

Moving along...CSM 2002 in Boston! We need as many PTs, PTAs, and students as possible to attend this great event. CSM has continued to grow every year and has now surpassed Annual Conference as our largest meeting.

(Continued on page 11)

President's Message

September 11, 2001 changed America forever. We will never forget where we were or what we were doing when we heard the terrible news. I was driving to work that fateful Tuesday morning, listening to the radio. First, I heard that a small prop plane flew into the World Trade Center, perhaps, flying off course on its final approach into LaGuardia Airport in New York. Then just a little later I heard another plane flew into the other World Trade Center tower. However, this plane was positively identified as a commercial wide body airline jet. I was just stunned; my mind went utterly blank. I thought to myself how can this happen? Why? Who would do this? What did all of these innocent people do to deserve this? We probably will never know. Like most other Americans, I was first in shock and then in denial. No one could believe this was happening to us. We all watched the news with disbelief. Well, finally, except perhaps those that lost loved ones, we started to come out of this denial. What we saw really happened. We as Americans started to realize that although we did not do this; we have to deal with this. Dealing with this kind of reality, no matter if we were there or not, must happen. We must move on. I keep thinking it could have been someone I loved or me. Self-preservation often creates a big roadblock in front of us. America, the land of the free, the land of liberty, the land of justice, is viewed by some as the land of evil. How can this be? Our freedom is hated by some! What can we do?

Well, in no way do I presume that the World Trade Center and Pentagon attacks are in any way similar to anything else; they simply are not. I do believe that this most difficult time has made all of us look at our life, including our profession, differently. As physical therapists I believe that we all fervently believe in our profession. We firmly believe that what we do improves the quality of life in our patients. If we did not believe this, it would be hard to continue to masquerade as physical therapists for very long. We know that as physical therapists we are an important part of the health care team. I don't ever question this, but do others really know what we do and how important we are in improving the quality of our

patient's life? Then why don't the third party payer's compensate us for what we are really worth? Why are we constantly getting picked on by the Chiropractic profession? Why are more and more athletic trainers treating "industrial athletes?" Is our identity at risk? Are we known more as a McKenzie therapist, certified hand therapist, manual therapist, or an ergonomist, than a physical therapist? Who are we, what are we, where are we going? We must not deny these issues; we must deal with these head on. No, they are nothing like what our country is facing right now, but I believe this attack is a wake up call to all. I believe we must wake up to the important issues that affect all orthopaedic physical therapists. Furthermore, we must take ownership of the important issues that directly affect us.... now! If we don't, who will? As Dr. Phil McGraw, PhD—a frequent guest on the Oprah Winfree TV show—says, "either you get it or you don't." We must get it; we must take the responsibility to do what is right for our profession. We must not be reactive; we must be pro-

active. We must admit that everyone shares an equal part in finding a solution to the problems we share.

Each of us has a unique talent; each must find their niche to facilitate in moving us forward. Together, as a collective group we can be strong and overcome most if not all of the problems we are facing as a profession. We all must share and work together to be responsible for making our profession great. The Orthopaedic Section's many committees (Education, Practice, Research, etc) are all working hard to overcome these problems. Perhaps, it is time for you to step up to the plate and get involved. For in numbers we have strength; your single unique voice can become a collective voice for all.



*Orthopaedically yours,
Michael T. Cibulka,
PT, MHS, OCS
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- The committee has one conference call each spring before Annual Conference. The conference call will be 1 to 2 hours in length.
- One committee member is requested to attend the Fall Board meeting held each October.

All interested candidates should contact the Executive Director, Terri DeFlorian, at tdeflorian@centurytel.net.

Continuing Education Call for Participation, Evidence, Authors

Mary Ann Wilmarth, PT, MS, OCS, MTC, CertMDT

This article has been a work in progress, constantly changing and evolving, not unlike our profession. Whether we are speaking of the profession of physical therapy, continuing education, or this article, there are many things that are common to all. I could say that I waited until the last minute due to procrastination. Waiting does allow one to include the latest and most up-to-date information; however, it is not so much that, as the unbelievable pace of my life that is not unlike most of yours. There are too many things to accomplish in too short a time span with never enough hours in a day.

This sounds like a great reason, if not an excuse, for letting things go or for not even being willing to get involved in the first place, but I see it as just the opposite. The busier our lives become, the more we have a duty and responsibility to take a look at just what it is that we are doing. It is easy to get caught up in the day to day and not look at the bigger picture. Sure we can perform a certain technique and we can even do it well. We have expertise; however, what if the technique itself is not the best approach in the first place? How will we know that unless we challenge it? Others are always more than willing to challenge our profession. We need to do the challenging ourselves.

We need to challenge ourselves as individuals as well as professionals. I can say this in all honesty with personal knowledge and affirmation. I do put myself out on a ledge by delving into new adventures personally and professionally. We must be willing to put our knowledge, theories, and techniques out there in the public domain. Sure, there will be scrutiny that will follow, but this is the way growth occurs. No one benefits by keeping ideas or concepts to oneself. We can start by submitting ideas, case studies, theories, and research for poster and platform presentations at the physical therapy meetings and for various forms of publications.

We face the possibility of being challenged with what we say or write. But with evidence any challenge becomes a means of discovering more, rather than a threat to our verbal or written word. On the flip side if you never put your

goods out, so to speak, then that information, theory, or technique cannot be truly shared or become part of the body of knowledge for the profession. We want our body of knowledge to grow with new evidence and not merely with repetition. Stating information repetitiously will truly not be furthering our education, but merely reinforcing that which we previously learned. With our continuing education in particular we want to do just as we state, continue our education, not review what we already know. Some review may be necessary in order to set the stage for new information, but it should not be entirely review unless it is stated as such.

Nobel prizes are not won by thinking inside the box. It's the out of the box mentality that truly leads one to succeed. The success of one can become the success of many, but only with the willingness to share and expose oneself. It does not always feel good at the time, especially with impending deadlines, but it is necessary.

The world is changing and will never be the same. Do we want to sit back and watch or do we want to be part of the solution? We make history every day whether we mean to or not. Why not make the history the way that you intended it to be rather than a random series of events that may or may not be connected?

That being said, I want to encourage participation. The more people we have involved in our profession, the more cohesive our group becomes. In these changing times we must take advantage of the opportunities that this presents to us and be proactive, not reactive.

Following you will find some pertinent information for being an author of our continuing education courses. We are always open to new ideas and authors. We may revisit topics that were previously covered, however, we will be looking for current evidence and supporting data for all topics.

All authors must submit an original, complete, professional-quality monograph prepared in accordance with the *Instructions to Authors* that is provided by the Orthopaedic Section of the APTA, Inc. Coauthoring is acceptable particularly if it will enhance the continuing

education experience for the participants. Although most authors are physical therapists, we welcome authoring by other professionals—such as physicians—as well as those with doctorates in specialty areas.

The authors' responsibilities include the following:

- Adhere to the production schedule established for the monograph.
- Complete monograph revisions as requested.
- Obtain written permission for all copyrighted materials you wish to reprint.
- Assist the Section in responding to registrant requests for clarification of the text—or review of examination questions if necessary.
- Review page proofs before publication.

As Home Study Course Author you would receive:

- Valuable professional experience.
- A generous honorarium.
- Technical and substantive editorial support.
- A complimentary copy of the entire course.
- At the conclusion of the course, a compilation of registrant evaluations of your monograph.

The authors communicate with the Home Study Course Editor and the Home Study Course Coordinator as required. The Home Study Course Advisory Panel assists the Home Study Course Editor in planning and decision-making. The Home Study Course Editor, in conjunction with the author, establishes the monograph topic, scope, and a deadline for submission. The Home Study Course Editor will then review the outline and learning objectives submitted by the author and offer suggestions and guidance regarding refinement of the scope and content of the proposed monograph. Finally, the Home Study Course Editor will edit the monograph for clarity, accuracy, content, currency, and overall quality. Final approval of the monograph is wholly within the discretion of the Home Study Course Editor.

The Home Study Course Coordinator is physically located at the main office

for the Orthopaedic Section. The Home Study Course Coordinator's main responsibility is production of the course. This includes receipt of course materials and forms and review of each stage of the monograph from submission to revision to publication of the course. The HSC Coordinator is available to authors during the entire process to answer questions and will keep the author up-to-date on the status of his or her monograph.

The Home Study Courses have been most often comprised of 6 monographs; however, we can be flexible regarding the number of monographs depending on the nature and needs of the course in question.

The following components comprise a complete monograph:

- Learning Objectives
- Body of Monograph
- Case Studies
- Reference List
- Tables and Figures
- Multiple-choice Review Questions
- Multiple-choice Final Examination Questions

The case studies that are included in the monograph are crucial for expanding the evidence in physical therapy treatments. They are designed to illustrate the management of the disorder discussed or the concepts presented in the monograph. For each study, the author must provide the diagnosis and the time elapsed between onset of the problem and the date first seen for evaluation and treatment. In addition, the results of the author's assessment, treatment goals, initial interventions selected, response of the patient or patients to treatment, and the timing of—and basis for—any changes in the treatment plan must be included.

Along with the completed monograph, as mentioned above, the author is required to provide 10 to 12 multiple-choice review questions that will be printed at the end of the monograph with the answers on the back page. The author must also submit 4 multiple-choice questions, which will be used in a comprehensive final examination at the conclusion of the course. The National Board of Medical Examiners (NBME) has established guidelines for writing multiple-choice questions (www.nbme.org). In writing questions for the Home Study Courses we adhere to the NBME guidelines.

As Jules M. Rothstein, PT, PhD, FAPTA mentions in his editorial in *Physical Therapy* in September 2001, we need to ensure that continuing

education courses are based on recent, credible information. Our goal is to use evidence and provide high quality continuing education. This will not only benefit the profession, but also all the patients who use our services and professional knowledge. However, continuing education has been an issue in many professions. We are not alone in coming up against difficulties in staying current and providing the most objective information that is backed by evidence or data of some kind.

As with this article, continuing education is an ongoing process that may never be perfected, but we can certainly strive for such a goal. In order to maximize our potential we need the assistance of everyone. Your expertise is essential as we continue to evolve as a profession.

I have sandwiched some pertinent information for potential authors in be-

tween my soapbox rhetoric. Lifelong learning is apropos for individuals, the continuing education arena, and the profession. I strive for this on a daily basis in all fronts. I sincerely hope that you will continue this dialogue with me as I too learn throughout the process. Early and honest communication is vital with any publication. I welcome your ideas, comments, and expertise. Please contact Mary Ann Wilmarth, Home Study Course Editor, via email at mwilmarth@mediaone.net or the Kathy Olson, Home Study Course Coordinator at 800/444-3982 ext 213 or at kmolson@centurytel.net.

Mary Ann Wilmarth, MS, PT, OCS, MTC, CertMDT is the owner of Wilmarth Physical Therapy in Andover, Massachusetts. Mary Ann also is currently serving as the Home Study Course Editor for the Orthopaedic Section.



We Need You!

The Orthopaedic Section, APTA, Inc. is looking for a volunteer to develop the role of Student Assembly Liaison. The goals of this position include:

- communicating with students,
- determining the needs of students as they pertain to orthopaedic PT, and
- increasing student membership in the APTA and the Section.

With assistance of the Section office, the liaison will develop a plan and budget. Other activities may include recruiting speakers for the Student Conclave, contributing articles to the student newsletter, and reporting to the Board on an annual basis. Attendance at the annual Student Conclave (to assist in working at the Section booth and answer queries) and the Combined Sections Meeting (to report to the Board) may be required.

Interested members can communicate with Michael Wooden, Membership Chair, via email at michael.wooden@physio.strykercorp.com.

Spinal Manipulation and Patient Informed Consent in Orthopaedic Physical Therapy

Ron W. Scott, JD, LLM, MSBA, MSPT, OCS

INTRODUCTION

Orthopaedic physical therapists, like other physical therapists and primary health care providers, generally face significant malpractice liability exposure incident to their professional practice. Patient-initiated health care malpractice litigation may be based on perceived or actual physical or psychological injury incident to intervention, or on serious dissatisfaction with the quality of care rendered. A health care malpractice case based solely on patient dissatisfaction will normally fail, because of a lack of provable losses or "damages" involving the plaintiff-patient.¹

In addition to proof of injury, health care malpractice liability must be grounded in a legally recognized basis for imposition of liability. From reported physical therapy malpractice cases, the most prevalent legal basis for malpractice liability for orthopaedics is *professional negligence*, or substandard care delivery. Substandard care, in legal terms, involves a therapeutic intervention that expert witnesses or peers of a defendant-orthopaedic physical therapist would classify as not comporting with at least minimally acceptable practice standards.

Besides potential malpractice liability for professional negligence, orthopaedic physical therapists may face malpractice liability for: breach of a therapeutic contractual promise (*breach of contract*); patient injury from dangerously-defective treatment-related products or devices marketed by the orthopaedic physical therapist (*strict product liability*); *intentional misconduct*; or patient injury incident to abnormally-dangerous evaluation and treatment procedures (*strict liability*). Courts traditionally have been reluctant to impose contractual or strict liability on orthopaedic physical therapists and other health care professionals because of their special status, service-oriented relationship toward their patients.

This article focuses on the issues of patient-therapist communication and informed consent to spinal manipulation.

TESTING PATIENTS' RECALL OF DISCLOSURE ELEMENTS FOR INFORMED CONSENT TO MANUAL ORTHOPAEDIC PHYSICAL THERAPY PROCEDURES

Patient informed consent to health care interventions, including orthopaedic manual therapy procedures, is a prerequisite to care. Informed consent is required both under legal precedent, and by ethical mandates.² All health care professionals carrying out treatment have the legal and ethical duty to disclose specific information to patients about proposed treatment interventions so as to allow them to make knowing, intelligent, voluntary, and unequivocal decisions regarding their care.^{3,4}

Legal Recognition of the Informed Consent Obligation

Many states have informed statutes that govern patient informed consent procedures for surgical and anesthesia consent. In a few states, when a patient affixes his or her signature to such a statutory informed consent form, it constitutes conclusive (irrefutable) evidence that the patient gave informed consent to surgery or the administration of anesthesia.⁵

While there are no similar statutory informed consent forms applicable to physical therapy, there is, for the military orthopaedic physical therapist, an administrative regulation that requires an orthopaedic physical therapist who carries out spinal manipulation to disclose specific information to the patient, document that these elements were disclosed, and that the patient consented to manipulation. The specific disclosure elements under the military regulation are: nature of spinal manipulation, material risks associated with the specific procedure, and reasonable alternatives to spinal manipulation.⁶

Other legal sources creating a legal duty to obtain patient informed consent include: judicial case law rulings, professional practice standards, institutional procedures and protocols, and customary practice standards. Case law in every state has held that primary health care professionals have a legal duty to make adequate disclosure of treatment-related information to patients before treatment, and to obtain

their informed consent to treatment. One exception is a 1994 Pennsylvania case, *Spence v. Todaro*,⁷ a case in which a patient alleged physical therapy malpractice against an orthopaedic physical therapist for alleged lack of informed consent. In that case, a federal district court, interpreting Pennsylvania law, held that there is no duty under Pennsylvania law for health care professionals to obtain patient informed consent, except for "surgical or [other] operative procedures."

The *Guide to Physical Therapist Practice*, 2nd ed.⁴ requires, in part, that physical therapists...obtain patient informed consent to treatment in accordance with jurisdictional law. Many (hopefully all) practices, especially orthopaedic physical therapy practices in which manipulative procedures are performed, have established informed consent requirements as part of their standard operating procedures. Normally, compliance with such standardized procedures obviates the need for specific documentation of informed consent in individual patient records.

Neither a referring physician, nor a physical therapist assistant, possesses sufficient knowledge and information about physical therapy professional interventions to enable them to obtain patient informed consent as a surrogate for physical therapists. Again, this point is particularly true regarding orthopaedic physical therapy manipulation procedures. Under law and professional ethics, the responsibility for obtaining patient informed consent lies with the physical therapist clinician treating the patient.

Informed Consent Disclosure Elements

While requirements vary from state to state (and within the federal system), the following are core information disclosure elements that have been found to enable a patient to make an informed election of treatment:

- Patient diagnosis(es),
- Nature of the intervention recommended or ordered,
- Material (decisional) risks of harm from the intervention,

- Expected benefits or goals of treatment, and
- Reasonable alternatives to the proposed intervention, if any.

Disclosure of risks of possible harm or complications follows one of two models, depending on the state in which the physical therapist practices: either the "reasonable physical therapist standard" (ie, what would the therapist's peers deem to be acceptable disclosure?) or the "reasonable patient standard" (ie, what would an ordinary reasonable patient need to hear in order to make an informed election?). Disclosure of reasonable alternatives to the proposed intervention is currently being stymied by managed care contractual provisions that impose a gag order on network providers and purportedly do not allow them to disclose care alternatives outside of the managed care plan.¹³ Such contractual provisions are unconscionable, and should fail when subjected to legal challenge.

Testing Patients' Recall of Spinal Manipulation Disclosure Information

A prudent standardized procedure for ensuring that patients who undergo spinal manipulation understand what was explained to them during the informed consent disclosure process is to test their knowledge of basic information that they should know after the process is complete. There are several ways to test this clinical indicator of quality of care delivery.

Hutson and Blaha⁹ recommend that orthopaedic patients receiving preoperative instructions be given a questionnaire after the instructions are given, to which they respond verbally. Leading hospitals and managed care organizations, including Massachusetts General Hospital and Kaiser Permanente Medical Group, use videotape presentations to inform patients about treatment options and their respective risks and benefits.¹⁰ The simple maintenance of an ongoing communication process between health care professionals and their patients is perhaps the most effective way to ensure that patients understand the nature of health care interventions that they receive. Reliance by health care professionals on signed consent forms as conclusive evidence of patient informed consent is imprudent. Rosovsky aptly notes that informed consent is a communication process, not a patient's signature on a form.¹¹

Orthopaedic physical therapists who wish to carry out spinal manipulative procedures on patients may wish to test patients' understanding of the disclosure material conveyed to them in the informed consent process. One way to memorialize and quantify patients' understanding of what was explained to them is to adminis-

ter a brief multiple-choice test instrument, written in simple English, covering the disclosure material. Such test instruments could be developed jointly by clinicians in a facility or institution during one or more brainstorming sessions as part of a systematic quality improvement program. For example, a multiple-choice patient quiz on lumbar spinal manipulation might appear as below (correct answers are asterisked for convenience).

Such a form can be filed in the patient's treatment record as a means of documenting informed consent. It also serves as a source of data for monitoring quality of care, and for clinical risk management.

CONCLUSION

Patients who are legally competent have the absolute right, in all health care settings, to give informed consent to therapeutic interventions. As part of the informed consent process, orthopaedic physical therapists contemplating spinal manipulation treatment must disclose the following to patients: the nature of the proposed treatment, material (decisional) risks of spinal manipu-

lation, the goals of treatment, and reasonable alternatives to the proposed treatment. In addition, clinicians must solicit and satisfactorily answer patient questions about the proposed intervention.

Informed consent is not only a patient right, it is an educational process that promotes patient cooperation and compliance, and facilitates the return to optimal functioning. It is professional negligence to carry out spinal manipulation without patient informed consent, and such liability-generating conduct becomes legally actionable if a patient is injured during treatment¹²⁻¹⁴ and can establish that he or she would not have consented to manipulation had full disclosure been made.

A convenient way to ensure that patients undergoing spinal manipulation therapy understand what is disclosed to them during the informed consent process is to administer a simple multiple-choice quiz addressing the disclosure elements. Patients will appreciate the fact that their therapists respect their autonomy and want them to understand the important details of proposed interventions.

Spinal Manipulation Informed Consent Quiz

Instructions: Please select and circle one best answer for each of the following five questions. [Correct responses designated with an asterisk.] If you agree to spinal manipulation treatment, please sign your name and the date at the bottom of the form. Thank you for your cooperation!

1. What is spinal manipulation?
 - *a. Hands-on procedures carried out to correct bony or soft tissue problems
 - b. Twisting movements designed to create a popping sound
 - c. Periodic adjustments to straighten the spine
 - c. Doctors of Osteopathy and Medical Doctors
 - *d. All of the above
2. Spinal manipulation can produce all of the following benefits except:
 - *a. Cure diabetes
 - b. Correct the position of a spinal segment
 - c. Decrease pain symptoms
3. Spinal manipulation cannot be done if a patient:
 - a. Is taking anticoagulant medication
 - b. Has a broken bone in the area of manipulation
 - *c. Both (a) and (b) are correct
4. Which of the following health care professionals carry out spinal manipulation procedures?
 - a. Chiropractors
 - b. Orthopaedic physical therapists
5. Before agreeing to undergo spinal manipulation, my therapist informed me of (Circle all that apply):
 - a. Details about spinal manipulation
 - b. The risks of possible harm associated with spinal manipulation
 - c. The goals of spinal manipulation treatment
 - d. Other appropriate treatment options besides spinal manipulation
 - e. Only (a) (b) (c) (d) (Circle specific letters, if appropriate)
 - f. None of the above
6. I agree to spinal manipulation treatment by my physical therapist.

Patient Signature and Date

Therapist Signature and Date

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Editor's Message

(Continued from page 5)

We've got all the information about the Orthopaedic Section programming in this issue. In addition to the schedule of events sponsored by the Section, we also have a listing of orthopaedic poster and platform presentations. The topics look great! I've already highlighted a number of the presentations I hope to attend. The Special Interest Group newsletters also include more detailed information on events of particular interest to them. Be sure to check out the particular SIG newsletters for which you have an interest. And, if you are not already a member of a SIG of interest, please JOIN! CSM 2002 will surely be an event not to be missed!



Susan A. Appling, PT, MS, OCS
Editor, OP

AAOMPT 2002-CALL FOR ABSTRACTS

The 8th Annual Conference of the American Academy of Orthopaedic Manual Physical Therapists will be held October 18-20, 2002 (location TBA). Interested individuals are invited to submit abstracts for presentation in slide or poster format. The AAOMPT research committee chairman must receive the abstract and 1 photocopy, by **June 1, 2002**. Abstracts received after this date will be returned. You will be notified of the acceptance/rejection of your abstract in July of 2002. If you have any questions call the research committee chairman at (336) 750-2198 or email at: watsonta@wssu.edu

CONTENT. The Academy is soliciting all avenues of research inquiry from case-report and case-series up to clinical trials. The Academy is particularly interested in research evaluating intervention strategies using randomized-controlled clinical trials. The abstract should include 1) Purpose; 2) Subjects; 3) Method; 4) Analyses; 5) Results; 6) Conclusions; 7) Clinical Relevance.

PUBLICATION. The accepted abstracts will be published in *The Journal of Manual & Manipulative Therapy*, which has readership in over 40 countries.

SUBMISSION FORMAT. The format for the submitted abstracts is as follows:

The abstract may be submitted in either hardcopy (see shipping) or by email to the research committee chairman. The abstract should fit on one page with a one-inch margin all around. The text should be typed as one continuous paragraph. Type the title of the research in ALL CAPS at the top of the page followed by the authors' names. Immediately following the names, type the institution, city, and state where the research was done. Please include a current email address where you can be contacted. Also include a computer diskette with the abstract in MS Word format.

PRESENTATION. The presentation of the accepted research will be in either a slide or poster session. The slide session will be limited to 15 minutes followed by a 5-minute discussion; this session will be primarily for research reports and randomized clinical trials. The poster session will include a viewing and question answer period and will be primarily for case report/series.

RESEARCH PRESENTATION AWARD. The research platform presentation deemed of the highest quality of those presented at the annual conference will be awarded the AAOMPT Excellence in Research Award. This award will consist of an award certificate and reimbursement of the conference registration fee.

SHIPPING. To prevent damage, insert cardboard backing in the envelope with the abstract, diskette, and copies. Mail to the AAOMPT research committee chairman at:

Todd Watson, PT, DPT, OCS, FAAOMPT
Campus Box 19412
Winston-Salem State University
Winston-Salem, NC 27110

To receive notice that your abstract was received by AAOMPT, please enclose a self-addressed and stamped postcard with the abstract or preferably an email address where you can be reached. Your abstract will be assigned a number and you will be notified electronically or via the postcard.

EMAIL. Submissions by email should be in MS Word format and sent to: watsonta@wssu.edu

Fluoroquinolones and Tendinopathy: A Case Study with Implications for Physical Therapy

Jennifer Ward, PT, Michael Greene, ATC, SPT

INTRODUCTION

The physical therapy community has routinely been made aware of the deleterious effects of corticosteroids on the strength of collagen. However, a wide body of medical literature associates another class of antibiotic drugs, the fluoroquinolones, with tendinopathy. The following case study presents a patient's experience with fluoroquinolone-induced bilateral Achilles tendon rupture, and its implications for physical therapy.

CASE HISTORY

A 75-year-old male was referred to physical therapy in February 2001 with a diagnosis of bilateral Achilles tendon rupture. He described initial onset of pain, swelling, bruising, and inability to walk during a hospital stay in September 2000 for COPD exacerbation. He was treated with medication including Levaquin administered intravenously. Six days after the initial dose of Levaquin, he began to complain of bilateral Achilles tendon pain upon standing. Diagnostic tests of radiograph and venous Doppler studies were negative; tendinitis was suspected. The Levaquin was discontinued 4 days after the initial complaints with a 75% improvement of pain. The medication was discontinued due to the possibility of fluoroquinolone-induced tendinopathy, with increased risks noted among the elderly, and those with history of corticosteroid use.^{1,2}

Following discharge, the patient was referred to an orthopaedic physician due to continued complaints of pain and unsteady gait. An MRI was performed and revealed bilateral Achilles tendon rupture. He was then referred to outpatient physical therapy for gentle strengthening exercises and work on balance training. Upon initial evaluation, the patient described difficulty in maintaining balance in a standing position, inability to raise heels from the floor, and pain with end range ankle plantarflexion. Tenderness was noted over the plantar aspect of bilateral heels with weight-bearing, as well as difficulty ambulating on stairs due to reports of weakness. The patient stated that he would like to return to work as a court bailiff, which required

a great deal of standing. Pertinent medical history consisted of asthmatic bronchitis with a history of corticosteroid use intermittently since 1978, CAD with CABG in 1995, HTN, and degenerative disc disease of the lumbar spine.

SIGNIFICANT FINDINGS FROM PHYSICAL EXAMINATION

- The patient ambulated with a significant decrease in push-off bilaterally, showing no forefoot rocker. Excessive hip and knee flexion were used to clear the foot from the floor during gait.
- The patient was unable to perform a unilateral heel raise with either the right or left lower extremity in the standing position, and was thus given a manual muscle test grade of 2+/5, according to Daniels and Worthingham,³ for the gastroc/soleus complex. However, the patient was able to maintain contraction of the gastroc/soleus complex against maximal manual resistance and against blue theraband in the long-sitting position.
- The patient presented with a positive Thompson test bilaterally, along with 2+ edema of the right and left lower extremities, with mild foot edema bilaterally. No palpable gap suggesting tendon rupture was noted on either right or left Achilles tendons. It has been reported in the literature that edema may make this finding very difficult.⁴
- Balance was poor with unilateral standing, both right and left with and without support with the eyes open. Excessive medial/lateral and anterior/posterior sway was noted with trying to maintain balance.

INTERVENTIONS

Treatment goals consisted of improving balance with standing, ambulation, and improving push-off during gait. The patient was instructed in a home exercise program of general range of motion and resistive exercises with emphasis on improving ankle plantarflexor force production. Care was taken to avoid pain during exercise due to long-term effects of both fluoroquinolones and corticosteroids on tendon.⁵ Intensity of exercise was slowly progressed to include increased loading of the lower extremities.

The patient was educated regarding the need and importance for push-off during gait to reduce energy consumption.⁶ Verbal and tactile cues were utilized during gait training to achieve a better forefoot rocker. Balance activities also were performed and became progressively more challenging.

RESULTS

The patient was seen for a total of 10 visits. At the time of discharge, he reported an increased ability to stand for prolonged periods without unsteadiness. The client was able to return to work. The patient continued to display an inability to perform single limb heel raises; however, he was able to complete 20 repetitions of bilateral heel raises in standing. Improved single limb balance was noted on the left lower extremity only. Continued absence of a forefoot rocker was noted bilaterally during ambulation, with excessive hip and knee flexion to aid in foot clearance.

REVIEW OF FLUOROQUINOLONES

Fluoroquinolones are a class of antibiotics commonly used to treat a variety of conditions such as urinary tract infections and bronchopulmonary infections. This class of drugs has become popular as they have good gastrointestinal absorption and a long half-life; thus, they can be prescribed once daily as opposed to multiple doses per day.^{7,8}

According to Williams et al, a commonly prescribed fluoroquinolone, ciprofloxacin, has resulted in inhibited fibroblast matrix synthesis, inhibited fibroblast proliferation, and increased fibroblast derived matrix degrading proteolytic activity in vitro in canine Achilles tendon, paratenon, and shoulder capsule.⁷ Thus, it appears that fluoroquinolones decrease fibroblast metabolism and collagen fiber synthesis, which has been related to decreased tendon strength.

The patient population at greatest risk includes the elderly, those with a history of prolonged corticosteroid use, and those with renal failure. It is important to note that fluoroquinolone-induced tendinopathy has been reported in the literature in patients without these risk factors.^{1,5}

LESSONS LEARNED

• Fluoroquinolone tendinopathy differs from overuse tendinopathies commonly seen by physical therapists in that those associated with this class of drug are characterized by its acute onset and sharp pain with palpation and while using the extremity. There is typically marked swelling of the tendon and involvement is usually bilateral.

• Tendinopathy associated with fluoroquinolone use may occur several months following discontinuation of the drug. When treating patients who have recently (up to 6 months) discontinued use of these drugs, progression of strengthening and stretching exercises should proceed with caution due to decreased fibroblast metabolism and long half-life of collagen.^{9,10}

• It is important to assess strength of the gastrocnemius by observing repetitive unilateral heel raises as described by Daniels and Worthingham.³ Due to the recruitment of the deep compartment plantarflexors, it may appear that the patient has functional strength with manual resistance in supine. Thus, accurate strength testing must take place in order to obtain true assessment so that a proper treatment plan can be devised, and so strength data at discharge can be accurately compared to baseline.

RELEVANCE TO PHYSICAL THERAPY

As the profession of physical therapy moves toward more autonomous practice, as in the APTA 2020 vision state-

ment, physical therapists will need to become more knowledgeable in all areas of patient care. This includes a better understanding of pharmacology. As can be seen from this case study, certain classes of drugs can have profound negative effects upon an individual. Fluoroquinolones have consistently been shown in the literature to be related to altered fibroblast metabolism, thus altering collagen synthesis and strength, leading to various tendinopathies. It is paramount that physical therapists take a thorough history, being sure to include questions regarding previous or current medication history. Failure to do this may result in causing the patient undo harm.

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New Residency Curriculum Guidelines Form Template for Programs in All Specialty Areas

Are you looking for guidelines for starting a residency program?
Are you considering entering a residency program?

The newly published document, **Guidelines for Postprofessional Residencies in Orthopaedic Physical Therapy and Orthopedic Manual Physical Therapy**, is now available for purchase. The American Academy of Orthopaedic Manual Physical Therapists (AAOMPT) and the Orthopaedic Section brought together residency directors, clinicians and educators from across the country to prepare this comprehensive resource document.

The document provides examples of part-time and full-time models for residency education in various health care settings. Recommendations on how to design the mission, philosophy, program goals and performance outcomes of a residency and how to integrate theoretical content with clinical course content are also described. Numerous examples

are presented of instructional objectives, learning activities, methods for practical and written examinations and forms for program evaluation. Factors to consider in selecting and training faculty are discussed along with financial considerations for developing a residency budget.

The Guideline document is designed to assist residency programs applying for credentialing with the American Physical Therapy Association and/or recognition by the AAOMPT. **Because of the scope of the curriculum materials presented, the document provides outstanding resources for developing residencies in ALL specialty areas.** Individuals interested in residency education can use this information to evaluate current programs. Current programs can re-evaluate their curriculum for further growth.

Cost: \$45 for Orthopaedic Section and AAOMPT Members; \$65 for APTA Members; \$80 for non-members

How to Obtain: The Orthopaedic Section will be handling all purchases.

Make check payable to: Orthopaedic Section, Inc. and mail to: 2920 East Avenue South, Ste. 200, La Crosse, WI, 54601-7202. Phone: 1-800-444-3982

Prepared by Carol Jo Tichenor, MA, PT

Book Reviews

Coordinated by Michael J. Wooden, PT, MS, OCS

Kostopoulos D, Rizopoulos K. *The Manual of Trigger Point and Myofascial Therapy*. Thorofare, NJ: Slack Inc.; 2001:233 pp, illus, erratum.

This manual was written, according to the authors, to be used as a teaching tool for diagnosing and treating myofascial pain disorders, and as a reference for the clinician treating those clients with trigger points and their sequelae. The book is split into 2 sections. The first section discusses the theory behind the treatment of myofascial trigger points. A brief review of muscle-nerve physiology, pathogenesis of myofascial trigger points, referred pain pattern mechanisms, and clinical symptoms and physical findings is provided. A discussion of diagnosis and treatment of myofascial trigger points also is provided, including contraindications and the use of trigger point dry needling. At the end of each chapter, there are several review questions to be answered to reinforce the main ideas of each chapter with answers provided.

The second section of the book is divided into body regions. The muscles listed in each section are the most commonly involved when treating myofascial injuries. There are 8 sections as follows: cervical spine, temporomandibular joint, shoulder, upper extremity, abdominal, thoracolumbar spine, lumbar spine, and lower extremity. On each page, there is a diagram of the anatomy and a pictorial displaying the referred pain pattern. Also listed on each page is the origin and insertion of the muscle, the location of the trigger point and its referral pattern, a written explanation and pictorial of the appropriate myofascial stretch and its corresponding home exercise, and possible biomechanics of the injury. I found the second section helpful in format to help determine possible trigger points involved to help in the effective treatment of those with complaints of pain.

Overall, the first section was a basic review of theory, not providing extensive detail if desired. The second section was a "working" reference providing similar information as in Travell and Simons' *Myofascial Pain and Dysfunction: The Trigger Point Manual*, but in a simpler form that is easy to use. I recommend this book as a reference to any manual

therapist who would like a quick reference book to assist them in treating myofascial trigger points.

Sylvia Mehl, PT, OCS



Meyer T. *PT Study Cards in a Box*. Thorofare, NJ: Slack, Inc.; 2001. Approximately 200 cards.

PT Study Cards in a Box is a compilation of approximately 200, 4 x 6 inch cards that provide clinical information on 20 areas related to physical therapy practice. They are conveniently packaged with a ring through the upper left corner. The intended audience for the cards includes students during their academic education, on clinical affiliations, in preparation for the licensure examination, and as a refresher for the practicing clinician.

The cards include the major clinical areas of physical therapy: cardiology, geriatrics, neurology, oncology, pediatrics, pulmonary, rheumatology, spinal cord, musculoskeletal, women's health, and wound care. Other sections included are administration, medical disorders (immune, vascular, metabolic, hepatic, and pancreatic systems), evaluation, gait, modalities, prosthetics and orthotics, research, therapeutic exercise, and wheelchair issues.

While the information presented in this format is limited in depth, its breadth is fairly comprehensive. The clinical areas of practice generally include basic definitions of common disorders, an examination scheme, and common interventions. Pharmacology is included in the cardiac and pulmonary sections in more detail than the other clinical sections. The format of the nonclinical cards is varied. An example is the administration section which includes but is not limited to information on policy and procedures, quality improvement programs, utilization review, medical records/documentation, legal aspects of practice and budgeting.

Although these cards generally contain a basic review of a multitude of practice issues, there are gaps in the content and format presented. While the clinical content areas include information on

patient examination, this is missing from the musculoskeletal section. A fairly in-depth presentation of musculoskeletal special tests is provided but missing is the history and more general tests and measures section that is included in other clinical sections. The neurology section presents information on common disorders, normal and abnormal reflexes, synergy patterns, PNF levels of cognitive function, and a general examination scheme. It then devotes a significant amount of text to the theories of Bobath, Brunnstrum, and Rood at the expense of omitting current information on theories of motor learning and motor control. The bibliography for this section is missing a current source on clinical neuromotor physical therapy and appears to be based on a general physical therapy text from 1989.

The terminology presented with these study cards is also inconsistent. The administrative section presents terminology from the *Guide to Physical Therapist Practice* such as examination, tests and measures, and intervention. Some clinical sections are consistent with this terminology and reference the *Guide*, while other sections use the terms evaluation, assessment, and treatment. This inconsistency is a significant oversight on the part of the author and may confuse students and practicing clinicians alike.

In conclusion, the idea of *PT Study Cards* is a good one, and some of the content may be useful to the intended audience. However, a portion of the material needs to be updated, and the terminology used in a consistent format to become a worthwhile purchase.

Patricia Downey, MS, PT, OCS



Wiksten D, Barry B. *Lower Extremity Injury Evaluation: An Interactive Approach*. Thorofare, NJ: SLACK, Incorporated; 2001 CD-ROM.

System requirements for PC: Pentium 1000 or faster processor, Microsoft Windows 95 or later, 2X CDROM drive, 16 MB of RAM, 1 MB SVGA video card and Quick Time 4.0 or higher for Windows. System requirements for Macintosh:

Power PC processor, Mac OS version 7.5 or later, 2X CDROM drive, 16 MB of RAM, QuickTime 4.0 or higher for Macintosh.

Wiksten and Barry's interactive CD-ROM, *Lower Extremity Injury Evaluation: An Interactive Approach*, is intended to provide the health care educator and student with a comprehensive view of commonly used special tests and provide a "real-life" learning tool to perform, apply, and understand the pathomechanics of a positive special test. The learning objectives for this CD-ROM are as follows: (1) identify anatomical structures that are being tested for each special test; (2) correlate the function and roles of the anatomical structure as they relate to the special tests being performed; (3) learn the appropriate position of the subject for each special test; (4) learn the appropriate position of the examiner for each special test; (5) learn the appropriate procedure and technique for performing the special test; (6) discriminate between a positive and negative test result; and (7) understand the pathomechanics of a positive test result as it relates to the performance of the special test.

There are 6 body parts for which special tests are available to the user. They include Thoracic Spine, Lumbar Spine, Pelvic & Sacral Region, Hip & Groin Region, Knee, and Ankle & Foot. The Main Menu lists the areas to be studied, has an introduction button which if clicked describes how to use the program, lists the learning objectives of the CD-ROM and the benefits of the CD-ROM, and has a credits button listing the credentials of the authors and other contributors. Once one clicks on the body part to be studied, the next window to open lists the Special Tests presented for that particular area. For example, when the learner chooses The Knee, 9 special tests will appear on the next screen (ie, varus/valgus stress test, anterior/posterior drawer test, etc.). The learner then clicks on the particular special test to be studied. The learner will then proceed through a series of videos that include: positions of subject and examiner, the examination procedure, positive test results, and negative results. All windows incorporate a video with sound, and written information corresponding with the video. At the bottom of every window is a button for an anatomy review. When clicked on, the window displays a 3-D bony model of the anatomical structures pertinent to the special test being reviewed. The user is also able to rotate the model to varying angles to enhance viewing of a particular structure.

Overall, the CD-ROM is easy to maneuver and offers comprehensive information on special tests of the lower extremity in both video and written formats. The CD-ROM would be very useful as an adjunct to learning for physical therapy and athletic training students alike. The CD would allow a student to independently review concepts and techniques taught at their own pace/speed. Also, the fact that the CD is *real-life* and at times 3 dimensional will allow the student to attempt to replicate the tests over and over during practice sessions while seeing the video perform the test simultaneously. The video segments allow good visualization of the technique being performed. The written and verbal explanations of the techniques and their implications are clear and succinct. The authors also did a good job choosing appropriate and commonly used special tests for each body part, without showing too many frivolous tests. Also, the authors explained many compensatory actions the patient may go into while performing the tests, which is essential for the examiner to note in order to correctly interpret the special test.

However, the CD does have some limitations. The video components are time-consuming and at times tedious to progress through because of the short length of each video component. Also, some of the anatomical review segments are hard to visualize and do not show the muscle contributions to the actual special test which is being explained.

In conclusion, many students have recommended videotaping laboratory sessions in order to enhance their learning and recollection of techniques. This CD-ROM would certainly suit that purpose. It is my belief that this CD-ROM would be a beneficial component to any physical therapy or athletic training program.

Susan Davis, PT



Gann N. *Orthopaedics at a Glance: A Handbook of Disorders, Tests, and Rehabilitation Strategies*. Thorofare, NJ: Slack, Inc.; 2001:220 pp.

If you are looking for a quick reference of the characteristics, signs and symptoms, special tests, and interven-

tions for orthopaedic disorders, Nancy Gann's handbook may suit your needs. Busy clinicians may not have the time to consult larger texts for descriptions of common orthopaedic disorders. This soft-cover handbook can serve as a ready-reference to assist clinicians as they perform initial examinations, evaluate, and plan interventions for their patients or clients.

The first 12 chapters are categorized by joint or body region: the shoulder, the elbow, the wrist and hand, the temporomandibular joint, the cervical spine, the thoracic spine, the lumbar spine, the sacroiliac joint and iliosacral region, the hip and thigh, the knee, the ankle, and the foot. Each chapter includes a list of the characteristics, signs and symptoms, special tests, and intervention for orthopaedic disorders and surgical procedures that affect that joint or body region. The lists are presented in an easy-to-read table format. There is space under many of the tables for "notes." There are also tables that describe, in list format, the special tests that were listed for each orthopaedic disorder.

These chapters provide information for differential diagnosis of orthopaedic disorders and planning of appropriate intervention. Interventions listed for each disorder or surgery should be considered *suggestions*. I agree with the author in her introduction that treatment choices must be individualized for each person. Clinicians, and particularly students, must be reminded not to use the intervention lists as a "cookbook" approach to treatment. The interventions listed are not specifically referenced; therefore they may not be supported by research.

Categorization of these chapters by joint or body part, and the tables by orthopaedic disorder allows for quick reference. However, this may lead to clinicians focusing only on impairments while neglecting functional deficits and disabilities. This is a particular concern with the chapters on the spine, where anatomical diagnosis is often not possible.

Chapter 13 addresses orthopaedic radiologic examination principles for nonphysicians. Clinicians can use this chapter to review their basic knowledge of radiology. There is a brief description of common diagnostic procedures used in orthopaedics, including plain radiographs, CAT scans, MRI, bone scans, arthrograms, and diagnostic ultrasound. The "ABCs" of radiologic

assessment are explained. Examples of the typical x-ray findings of some common orthopaedic conditions are listed. Also included in this chapter is a section on radiograph measurements. This section has descriptions and line-drawn figures of 19 measurements known as "lines of mensuration." I found the figures helpful, although it is not always clear whether they illustrate normal or abnormal findings.

A bibliography includes 32 journals, 25 textbooks, and 2 home-study course publications. There are appendices of capsular patterns and joint positions, end-feels, and Waddell's non-organic physical signs. An easy to access summary of abbreviations used in this handbook would have been helpful. On several occasions I had to search previous tables for definitions of abbreviations.

I recommend this handbook as a ready-reference for clinicians who are working in orthopaedic practices. Students can use this book as a summary of examination and intervention procedures, with the caveat that they read the author's introduction and understand the intent of this publication.

Thomas P. Nolan Jr., PT, MS, OCS

Boscheinen-Morrin J, Conolly WB. *The Hand: Fundamentals of Therapy*. 3rd ed. Boston, Mass: Butterworth-Heinemann; 2001:243 pp, illus.

As noted in the preface, the third edition of this book aims to highlight the current thinking and practice in hand surgery and therapy. The primary authors of the book are a hand therapist and hand surgeon.

The book contains 18 chapters. The first 2 chapters thoroughly address assessment and treatment principles for the hand. The next 6 chapters expertly describe the pathology and conservative/surgical management of tendon and peripheral nerve injuries. Complete chapters are devoted to flexor tendons, extensor tendons, tendon transfers, and peripheral nerve entrapments. Clinicians will find the detailed postoperative protocols described in these chapters extremely useful. The next 10 chapters describe the assessment and treatment for several different types of hand injuries and conditions, including Dupuytren's contracture, fractures, amputations, burns, mi-

crovascular free tissue transfers, and chronic regional pain syndromes.

Because of its practical, step-by-step approach, this book would serve as an excellent reference text. Reference lists are extensive and up to date. In addition to the reference lists, several chapters include "further reading" citations at the end of each chapter. This book also has a high number of quality photographs and line drawings that support the text. For example, photographs are commonly used to demonstrate appropriate splinting and exercise techniques.

Based upon its comprehensive nature and clinical usefulness regarding evaluation and treatment procedures, I highly recommend this text for physical therapists that treat patients with hand or wrist injuries. Additionally, this book would be an extremely valuable reference for physical therapist students, especially those who will eventually work in orthopaedic or sports medicine settings.

Michael D. Ross, DPT, OCS

Ruedi TP, Murphy WM. *AO Principles of Fracture Management*. New York, NY: Thieme; 2001:864 pp., illus. Includes (2) CD-ROM videos.

AO Publishing is a Swiss group that first appeared in 1963 introducing a manual on internal fixation. The manual was revised in 1977 and 1992, and now has been published as *AO Principles of Fracture Management*. The purpose of the manual is to offer the latest in comprehensive recommendations, supported by clinical guidance, on the principles of how to treat fractures. Only 3 of the 864 pages mention physical therapy in the postoperative treatment of fractures. The treatments described were passive and active ROM, crutch training, and supervised (progressive) weight-bearing, as well as active exercises after upper extremity after surgery. I did not find this "new millennium" treatment, at least for the field of physical therapy. Despite this shortcoming, this text does offer some interesting technical aspects for the physical therapist involved in treatment of patients with fractures. The program, as AO describes this text, is divided into 3 pillars: the printed text, CD-ROM that contains the printed version, and vid-

eos. The videos demonstrate reduction maneuvers and technical tricks and links to the AO web site for updates. References also were linked to Medline. This enabled quick access to the abstract, a very nice feature.

The text and program were divided into 5 chapters. The first chapter, AO philosophy and its basis, focused on biology and biomechanics in fracture management, fracture classification, and soft-tissue injury. I found interesting comments in the classification section of fractures that "groupings were usually free-standing and uncoordinated and proved quite unhelpful for comparisons between the outcomes of different treatment regimes." This read much like some of the challenges in physical therapy. The chapter ends with an extensive AO classification system of Long Bones. The soft-tissue section is worthwhile reading, describing an interesting algorithm for the treatment of fractures with a concomitant soft-tissue injury. Chapters 2-6 consist of decision-making and planning, reduction and fixation techniques, specific fractures, general topics and complications. The chapter on specific fractures is most relevant as it covers most fractures seen in a PT orthopaedic practice.

This text and program contain excellent illustrations accompanied by a CD-ROM. The focus, for the most part, is on surgical management of fractures with an absence of physical therapy. I would recommend this as a reference in a physical therapy academic setting or orthopaedic physical therapy clinic. It would provide insight to the student and clinician on surgical management of fractures frequently seen in the clinic.

Daryl Lawson, MPT

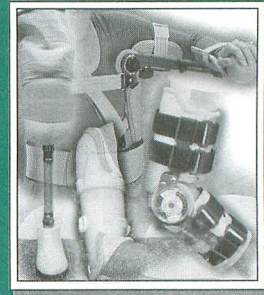
HOME STUDY



COURSE

Prosthetics and Orthotics

An Independent Study Course
Designed for Individual Continuing Education



Topics and Authors

- 12.1.1 Lower-Limb Prosthetics—*Ann Marcolina Hayes, PT, MHS, OCS*
- 12.1.2 Lower-Limb Orthotics—*Jonathan Cook, CO and Thomas Cook, PT, PhD*
- 12.1.3 Upper-Limb Amputations and Prosthetics—*Joan E. Edelstein, PT, MA, FISPO*
- 12.1.4 Upper-Limb Orthotics—*Marcia Epler, PT, PhD, ATC*
- 12.1.5 Hand Splinting—*Teri Bielefeld, PT, CHT*
- 12.1.6 Spinal Orthotics—*Thomas M. Gavin, CO; Kevin P. Meade, PhD; J. Miguel Gomez-Torres, MD; Patrick H. Flanagan, CO; Avinash G. Patwardhan, PhD; Steven B. Pawelczak, BOCO; and Karen Cieslak, CP*

Editorial Staff

Carolyn Wadsworth, PT, MS, OCS, CHT and Mary Ann Wilmarth, PT, MS, OCS, MTC, Cert MDT—Co-editors
John W. Michael—Subject Matter Expert

Course Description

This course presents a comprehensive approach to prosthetic and orthotic management. Highly qualified authors from multiple disciplines offer you guidelines for biomechanical assessment and prescription of contemporary devices. You will learn the indications, contraindications, mechanisms of action, expected outcomes, and causes of failure of these devices. Additionally, you will glean valuable insight about anatomic considerations and pathologic conditions. Please join us for an enlightening and practical educational opportunity.

Continuing Education Credit

Thirty contact hours will be awarded to registrants who successfully complete the final examination. Registrants must apply to their individual State Licensure Boards for approval of continuing education credit.

Registration Fees*

Register by December 1, 2001. First monograph available in January 2002.
• \$150 Orthopaedic Section Members • \$225 APTA Members • \$300 Non-APTA Members
Include \$5.00 for shipping and handling. Wisconsin residents add applicable state sales tax.

Special discounts offered for multiple registrants. Contact the Section office for details.



www.orthopt.org

Additional Questions

Call toll free 877/766-3452 or visit our web site at: www.orthopt.org.

*If notification of cancellation is received in writing prior to the course, the registration fee will be refunded less a 20% administrative fee. Absolutely no refunds will be given after the start of the course.

12.1 Prosthetics and Orthotics

Name _____ Credentials (circle one) PT, PTA, other _____

Mailing Address _____ City _____ State _____ Zip _____

Daytime Telephone Number (_____) _____ APTA # _____

E-mail Address _____

For clarity, enclose a business card. Please make checks payable to: Orthopaedic Section, APTA



Please check:

- Orthopaedic Section Member
- APTA Member
- Non-APTA Member

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I wish to join the Orthopaedic Section and take advantage of the membership rate. (Note: must already be a member of APTA.)

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- I wish to become a PT Member (\$50)

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OP

Mail check and registration to: Orthopaedic Section, APTA, 2920 East Avenue South, Suite 200, La Crosse, WI 54601 Toll Free 877-766-3452

Fall Board of Directors Meeting

October 5, 2001

CONFERENCE CALL MINUTES

The 2001 Fall Board of Directors Meeting was called to order via conference call, at 10:20 AM on Friday, October 5, 2001 by Lola Rosenbaum, Vice President.

ROLL CALL:

Present:

Lola Rosenbaum, Vice President
Ann Grove, Treasurer
Joe Farrell, Director
Gary Smith, Director
Paul Howard, Education Chair
Phil McClure, Research Chair
Steve McDavitt, Practice Chair

Randy Roesch, APTA Liaison

Tara Fredrickson, Executive Associate

(present to record minutes in Executive Director's absence)

Absent:

Michael Cibulka, President
Terri DeFlorian, Executive Director

MEETING SUMMARY:

The agenda for the 2001 Fall Board of Directors meeting was approved as printed.

The minutes from the 2001 Annual Conference Board of Directors meeting in Anaheim, CA were adopted as printed.

ACTION ITEMS:

=MOTION 1= Move to adopt the recommendations put forth to the Board from the Finance Committee during their August 25, 2001 meeting in La Crosse Wisconsin. The following recommendations were approved: Recommendation 1, 2, 4, 5, 7, 10, 13, 15, 17, 19, 20, 26, and 30. The following recommendations are pending approval following additional information: Recommendation 3, 6, 8, 9, 12, 14, 16, 21, 22, 24, and 27. The following recommendations were deleted or failed: 11, 18, 23, 25 and 28. **=ADOPTED**

Fiscal Implication: Various, applicable to each recommendation. Details are listed in the discussion item notes and to-do list.

=MOTION 2= Eliminate all debts and commitments from 2000 and start with a clean slate. **=ADOPTED**

Fiscal Implication: Pay off the Diversity 2000 commitment of \$25,000, pay off the Pediatric Section commitment of \$12,600, and the Foundation commitment of \$90,000 for a total of \$127,600.

=MOTION 3= Move that a governance task force be formed to investigate the meaning and purpose of our three major meetings. Members of this task force will be: Ann Grove, Bill Boissonnault, Gary Smith, Pam White, and Terri DeFlorian. **=ADOPTED**

Fiscal Implication: None.

=MOTION 4= Move that the following policy be adopted: The Executive Committee must approve all contracts. The President and one member of the Executive Committee will sign all contracts. All contracts will be mailed out from the Orthopaedic Section office. **=ADOPTED**

Fiscal Implication: None.

=MOTION 5= Move that the following policy be adopted: The Section reserve funds should not drop below 50% of one year's operating expenses without prior approval from the Executive Committee. This will be revisited annually at the Finance Committee Meeting. **=ADOPTED**

Fiscal Implication: None.

=MOTION 6= Occupational Health SIG's Education Chair, Ray Vigil, request for additional funds for CSM 2002 must be consistent with the Orthopaedic Section's speaker guidelines. **=ADOPTED**

Fiscal Implication: Currently, the OHSIG has listed a total of \$600 for CSM 2002 speaker honorariums (2 hours @ \$300/hour). This motion will change the total amount to \$1,000. The additional \$400 will need to come from the OHSIG's previous income.

=MOTION 7= Move that the following policy be adopted: Reimbursement requests that will be over budget will not be distributed without written explanation and Treasurer and Executive Director approval, pending availability of funds. **=ADOPTED**

Fiscal Implication: None.

=MOTION 8= Move that a Bylaws Committee be formed. Members of this committee will include: Steve McDavitt, Gary Smith, Joe Farrell, and Terri DeFlorian. **=ADOPTED**

Fiscal Implication: None.

Adjournment at 12:50 PM Saturday, October 7, 2001.

Section News

EDUCATION/PROGRAMMING COMMITTEE

CSM 2002 will be here before you know it and what a program we have planned for you! CSM will be held in Boston from February 20-24. The meeting will start with a 1-day preconference course entitled, "Office Ergonomics: The Basics and Beyond" presented by Bonnie Sussman, PT, MEd, and sponsored by the OHSIG. Our 5 SIGs and 4 Education Groups also have outstanding programs prepared on a wide variety of topics. Making its debut at CSM 2002 on Saturday afternoon is the Primary Care Education Group. The title of their 3-hour program is "Differential Diagnosis and Medical Screening in Primary Care Physical Therapy." This program will be moderated by Robert DuVall, PT, MMSc, OCS, MTC, PCC, CSCS and the speakers will include William Boissonnault, PT, DHSc, MTC, FAAOMPT, Joe Godges PT, MA, OCS, and Gail Deyle, PT, MPT, OCS, FAAOMPT.

In addition to the above programming there are 5 short programs being presented that you will not want to miss. For complete programming go to page 25 of *OP* or look in the next issue of *PT Magazine*. New this year will be an "Orthopaedic Exposition" held on Friday morning. Attendees can informally drop by and speak with representatives from all of our SIGs and education groups. Check out all the activities these groups are engaged in and see how you can get involved.

Starting with CSM 2002 handouts for all orthopaedic programs will be available before and after CSM at the Section's website (www.orthopt.org). APTA members will be able to download and print the handouts of presentations they plan on attending before they leave for CSM. Plan ahead by visiting the Section website and obtaining handouts that you are interested in. *Handouts will not be available on-site at CSM.*

Finally I would like to thank once again the SIG and Education Group Education Chairs, our planned speakers, and Stefanie Snyder at the Orthopaedic Section office for all their hard work in putting together this meeting. It is only through the hard

work of many individuals that this outstanding meeting takes place.

See you in Boston!

Paul D. Howard, PT, PhD, Cert MDT, Chair Members: Ellen Hamilton, Mark Cornwall, Ray Vigil, Joe Kleinkort, Kristinn Heinrichs, Lynn Medoff, Patty Zorn, Gary Shankman, Chris Powers, Bob DuVall

Public Relations Committee

I attended the American Society of Orthopaedic Physician's Assistants (ASOPA) conference in Chattanooga, TN. In addition to using the exhibit booth, I met with Hal Blank, who is the president elect of ASOPA, to explore other opportunities to reach their members. The physician assistant is an important referral source for our profession and, from my experience, very open to communication and exchange of ideas on both the clinical and professional levels. After attending this meeting, my feelings regarding the importance of working with this group were reinforced. Many of their members do not have a good concept of our training and role in health care delivery. They will have next year's conference in Buffalo, New York and hopefully we will be part of the educational programming.

On October 19, I was in Atlanta with the Nurse Practitioners Conference. This has developed into another great opportunity to educate potential referral sources. In addition to the exhibit booth (for which we get a free space), I taught in the learning center. I covered basic examinations of the knee, shoulder, and spine. I, of course, emphasized the importance of a referral to a PT for more in-depth evaluation and the benefits of rehabilitation. I am grateful for the assistance of Robert DuVall and Nirtal Shah for their assistance in teaching as well as staffing the exhibit booth.

Terry Randall, PT, MS, OCS, ATC, Chair Members: Rick Watson, Michael Tollan, Pat Zerr

Home Study Course Report

Thus far the Section's new website seems to be of great assistance to our

members. We continue to update information and policies on the website. If anyone has any questions or suggestions, please do not hesitate to contact one of the HSC Advisory Panel members mentioned below.

The registrations for HSC continue to come in on a daily basis. The HSC entitled *Orthopaedic Interventions for the Pediatric Patients* continues to draw registrants. As far as the newer courses are concerned, the *Solutions to Shoulder Disorders* HSC has over 675 registrants since the beginning of the course. The latest HSC, *Current Concepts of Orthopaedic Physical Therapy*, currently has 712 registrants since the beginning of 2001. Brochures from the direct mailings continue to be the most popular means of registering for the HSC.

One of the goals for the Orthopaedic Section is to consistently offer 3 to 4 HSCs each year. The Board has approved the following upcoming courses:

2002 Courses

- HSC 12.1, *Prosthetics and Orthotics* (January-June 2002)
- HSC 12.2, *Selected Diagnoses for Orthopedic Physical Therapy* (July-December 2002)
- HSC 12.3, *Effective Rehabilitation and Management of Work-Related Injuries: Evidence-Based Practice* (October-December 2002)
Sponsored by Occupational Health SIG

2003 Courses

- HSC 13.1, *Psychotherapy in Physical Therapy Practice* (January-June 2003)
- HSC 13.2, *Evidence-Based Practice for the Upper and Lower Quarter* (April-September 2003)
- HSC 13.3, *Cervical Spine/TMJ Course* (July-December 2003)
- HSC 13.4, *Feline Course* (October-December 2003)
Sponsored by the Animal Physical Therapist SIG

I have been becoming familiar with the Home Study Courses for the Orthopaedic Section. Getting to know the ins and outs of the HSC Editor position has been both challenging and exciting. Thank you to everyone for

your assistance and willingness to share ideas and expertise. Please do not ever hesitate to contact me if there are any issues to be discussed. And certainly make sure that you get in touch if you are interested in writing or have any ideas for topics!

The Orthopaedic Section booth will promote the Home Study Courses at the Combined Sections Meeting in February 2002. Please make sure to stop by when you are in Boston!

Mary Ann Wilmarth, DPT, MS, OCS, MTC, Cert. MDT, HSC Editor
HSC Coordinator: Kathy Olson; HSC Registration Coordinator, Darlene Aberg
HSC Liaison, Lola Rosenbaum, PT, MHS, OCS; HSC Advisory Panel: Jean Bryan Coe, PT, PhD, OCS, Joe Godges, PT, MA, OCS, Lola Rosenbaum, PT, MHS, OCS, Gary Shankman, OPA-C, PTA, ATC, CSCS

Awards Committee Report

There are 3 possible nominations for the Paris Award. Sponsors have been contacted and sent the necessary information for submission of their nominee's individual package. Sponsors have been sent reminders to assemble packet information.

Award Criteria for all PT and PTA accredited schools has been sent.

November 1, 2001 is the deadline for submission of all awards packets.

Lola Rosenbaum, PT, MHS, OCS, Chair
Members: Mari Bosworth, PT, Jerome Danoff, PT, PhD, Kim Schoensee, PT, MS, OCS

Animal Physical Therapist SIG Report **1. Certification process**

GOAL #1 related to Goals and Objectives for 2002-2004 states:

Facilitate continued professional development in orthopaedic physical therapy clinical practice.

a. Investigate a certification process for competency in Animal Physical Therapy.

The Animal SIG submitted a practice analysis grant application to determine the scope of practice for Animal Physical Therapy. The application was sent to Ann Grove, the SIG liaison. This process would help establish a basis for offering a certification process for physical therapists and physical therapist assistants to be involved competently and appropriately in rehabilitation for animals.

2. APTA/AVMA Liaison

The SIG President has been in contact with Ben Massey, APTA President, regarding establishment of a liaison between the APTA and the American Veterinary Medical Association (AVMA). Mr. Massey indicated that he approved of this liaison and that he would serve as the liaison, if this relationship could be established.

3. Practice in Animal Physical Therapy

Discussion has been ongoing with Steve McDavitt and the Federation regarding physical therapists and physical therapist assistants being involved in providing physical therapy for animals.

4. Bylaws

The Animal SIG bylaws currently are being reviewed. A copy has been sent to Ann Grove and the Animal SIG officers for review.

Use of physical therapy credentials when physical therapists and physical therapist assistants are working with an animal population.

There has been discussion over a long period of time regarding use of physical therapy credentials for physical therapists and physical therapist assistants who are providing physical therapy services for animals. Discussion within the Orthopaedic Section has included the point that while a physical therapist, for example, should not say he/she is practicing animal physical therapy, he/she should be able to acknowledge his/her credentials. In recent discussions with Ben Massey and with a lawyer in Colorado, the recommendation was made that the least conflict and safest credentials to use within provision of physical therapy care for animals would be academic credentials rather than physical therapy credentials. The credentials after the clinician's name would be, for example, MS or Master of Science, rather than MS, PT. The rationale provided by Mr. Massey was that within many states, and particularly the states with "human" in the physical therapy practice act, practicing with animals is legally outside of the scope of the practice act. This same rationale would be used if, for example, physical therapist assistants were sales representatives and were practicing without supervision from a physical therapist.

Comments and opinions from the Section Board of Directors are requested and welcome.

Residency Programs

Physical therapists who are providing rehabilitation for animals appear to be receiving more requests for informal and formal residencies than can be accommodated.

Liaisons

The State Liaison Coordinator continues to work toward establishing a liaison in each state.

Welcome Packet

The SIG would like to develop a packet of information for new SIG members and others who request information on how to get started in this area of rehabilitation. Presently, the SIG secretary is responsible for sending this information to those requesting it. The information consists of answers to frequently asked questions, a survey with information given and requested, and guidance to the Orthopaedic Section and resources.

Continuing Education

Continuing education continues to be sought by physical therapists, physical therapist assistants, veterinarians, veterinary assistants, and from many other health care personnel.

The Second International Symposium for Rehabilitation and Physical Therapy in Veterinary Medicine will be held in Knoxville, TN in August 2002.

Cheryl Riegger-Krugb, PT, ScD
President, APTSIG

Poster & Platform Presentations

CSM 2002 - Boston, Mass

NOTE: You will find the complete abstracts in the January 2002 issue of the *Journal of Orthopaedic and Sports Physical Therapy*.

POSTER PRESENTATIONS

Adams-Challenger MC

118 Retroperitoneal Mass: Would You Have Raised the Red Flag?

Alexander KM

119 The Effects of Postural Taping as an Adjunct to a Traditional Postural Re-education Program to Reduce Forward Head and Rounded Shoulders

Borstad JD

120 Comparison of Scapular Kinematics Between the Eccentric and Concentric Phases of Scapular Plane Abduction

Beninato M

121 Predicting Final Discharge Destination for Patients Status Post Hip Fracture in Nursing Home Settings

Cameron DA

122 A Comparison of Electromyographical Response Times Between Individuals With and Without a History of Ankle Sprain

Carley PJ

123 Are Concrete Floors Bad for Workers or is There More to Floor Surfaces?

Rainey-Yates J

124 Strain-Counterstrain Versus Stretching: Effects on Tender Points in the Upper Trapezius and Sternocleidomastoid Muscles

Pili N

125 Anterior Tibial Translation and the Menstrual Cycle Over Time

Cigna JA

126 Functional Occupational Rehabilitation Following Open Mesh Inguinal Hernia Surgical Repair - A Case Study

Dalrymple SA

127 The Effects of Scapular Taping on Functional Reach to Grasp: An EMG and Kinematic Study

Davis DS

128 Reliability of Subtalar Joint Neutral Measurements: A Large Sample Investigation with Experienced Testers

Dee JM

129 Treatment of Lateral Epicondylitis: Comparing Traditional Exercise Protocols with Periscapular Strengthening

DeLuccio JA

130 The Incidence of Deltoid Involvement in Patients with Shoulder Pathology: A Multiple Case Report

Dunn SL

131 Comparison of ACL Reconstruction Outcomes: Patella Tendon - vs - Hamstring Grafts, Preliminary Results

Evans B

132 The Effect of Hindfoot and Semi-Rigid Foot Orthoses on Transverse Tibial Rotation: A Single Case Subject Design

Farrell KE

133 Effect of Upright, Provocation Test on Median Nerve Function in Construction Apprentices With and Without Carpal Tunnel Syndrome

Ferraro AE

134 Reliability of Ober Test Measurements Obtained Using a Tape Measure on Females With Iliotibial Band Shortness

Hagins M

135 The Effects of Breath Control on Isometric Trunk Extensor Force

Henry SM

136 Postural Responses in Persons with Low Back Pain

Ikeda ER

137 Effects of Strain-Counterstrain* on Muscle Hardness and Tenderness in Subjects with Neck Pain

Jenkins PG

138 A Technique Used to Manage Heel and Ankle Pain in Three Persons Undergoing Tibial Ilizarov for Limb Lengthening

Jeter D

139 Activation of the Multifidus During Four Isometric Contractions

Mahoney-Graves J

140 Examination of the Relationship Between Impairment and Disability in Patients with Shoulder Dysfunction

Karst GM

141 Landing Strategies Following Successful Recovery From Anterior Cruciate Ligament Reconstruction

Katz J

142 The Intertrial Reliability of Measurements of Spatial and Temporal Gait Parameters Obtained with an Electronic Walkway System

Katz JS

143 Influence of Pregnancy on Dynamics of Rising From a Chair: A Kinematic Analysis of The Sit-To-Stand Movement

Kelley MJ

144 Rehabilitation Following a Shoulder Capsular Release for Recalcitrant Frozen Shoulder Using a Team Approach

McGuire C

145 Physical Therapy and Health Outcomes in Patients with Soft Tissue Cumulative Trauma Pathology at the Foot and Ankle

Koslow PA

146 Specificity of the Lateral Scapular Slide Test in Asymptomatic Competitive Athletes

Leonard CT

147 Myotonometer* Assessment of Changes in the Triceps Surae Musculotendinous Unit Following a Stretching Intervention

Maluf KS

148 Effect of Tendon Achilles Lengthening on Ambulatory Plantar Loads in Patients with Diabetes Mellitus

Mawdsley RH

149 Effects of Submaximal Practice Contractions on Grip Strength Testing

Moran KA

150 Effects of Floor Patterns on Balance and Gait Patterns of Older Adults Using the Timed Up & Go

Murray HM

151 Effect of Kinesio Taping on Posture

O'Dell WD

152 Effects of Backpack Loading on the Lumbar Spine Lordosis in School-Aged Children

Osterbues DJ

153 Overuse Injuries Among Cyclists in a Recreational Long-Distance Bicycle Ride: California AIDS Ride 9

Heiss DG

154 Trunk Muscle EMG Linked to the Cardiac Cycle During Quiet Standing is Not All ECG Artifact

Paluso V

155 Influences of Speed and Rotation on Ground Reaction Forces During Contralateral Leg Reaches

Shay J

156 The Comparison of an Active-Sustained Stretch Versus a Static Stretch on Length of the Hamstring Muscles

Habetz J
157 Comparison of the Effects of Two Hamstring Stretches: Active-Repeated and Static

Gibson WF
158 Intertester Reliability of Measuring Knee Flexion Using a Light-Referencing Goniometer

Radwan HR
159 Methods of Teaching Spinal Manipulation Skills Part II: Gender Effect

Reisch RA
160 Upper Limbs Neurodynamic Test 2-Median Nerve Bias: An Investigation of Examiner Reliability, End-Range Shoulder Abduction, and Symptom Response in Asymptomatic Subjects

Rundquist PJ
161 Electromyographic Evaluation of Exercises that Activate the Serratus Anterior

Ries MA
162 The Effect of Different Sacral Angles on the Ability to Withstand Vertical Compression Using the Elbow Flexion

Scavera SC
163 Ergonomic Furniture for Elementary Schoolchildren: Does It Make a Difference?

Shoop M
164 Age-Related Changes in the Shoulder Complex

Sbuch MB
165 The Effectiveness of Three Common Self-Stretches on Iliotibial Band Flexibility

Van Dillen LR
166 Treatment of a Racquetball Player with Lumbar Rotation with Flexion Syndrome

Watson TA
167 Methods of Teaching Spinal Manipulation Skills Part I: Comparison of Three Teaching Methods

Wilmarth MA
168 Craniovertebral Angle Following Backpack Loading

Winnegge T
169 A Case Report on Joint Mobilization for a Hemiplegic Upper Extremity: An Adjunct for Constraint Induced Movement Therapy (CIMT)?

PLATFORM PRESENTATIONS

THURSDAY
Session A: 12:00-12:15
Jennifer L. Connors
Assessment of Hip Abductor Strength and Function in Patients with DDH—Pre- and Post-Periacetabular Osteotomy

Session A: 12:15-12:30
Mary K. Milidonis
Hip Replacement Expectations and Satisfaction Outcomes

Session A: 12:30-12:45
Debra B. Yahr
Effects of the Underwater Treadmill on Total Hip Replacement Rehabilitation

Session A: 12:45-1:00
Annette Dusenbury
The Effect of Physical Therapy Interventions on the Functional Outcomes of Individuals Following a Unilateral Lower Extremity Amputation

Session A: 1:00-1:15
Mary C. Hannah
Two Methods of Assessing Iliotibial Band Length in Uninjured Subjects and Subjects with Lower Extremity Overuse Injury

Session A: 1:15-1:30
Evan M. Jones
The Effects of Treadmill Type on Heart Rate, Pain, and Velocity Tolerance in Subjects with Lower Extremity Musculoskeletal Pain

Session A: 1:30-1:45
Christopher S. Allen
A Randomized Controlled Trial of a Pneumatic Leg Brace Versus Traditional Treatment in Individuals with Tibial Stress Fractures

Session A: 1:45-2:00
Mary M. Langhenry
Unicompartmental Knee Arthroplasty Through a Minimally Invasive Incision. A Preliminary Outcome Report

Session A: 2:00-2:15
Wendy J. Lachtara
Videotape Home Exercise Program Instruction for Inpatients with Total Knee Replacements

Session A: 2:15-2:30
Christopher A. Kirby
The Effect of an Electrical Stimulation Protocol on Selected Measures of Impairments in Patients Following Total Knee Replacement Surgery: A Pilot Study

Session A: 2:30-2:45
Barbara J. Billek-Sawhney
Preliminary Study of Compliance and Outcomes and Their Relationship in Patients After Anterior Cruciate Ligament Surgery

Session A: 2:45-3:00
Marie A. Johanson
Plantarflexor Stretching Effects on Static and Dynamic Ankle Dorsiflexion

Session A: 3:00-3:15
Nancy B. Reese
Active Verses Passive Ankle Dorsiflexion Range of Motion: Differences in Magnitude and Reliability of Measurements

Session A: 3:15-3:30
Mark W. Cornwall
The Reliability and Validity of the Clinical Assessment of First Ray Mobility

Session A: 3:30-3:45
Patrick J. Carley
Biomechanical Nylon Skeletal Insert Reduces EMG Muscle Activity

Session A: 3:45-4:00
Mohammad Jamali
Tripod Theory of Foot Function: The Role of Footwear

Session A: 4:00-4:15
Gaetano Lombardo
Reliability of Palpation of Talonavicular Congruency in Physical Therapy Students

Session A: 4:15-4:30
Thomas G. McPoil
Does the Shape of the Medial Longitudinal Arch Change During Walking: Implications for the Design of the Foot Orthoses

Session B: 12:00-12:15
Charlene M. Urbancic
Longus Colli Muscle Activity Detected by Diagnostic Ultrasound is Greater for a Manual Technique Compared with Verbal or Pillow Cueing

Session B: 12:15-12:30
Toni S. Roddey
A Comparison of Two Methods of Home Program Instruction Following Arthroscopic Full-thickness Rotator Cuff Repair: A One-Year Prospective Randomized Trial

Session B: 12:30-12:45
Philip W. McClure
The Effects of Physical Rehabilitation in Patients with Shoulder Impingement Syndrome

Session B: 12:45-1:00
Philip W. McClure
Three Dimensional Scapular Kinematics in Patients with Shoulder Impingement Syndrome and Age-Matched Controls

Session B: 1:00-1:15
Paula M. Ludewig
Effects of a Home Exercise Program on Shoulder Symptoms and Functional Status in Construction Workers

Session B: 1:15-1:30
Joy C. MacDermid
The Relationship Between Joint Specific Patient Questionnaires and More Generic Measures in Patients with Wrist Fracture

Session B: 1:30-1:45
Joseph E. Berman
The Effects of Computer Keyboard Slope on Wrist Extension Angle and Forearm Muscle Activity Among Asymptomatic Typists

Session B: 1:45-2:00
Richard A. Ekstrom
Surface Electromyographic Analysis of Exercises for the Trapezius and Serratus Anterior Muscles

Session B: 2:00-2:15
Ar-Tyan Hsu
Response of Abduction and Rotational Ranges of Motion to Simulated Dorsal and Ventral Translational Mobilization of the Glenohumeral Joint

Session B: 2:15-2:30
Lori Michener
Relationships Between Impairment, Functional Limitation, and Disability in Patients with Subacromial Impingement Syndrome

Session B: 2:30-2:45
Mark D. Weber
Factors that Influence the Change in Physical Function of Patients with Adhesive Capsulitis

Session B: 2:45-3:00
A. Russell Smith, Jr.
Anatomical Characteristics of the Upper Serratus Anterior

Session B: 3:00-3:15
Shaw Bronner
Jerk Optimization as an Indicator of Skill in a Complex Dance movement

Session B: 3:15-3:30
Allison T. Shapiro
Physical and Performance Characteristics of Young Synchronized Skaters

Session B: 3:30-3:45
Barbara J. Norton
Analysis of Angles of Inclination for Lumbar and Thoracic Regions of the Spine

Session B: 3:45-4:00
Mary J. Hickey
Comparing the Effects of Backpacks and an Educational Program on the Incidence of Adolescent Back Pain

Session B: 4:00-4:15
Jacglen M. Rhoads
EMG Analysis of the Rectus Abdominis Muscle

Session B: 4:15-4:30
Perri E. Cagle
Effects of Exercise on Balance Measures in Individuals with Rheumatoid Arthritis

FRIDAY

Session A: 8:30-8:45
Brenda L. Greene
Effectiveness of an Active Ergonomics Training Program for Computer Users

Session A: 8:45-9:00
Dennis L. Hart
Validity and Relative Precision of a Health Status Measure: Comparison of Likert and Rasch Scoring Models

Session A: 9:00-9:15
Dennis L. Hart
Computerized Adaptive Testing: Application in Outcomes Measurement

Session A: 9:15-9:30
Patricia Perry Narro
The Sensitivity and Specificity of the Blankenship' System's Indicators of Insincere Effort

Session A: 9:30-9:45
Brad W. Stockert
The Effects of Reliability and Learning in the Performance of the Star Grid Test

Session A: 9:45-10:00
Robert H. Rowe
The Relationship of Boys' and Girls' Lifting Capacity to Age and Body Weight

Session A: 10:00-10:15
Karen J. Elton
Comparison of Outcomes for Patients with Workers Compensation Versus Non-Workers Compensation Claims

Session A: 10:15-10:30
Andrew L. McDonough
Contextual Interference Effects in Physical Therapy Students Learning to Apply Manual Forces

Case Study: 8:30-8:45
Christine D. Pollard
Multiple Lower Extremity Stress Fractures in a Female Division I Cross Country Runner: A Case Study

Case Study: 8:45-9:00
Michael P. Johnson
The Clinical Decision-Making Process for Using an Atypical Management of a Patient with Osteochondritis Desiccans: A Case Report

Case Study: 9:00-9:15
G. Kelley Fitzgerald
Coordination and Agility Training in Individuals with Knee Osteoarthritis: A Case Report

Case Study: 9:15-9:30
Ricardo A. Fernandez
Early Aggressive Rehabilitation Following Achilles Tendon Repair in a Professional Baseball Player. A Case Report

Case Study: 9:30-9:45
Heather A. Hankin
Differential Diagnosis of Upper Quarter Pain in Physical Therapy

Case Study: 9:45-10:00
Tara J. Manal
Treatment of Patellofemoral Pain in a Dancer Two Years after a Patellar Contusion

Case Study: 10:00-10:15
Kathy L. Doubleday
Conservative Management of Unilateral Testicular Pain in Thoracolumbar Dysfunction

Case Study: 10:15-10:30
John M. White
Rehabilitation of a Commi-nuted, Displaced, Acetabular Fracture in a 70 Year-Old Medically Complicated Patient

SATURDAY

Session A: 1:00-1:15
Linda R. Van Dillen
Rotation-Related Impairments in Patients with Low Back Pain Who Perform Symmetric Versus Asymmetric Activities

Session A: 1:15-1:30
Paul S. Sung
The Effect of Genesen™ Point Stimulator for Patients with Chronic Low Back Dysfunction

Session A: 1:30-1:45
Paul S. Sung
Comparing Static and Dynamic Stabilization Exercises for Chronic Low Back Pain Dysfunction

Session A: 1:45-2:00
Patrick J. Sparto
Reliability of Fitts' Law for Quantifying the Control of Lumbar Spine Motion in Subjects With and Without a History of Chronic Low Back Pain

Session A: 2:00-2:15
Ronald J. Schenk
The Validity of the Lumbar Spine Index

Session A: 2:15-2:30
Daniel L. Riddle
Evaluation of the Presence of Sacroiliac Joint Region Dysfunction using a Combination of Tests: A Multicenter Intertester Reliability Study

Session B: 1:00-1:15
Deb L. Dreager
Comparison of Cervical Vertebral Separation in the Supine and Seated Positions Using Home Traction Units

Session B: 1:15-1:30
Ronald F. Bybee
The Relationship Between Reported Pain During Movement and Centralization of Symptoms in Low Back Pain Patients

Session B: 1:30-1:45
Ronald F. Bybee
Relationship Between Centralization and Range of Motion in Lumbar Spine Patients

Session B: 1:45-2:00
Afarin Assadian
A Meta-Analysis of Strengthening for Chronic Low Back Pain

Session B: 2:00-2:15
Michael A. O'Hearn
The Use of Modified Quebec Task Force Classification System to Predict Physical Therapy Outcome in Patients with Low Back Pain

Session B: 2:15-2:30
Richard A. Ekstrom
Surface Electromyographic Analysis of Exercises for the Lumbar Multifidus Muscles

2002 CSM Preliminary Programming

Boston, Massachusetts

Wednesday, February 20, 2002

8:00 am — 5:00 pm

Preconference: Office Ergonomics: The Basics and Beyond

Bonnie K. Sussman, PT, MEd

Thursday, February 21, 2002

10:15 am - 12:15 pm

Transient Osteoporosis of the Hip in Pregnancy

12:00 pm - 4:30 pm

Research Platform Session A

12:00 pm - 4:30 pm

Research Platform Session B

12:30 pm - 2:30 pm

Clinical Specialist's Forum: Clinical Research- Practical Solutions to Common Problems

G Kelley Fitzgerald, PT, PhD, Katie Mangione, PT, PhD, GCS, Philip W McClure, PT, PhD

12:30 pm - 12:50 pm Introduction

2:10 pm - 2:30 pm Panel Discussion

12:30 pm - 4:30 pm

Pain SIG Programming: Chronic Musculoskeletal Pain: What Is It and How Do We Treat It?: Pelvic Pain

12:30 pm - 3:30 pm Chronic Musculoskeletal Pain: What is it and how do we treat it?

Kathleen A Sluka, PT, PhD

3:30 pm - 4:30 pm Pelvic Pain

Elaine Pomerantz, PT, MSPH

2:30 pm - 3:30 pm

Orthopaedic Certified Specialist Exam and Description of Advanced Clinical Practice - What's the Deal?

Joe Gogdes, PT, MA, OCS, Richard C. Ritter, PT, MA, OCS

3:00 pm - 4:30 pm

Use of Clinical Reasoning Skills for Decision Making with Orthopaedic Patients Cases with Reference to the *Guide for Physical Therapist Practice*

Catherine E Patla, PT, DPT, MMSc, OCS, Elaine Rosen, PT, DHS, OCS, FAAOMPT

3:30 pm - 4:30 pm

ABPTS OCS Update

Michael T Cibulka, PT, MHS, OCS, Nancy E Henderson, PT, PhD, OCS, Robert D Johnson, PT, MS, OCS

Friday, February 22, 2002

8:00 am - 10:00 am

Orthopaedic Section Exposition

8:00 am - 10:30 am

Improving the Continuum of Care for Persons with Hip Fracture

8:00 am - 8:35 am Epidemiology, Prevention and Functional Outcomes of Hip Fracture

Richard Fortinsky, PhD

8:35 am - 9:10 am

Causes, Intervention and Prevention

Edward Marcantonio, MD

9:10 am - 9:35 am

Rehabilitation Strategies

Katie Mangione, PT, PhD, GCS

9:35 am - 9:55 am

Consensus Conference Recommendations

Douglas Edward White, PT, OCS

9:55 am - 10:05 am

TBD

Mary Milidonis, PT, MMSc, OCS

10:05 am - 10:30 am

Panel Discussion

8:30 am - 10:30 am

Case Study Presentations

8:30 am - 10:30 am

Complex Regional Pain Syndrome: Current Standards of Assessment and Treatment

RJ Allen, PT, PhD, Julie Hulten, SPT

8:30 am - 10:30 am

Research Platform Session

1:00 pm - 2:00 pm

Pauline Cerasoli Lectureship: Advancing Contemporary Practice: A Role for Educators

1:00 pm - 5:00 pm

Foot and Ankle SIG Programming: Outcome Studies on the Effects of Foot Orthotics and Shoewear

1:00 pm - 2:00 pm Outcome Studies on the Effects of Foot Orthotics and Shoewear: Plantar Fasciitis, Patellofemoral Pain Syndrome, Knee Osteoarthritis, and Anterior Compartment Syndrome

Michael T. Gross, PT, PhD

2:00 pm - 3:00 pm

Conservative Management of Individuals with Rheumatoid Arthritis

Jim Woodburn, PhD, BSc, SRCh

3:00 pm - 4:00 pm

A Model for the Evaluation, Management and Prevention of Tendinopathy, Part I: Achillodynia

Cesar Blanco, PhD, Yogi Matharu, DPT

4:00 pm - 5:00 pm

A Model for the Evaluation, Management and Prevention of Tendinopathy, Part II: Posterior Tibialis Tendinopathy *Kornelia Kulig, PT, PhD, Cesar Blanco, PhD*

2:00 pm - 5:00 pm	Occupational Health SIG Programming: High Tech Solutions to Office Ergonomics: Hot Topics Forum 2:00 pm - 4:00 pm High Tech Solutions to Office Ergonomics - Selecting the Best Seat in the House <i>Eileen Vollowitz, PT</i> 4:00 pm - 5:00 pm Hot Topics Forum: The Future of Occupational Health PT: Are We Prepared? <i>Bonnie K Sussman, PT, MED</i>
1:00 pm - 5:00 pm	Performing Arts SIG Programming: The Role of Physical Therapists in Developing Healthy Training Practices in Musicians and Dancers 1:00 pm - 2:00 pm Management of Musicians with Occupational, Neurological and Orthopaedic Disorders <i>Michael E. Charness, MD</i> 2:00 pm - 3:00 pm Anterior Hip Pain in the Adolescent Dancer <i>Lyle Micheli, MD, Daniel Conners, PT</i> 3:00 pm - 3:15 pm Writing Performing Artist Case Studies <i>Linda Van Dillen, PT, PhD</i> 3:15 pm - 3:30 pm Rehabilitation of a Complicated Distal Radius Fracture in a Pianist <i>Laura McGuire, PT, MS, CHT</i> 3:30 pm - 3:45 pm The Effects of Sacroiliac Mobilizations on Treating a Chronic Hamstring Strain in a Jazz Dancer <i>Jennifer Gamboa, MPT, OCS</i> 3:45 pm - 4:00 pm Electrical Stimulation and Lumbar Stabilization with Performing Artists <i>Tara Jo Manal, PT, OCS</i> 4:00 pm - 4:15 pm Introduction to Using the <i>Guide</i> when Treating Performing Artists <i>Susan Coel Guynes, PT, MHS</i> 4:15 pm - 4:30 pm Treatment of a Musician with TMJ Dysfunction and Shoulder Impingement <i>Susan Coel Guynes, PT, MHS</i> 4:30 pm - 4:45 pm Treatment of a Figure Skater with Achilles and Posterior Tibialis Tendonitis <i>Laura Schmitt, MSPT, SCS, ATC</i> 4:45 pm - 5:00 pm TBD <i>Marshall Hagins, PT, MA</i>
2:00 pm - 5:00 pm	PTA Education Group Programming: The Growth of Opportunity: Impingement Syndromes in the Older Adult 2:00 pm - 3:00 pm The Growth of Opportunity <i>Steven Lesh, PT, PhD, MPA, SCS, ATC</i> 3:00 pm - 4:00 pm The Growth of Opportunity <i>Jeff Konin, Med, MPT, ATC</i> 4:00 pm - 5:00 pm Impingement Syndrome in the Older Adult <i>Trudy S. Goldstein, PT</i>
5:00 pm — 6:00 pm	Animal Physical Therapist SIG Business Meeting
5:00 pm — 6:00 pm	Manual Therapy Education Group Business Meeting
5:00 pm — 6:00 pm	Pain Management SIG Business Meeting
5:00 pm - 6:00 pm	Foot and Ankle SIG Business Meeting
5:00 pm - 6:00 pm	Performing Arts SIG Business Meeting
5:00 pm - 6:00 pm	PTA Education Group Business Meeting
5:00 pm - 6:30 pm	Occupational Health SIG Business Meeting

Saturday, February 23, 2002

8:00 am - 10:00 am	Orthopaedic Considerations Following Open Heart Surgery
8:30 am - 10:30 am	Business Meeting
1:00 pm — 2:30 pm	Research Platform Session A
1:00 pm — 2:30 pm	Research Platform Session B
1:00 pm - 4:00 pm	Manual Therapy Education Group Programming: Spinal Manipulation Therapy and the Prevention of Dysfunction and Disability <i>Wayne Rath, PT, Dip MDT</i>
1:00 pm - 4:00 pm	Primary Care Education Group Programming: Differential Diagnosis and Medical Screening in Primary Care Physical Therapy 1:00 pm - 2:00 pm Systems Approach <i>William Boissonnault, PT, DHSc, MTC, FAAOMPT</i> 2:00 pm - 2:45 pm Body Regions (Upper) Approach <i>Gail D Deyle, PT, MPT, OCS, FAAOMPT</i> 2:45 pm - 3:30 pm Body Regions (Lower) Approach <i>Joe Godges, PT, MA, OCS</i> 3:30 pm - 4:00 pm Panel Discussion
1:00 pm - 5:00 pm	Animal Physical Therapist SIG Programming: Mammalian Physiology: Implications for Electrophysical Modality Application and Rehabilitation in Animals; Managing Multiple Minor Trauma in the Athletic Horse; Equine Laminitis Treatment Options 1:00 pm - 2:00 pm Mammalian Physiology: Implications for Electrophysical Modality Application and Rehabilitation in Animals <i>Kristinn I Heinrichs, PT, PhD, SCS, ATC, CSCS</i>

	2:00 pm - 3:00 pm	PM Managing Multiple Minor Trauma in the Athletic Horse <i>Neal Hughs, PT, MEd</i>
	3:00 pm - 3:30 pm	PM Case Report: Equine Laminitis Treatment Options <i>Neal Hughs, PT, Med</i>
	3:30 pm - 4:00 pm	PM Case Report: Treatment of the Motion-Restricted Scapula in a Professional Barrel Racing Horse <i>Tali Marie Manthey, MSPT</i>
	4:00 pm - 5:00 pm	High Risk Patients <i>David Levine, PT, PhD, OCS</i>
1:30 pm - 4:30 pm		Patellofemoral Education Group Programming: Patellofemoral and Lower Extremity Dysfunction Resulting from Core Instability: A Paradigm Shift
	1:30 pm - 2:15 pm	Influence of the Lower Kinetic Chain in Contributing to Patellofemoral Disorders <i>Christopher M Powers, PT, PhD</i>
	2:15 pm - 3:00 pm	Core Stability and Lower Extremity Mechanics: Implications for Injury <i>Irene S McClay, PT, PhD</i>
	3:00 pm - 3:45 pm	Patellofemoral Joint Protection via Core Training <i>Jason Soncrant, PT</i>
	3:45 pm - 4:15 pm	Are ACL Tears Preventable? Biomechanical and Neuromuscular Interventions <i>Holly Silvers, MPT</i>
	4:15 pm - 4:30 pm	Panel Discussion
2:30 pm - 3:00 pm		Rose Research Platform
4:00 pm - 5:00 pm		Primary Care Education Group Business Meeting
6:30 pm - 8:00 pm		Awards Ceremony
7:00 pm — 10:00 pm		Occupational Health SIG Board of Directors Meeting
8:00 pm - 11:00 pm		Black Tie and Roses Reception

Sunday, February 24, 2002

8:00 am - 12:00 pm		Designing a Residency Curriculum in Orthopaedics and Manual Therapy: A How To Workshop
	8:00 am - 8:15 am	Introduction and Overview <i>William Boissonnault, PT, DHSc, MTC, FAAOMPT</i>
	8:15 am - 8:45 am	Development of the Mission/Vision and Program Outcomes <i>Gail Jensen, PT, PhD</i>
	8:45 am - 9:25 am	Strategies for Developing a Residency Curriculum <i>Kathryn M Lyons, PT, MS, OCS</i>
	9:25 am - 10:00 am	Models for Delivery of Residency Education <i>Ann E Porter-Hoke, PT, OCS, FCAMT, FFAOMPT</i>
	10:00 am - 10:15 am	Break
	10:15 am - 10:45 am	Models for Delivery of Residency Education <i>Kathryn M Lyons, PT, MS, OCS</i>
	10:45 am - 11:15 am	Selecting and Training of Clinical Faculty <i>Carol Jo Tichenor, PT, MA, PT</i>
	11:15 am - 11:30 am	Strategies for Use of Technology <i>Gail M Jensen, PT, PhD</i>
	11:30 am - 12:00 pm	Panel Discussion
8:00 am — 12:00 pm		Occupational Health SIG Board of Directors Meeting

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OCCUPATIONAL HEALTH PHYSICAL THERAPISTS SPECIAL INTEREST GROUP



ORTHOPAEDIC SECTION, APTA, INC.

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New Roles for Physical Therapists in Occupational Medicine

David L. Mallgrave, PT

Physical therapists today are in a great position to take on new roles in the health care system. This is especially true in industrial medicine. Industry is faced with new changes taking place with OSHA ergonomic standards and many states are making changes in their worker's compensation structures. Physical therapists have an opportunity to take the lead in the administration of these changes. There is a great need to assist with the implementation of ergonomic programs, return-to-work programs, and to assist physicians with the diagnosis of musculoskeletal disorders.

Industry is frustrated with the service they are receiving from health systems today. There are very few hands-on examinations performed and doctors are too quick to order MRI tests instead of obtaining objective clinical data. Many physicians who are seeing patients in industry do not possess the skills or have the time to gather enough information on a patient to begin an accurate treatment plan.

PHYSICAL THERAPISTS CAN PLAY AN ACTIVE ROLE

The one health care professional who does have the skills and the time to be the primary information gatherer is the physical therapist. Physical therapists are highly trained in musculoskeletal evaluation and can be a great link between the doctor, employer, and the patient. Physical therapists are great problem solvers. They take pride in discovering the cause of a problem as well as determining how to overcome a problem. They are skilled in taking objective measurements to assess musculoskeletal disorders.

Many times during the information gathering process the physical therapist stops short of getting enough critical objective data to assess a patient's functional abilities. This is especially prevalent with industrial injuries. A PT can be extremely valuable to an occupational medicine physician by supplying not only range of motion, manual muscle tests and special tests, but also by correlating his evaluation to the job that the patient will be returning to at work. This requires contacting the employer and getting a job description or information about the essential functions of the job.

GATHERING FUNCTIONAL DATA

By physically going to the job site, the PT can get an accurate job description and he can begin to establish a relationship with the company. He also can discover activities at the job site that the patient can safely perform

without aggravating his condition. Now the PT can further assess the patient by including gross strength measurements from performing box lifts from the floor to knuckle height, knuckle to shoulder, and shoulder to overhead, and correlating this to the environment in which the patient will be working. This is a great way to start a return-to-work program. The attending physician now can make good decisions on whether the patient can return to a light duty position or should he be taken off work all together.

ELIMINATING THE SYMPTOM MAGNIFIER

Another real problem for the occupational medicine doctor is determining whether the patient is in as much pain as he says he is after suffering a sprain or strain of a muscle or joint. By referring the case to a physical therapist, the physician can obtain data that will help to determine if the patient is consistent in his complaints. The PT will ask the patient to perform a variety of activities that appear different in nature but are actually testing similar findings. For example: with the patient standing, measure the distance from fingertips to toes during trunk flexion. Later in the examination, have the patient sit on the exam table with his legs on the table and ask the patient to reach for his toes. These 2 measurements should be within 2 inches of each other. In the symptom magnifier, this difference can be over 10 inches. Sitting on the table and reaching for ones toes also serves as a distraction straight leg raise and a neurotension sign.

Similar inconsistencies can be uncovered with manual muscle test and with lifting weighted objects. If a patient reports his pain being an 8 out of 10, there should be complimentary weakness with this complaint. The body will not let one have normal strength when it is in severe pain. The body will protect itself by not allowing a normal activity to take place. When a patient reports severe back pain but he performs box lifts starting at 10 pounds and progresses safely up to 50 pounds, this ability is inconsistent with the complaint. Another example is a patient that complains of severe lateral epicondylitis but his manual muscle test is 5/5. This is valuable information that a doctor could benefit from, especially if he is planning to inject medicine into the patient. Physical therapists should not assume that doctors know how to perform these types of tests.

Many times doctors who handle industrial injuries do not know how to conduct special musculoskeletal tests. These doctors have a very difficult time trying to stay cur-

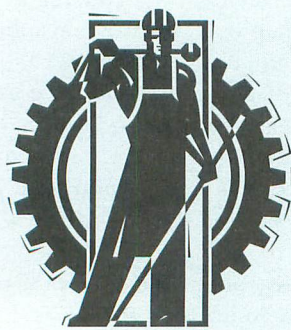
rent with all the medications that are being released and how to handle diseases. Doctors would benefit from being inserviced by physical therapists on tests that demonstrate inconsistencies, such as Waddell's signs. This is a great way to bond with doctors and assist them with their diagnoses and treatment plans and become an integral part of their practice.

How do I start a professional relationship with a physician? It all starts with communicating with good progress notes that are short, precise, and contain data related to the patient's occupation. When establishing a new relationship, deliver the progress notes in person. This way the doctor is able to put a face with the signature and the therapist is able to explain the data that he collected. Don't be afraid to have follow-up visits with the physician and share information that you have gathered at the patient's job site.

Industry also needs to be educated on capabilities of the physical therapist. By educating industrial management on skills and services of your physical therapy department, you open up a whole new referral source. Your willingness to go on site is a great selling point. Industry wants health care providers to become more aware of the everyday processes at their plant. They enjoy showing providers their operations. It can be very beneficial to have an industrial administrator visit your clinic and then demonstrate some of the diagnostic skills used by physical therapists. Let them see the uniqueness of the profession and how physical therapists should be the practitioners of choice. With the advent of direct access for physical therapists, consider a direct contract relationship with some of the key employers in your region for treating musculoskeletal injuries of their employees.

Ten years ago we did not have the manpower to assume these new roles. With all the changes in health economics we now have a larger workforce and we now can take on new roles. Due to some of these economic changes we are now forced to think outside the box. Sometimes it is advantageous not only to think outside the box but also physically leave the box and go on site. This will only strengthen your practice and the practice of physical therapy. This is a great time to advance the field of physical therapy and begin to strive towards our vision statement.

David L. Mallgrave, PT is President & CEO of Moorman & Associates in Beaumont, Texas. He can be reached via email at dbmall@ih2000.net.



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FOOT ANKLE

SPECIAL INTEREST GROUP ORTHOPAEDIC SECTION, APTA, INC.

FASIG Notes

FIND A FOOT AND ANKLE PHYSICAL THERAPIST

The web site that contains the list of physical therapists that treat the foot and ankle is now available for use. Please contact Stefanie Snyder either by phone 1-800-444-3982 x 205 or by email ssnyder@centurytel.net to be placed on the list. This information will be available to physical therapists and the general public. Please log on to the Section website and click on the Committee and SIG heading and then to the Foot and Ankle Special Interest Group. LOG ON AND BROWSE.

EDUCATION PROGRAMMING AT CSM 2002

The FASIG programming has been set and as usual demonstrates an excellent blend of science and clinical practice. Mark your programs for the Friday afternoon session from 1:00 to 5:00. The 4 hours of programming will include:

- Outcome Studies on the Effect of Foot Orthotics and Shoe wear: Plantar Fasciitis, Patellofemoral Pain Syndrome, Knee Osteoarthritis and Anterior Compartment Syndrome. Michael Gross, PT, PhD
- Conservative Management of Individuals with Rheumatoid Arthritis. Jim Woodburn, PhD, BSc, SRCh
- A Model for the Evaluation, Management and Prevention of Tendinopathy, Part I: Achillodynia. Cesar Blanco, PhD, Yogi Matharu, DPT
- A Model for the Evaluation, Management and Prevention of Tendinopathy, Part II: Posterior Tibialis Tendinopathy. Kornelia Kulig, PT, PhD, Cesar Blanco, PhD

Immediately following the education program, our business meeting will take place from 5:00 to 6:00. Some of the agenda items are:

- Election of the Vice President. Mark Cornwall will be stepping down after 2 consecutive terms. The Vice President position has the role of formulating the education program for the Combined Sections Meeting, working closely with the Education Committee of Orthopaedic Section. If this position is of interest to you, please send your name to me or to Byron Russell.
- Our SIG is planning to cosponsor the preconference course for CSM 2003. Several topics have been considered but a discussion of topics and speakers will take place.
- The FASIG Research Retreat will be taking place in the spring of 2003. The meeting will be located at the University of Southern California in the Department of Biokinesiology and Physical Therapy. Please join in the discussion.

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Performing Arts Special Interest Group • Orthopaedic Section, APTA

**Remember Our Annual Business Meeting,
Friday, February 22, 2002,
5 PM to 6 PM at CSM in Boston. See You There.**

MESSAGE FROM THE PRESIDENT

Greetings to the membership. By the time you get this newsletter, you should be expecting to receive your survey in the mail regarding the Description of Specialized Clinical Practice for Physical Therapy for Performing Artists. This is a major step in completing our practice analysis. Once you receive this survey, please respond and send it back promptly. Our goal is to have this description completed by Annual Conference 2002.

We are also looking forward to seeing as many of you as possible at our annual business meeting and educational programming at CSM. Boston is convenient for so many of you – we are looking forward to a great turnout. I will be handing over the reins to a new President, and a new Treasurer will be coming on board. Look for your ballots in the mail, and please return them quickly. The PASIG Executive Board is what YOU make it.

Finally, I would like to report to you the progress that has been made on practice reciprocity/interstate licensure privileges. As you may recall, we brought this issue up to the Orthopaedic Section Executive Board and they referred it to the Practice Committee. Many thanks to Stephen McDavitt for his work on behalf of this issue. Here's where we stand. The Federation of Physical Therapy State Boards has developed a Model Practice Act that includes exemptions from licensure in a particular state for those physical therapists licensed in another state who are providing temporary services (less than 60 calendar days) in conjunction with teaching, traveling athletic teams, or performing arts companies, or when providing telecommunication consultation. Because the Federation does not have statutory authority in any state, PTs (this means YOU) must start lobbying their own state boards and local legislators to submit the model practice act to the state legislature for a vote. This will be a long and drawn out process that requires total commitment from every physical therapist affected by reciprocity issues (and we all are, especially if we use the internet). This is a right that will have to be won state legislature by state legislature, just as direct access has had to be won. Get on board. Now is the time to get involved, and the PASIG can certainly form a task force to help people get organized in their individual states. This is a key issue for our members, so why don't we spearhead the movement!!!

In the meantime, the best strategy for interstate practice is to check with each state in which practice is planned, and find out how that state deals with temporary licensure. The PASIG practice committee will work in the next year to develop a compendium of state temporary licensure requirements so that members may easily access this information.

See you at CSM!!!

*Jennifer M. Gamboa, MPT
President*

REGIONAL HIGHLIGHTS

Brent Anderson, PT, OCS –travels extensively teaching Pilates programs through Polestar Education; recently spoke on injury prevention and performance enhancement for the New World Symphony.

Shaw Bronner, PT, MHSc, OCS – continues to provide/coordinate PT services for the Ailey Company and conducts annual screenings at the Ailey School; directs the SOAR research lab where she and her colleagues are studying the biomechanics of dance under an NIH Grant.

Jennifer Gamboa, MPT, OCS –conducts annual screening at the Kirov Academy of Classical Dance; coordinates on-site physical therapy services at the Academy; treated Fosse, Hubbard Street, and Susan Farrel dancers while they were in town; will be teaching dance kinesiology to MFA students at American University in the spring.

Gayanne Grossman, PT –is busy expanding her clinics and works with the Princeton Ballet School; she teaches anatomy and kinesiology for dancers at Muhlenberg College.

Susan Guynes, PT, MHS –performs screenings for dance and theatre majors at New Orleans Center for Creative Arts; worked with members of "Fosse" show while on tour in her area.

Marshall Hagins, PT, PhD –recently moved his practice into the Mark Morris Dance Center in Brooklyn, NY.

Beth Lepkowski, PT, MS –is an instructor in Pilates for Polestar and is training Olympic skater Michael Weiss in preparation for his run for the Gold.

Marijeanne Liederbach, PT, MS, ATC –works at Harkness Center for Dance Injuries which was recently selected as host site for IADMS's (International Association for

Dance Medicine and Science) 2002 annual conference and has received a research grant to develop a biomechanics lab to study ACL injuries in dancers; teaches dance medicine at Feld Ballet, Dance Theatre of Harlem and Columbia University; recently opened a new dance medicine and orthopaedic/sports PT practice in NYC; was featured on Entertainment Tonight in a story of Ben Vereen's recovery from stroke.

Lynn Medoff, MPT, MA—is the physical therapist for the Northern Arizona University Preparatory School of Dance and teaches Master classes for Northern Arizona University School of Music; will be the featured speaker for the strings section of Northern Mexico Music Educators annual conference.

Julie O'Connell, PT—works with dancers and has put together a team of health care professionals to provide backstage support for the Joffrey Ballet during its Chicago season run in October 2001.

Susan Keller Reischl, PT, OCS—works in California and with professional Broadway dancers on tour in Los Angeles.

Donna Ritter, PT—is the company therapist for the Dallas Black Dance Theatre; will be offering a workshop on biomechanics of dance technique for Ballet teachers at the Chamberlain Ballet School in Plano, TX.

Leigh Roberts, MPT—spoke on injury prevention to a large group of dance educators at the annual Maryland Association for Health, Physical Education, Recreation and Dance; provides on-site physical therapy services to the Kirov Academy of Classical Dance.

Edie Shinde, PT—works in Orlando, FL and participates in screening/on-site care for the Southern Ballet Theatre dancers; screens dance magnet school students at a local school; is helping organize a 1-day Dance Seminar on ballet injuries in March 2002 through a newly formed Florida Dance Medicine and Performing Arts Study Group.

Dance Medicine: Injury Recognition, Treatment, and Prevention

One day seminar to focus on ballet injuries, injury prevention, screening and therapeutic techniques. Opportunity to attend Southern Ballet Theatre's "American Jazz" and meet Artistic Director Fernando Bujones. March 8, 2002, 8am-4pm, Orlando, Florida

Speakers include:

- Lew Schon, MD, recognized expert in dance medicine
- Robert Palumbo, MD, orthopaedist for Southern Ballet Theatre, Cirque du Soleil, and Central Florida theme park performers
- Peter Stark, formerly with New York City Ballet, Boston Ballet Workshops include Pilates, Alexander Technique, physical therapy intervention, including taping, screening, strengthening, and injury prevention.

Contact: Orlando Regional Healthcare, Linda Ross, (407) 237-6375, e-mail: LRoss@orhs.org

Jeff Stenback, PT, OCS—spoke on injury prevention and performance enhancement for the New World Symphony in Miami, FL; treats classical, jazz, and folk musicians in his

private practice; currently compiling information on musician injury status and health care usage patterns through the University of Miami.

Robert Turner, PT, OCS—runs a busy private practice in New York consisting of 85% dancers.

Amy Wightman, PT—works with Dance Connecticut in Hartford, CT.

COMMITTEE UPDATES:

All committees have met with the President to develop strategic plans for the year and continue to meet to provide the membership with updated information and plan for the Combined Sections Presentations in February 2002. Committee membership involves a 3-year commitment. Some committees still need members. If you have an interest in committee involvement, please contact the Committee Chairperson, who is listed on page 35.

EDUCATION COMMITTEE

CSM 2002 PASIG PROGRAMMING

Don't miss CSM 2002 in Boston. We have planned an exciting program. Performing arts physical therapy continues to grow. Increased numbers of musicians and dancers are seeking advice and treatment from medical professionals. Presenters are experienced performing arts physical therapists and physicians. They will present valuable insights into the treatment of this special population.

The programming is divided into 3 sections:

1. Two physician-physical therapist teams will present how they work together to diagnose and treat the musician and dancer.
2. Performing arts physical therapists will present case study reports.
3. Clinicians will present how they apply the *Guide for Physical Therapist Practice* to performing arts physical therapy.

Hope to see you there.

Lynn E. Medoff, MA MPT

Vice President—Education Committee Chair

PUBLIC/MEDIA RELATIONS COMMITTEE AND MEMBERSHIP COMMITTEE

Greetings to all!

This has been a busy year for the PASIG. Your Regional Directors, Public/Media Relations Committee, and Membership Committee have been quite active trying to contact our membership. We hope you read and enjoyed the regional highlights above. It is exciting to read about the diverse activities of our members. As you can see, there's been a lot of activity among your peers. Our Regional Directors would like to speak with all of you, but we have been unable to reach many of you due to outdated contact information. If a Regional Director for the PASIG hasn't already contacted you, **please** send us updated contact information on you as soon as possible. We want to include you in activities of the PASIG, although we cannot keep you updated unless you reach us. Please contact Jeff Stenback, PT, OCS at (305) 595-9425 or e-mail him at jsptocs@aol.com.

If you would like to get more involved with the PASIG and would like to get to know more of your fellow PASIG members, consider becoming a "Regional Director!" If you would like to volunteer as a Regional Director in your area, please contact Jeff Stenback, PT, OCS.

To the membership: remember that we still have PASIG logo pins, glossaries, membership directories, and brochures for sale. Contact the Orthopaedic Section at 1-800-444-3982 for information.

*Jeff Stenback, PT, OCS
Treasurer – Public/Media Relations Committee Chair*

NOMINATING COMMITTEE

Nominating Committee Report

We have a new slate of candidates for upcoming elections to the Executive Board. Watch the mail for your ballots to select a new President and a new Treasurer. We still do not have a slate of candidates for the Nominating Committee, which is truly a shame and highlights what a difficult year this has been for the Nominating Committee. We had great goals to really reach out to our performing arts community to recruit new members into the PASIG and to run for office this year. Unfortunately, the Nominating Committee members did not commit themselves to completing their jobs. We were unable to meet our goals and field a diverse slate of candidates for all positions. We can do so much for the performing arts community, but no committee can work alone. We need your help. We are all very busy with our professional and personal lives, but in order to grow professionally, we need to make the time for organizations like the PASIG. I urge you to take a stand and become more active in our PASIG. You won't regret it!

*Amy B. Wightman, PT, MS
Nominating Committee Chair*

RESEARCH COMMITTEE

Dear Members,

The Research Committee is happy to announce we have successfully assisted the Education Committee in meeting its goal for speakers at CSM in Boston! We are interested in contacting members who may be interested in reviewing performing arts related research to write brief abstracts for future issues of the newsletter. We are also interested in anyone who would like to join our committee and be part of the team.

You may contact Lisa Sattler at 212-681-8601 or lsattler@erols.com.

*See you in Boston!
Lisa Sattler, PT
Research Committee Chair*

PRACTICE COMMITTEE

The Practice Committee is up and running. We are assisting in the completion of the practice analysis to describe specialized clinical practice in physical therapy for the performing arts. Membership should be receiving a survey from the steering committee within the next several months. We are working on updating and maintaining a current list of performing arts affilia-

tion and membership sites in conjunction with my work as Editor of the Dance Medicine and Science Resource Guide for the International Association of Dance Medicine and Science (IADMS). Finally, we are also in the process of drafting a universal screening tool for use in the performing arts community, which we should be able to present to the membership at our business meeting at CSM.

As far as our charge to deal with interstate licensing issues, please see Jennifer's Message for more information.

*Marshall Hagins, PT, PhD
Practice Committee Chair*

GET INVOLVED IN THE PASIG AND THE FUTURE IS YOURS !

Join your fellow PASIG members in becoming an ambassador for the Performing Arts! The PASIG wants to encourage all our members to become actively involved by serving as committee members, regional directors, officers, and by offering your input at business meetings and through communication with other PASIG members. Remember, when you give of your time and energy to the PASIG, it's like giving a gift to yourself! The PASIG is only as strong as its members.

Practice Committee: To develop, in coordination with the membership, the practice guidelines and standards for physical therapy for performing artists; to assist in the development and implementation of student affiliations as well as advanced clinical mentorship/residencies/fellowships; to serve as an advocate for performing arts physical therapy practice issues; to facilitate communication among members regarding practice patterns and exchanges of clinical information [Time Commitment: 8hrs/quarter].

Education Committee: To develop and coordinate 3 hours of annual programming for PASIG membership; to coordinate with the Research Committee for 1 hr. of annual "Dialogs in Performing Arts Research" programming [Time Commitment: 10 hr/1st and 2nd quarter; 3 hrs/3rd and 4th quarter].

Research Committee: To facilitate clinical research in physical therapy for performing arts; to facilitate dissemination of research relevant to performing arts physical therapy [5hrs/1st and 2nd quarter; 3 hrs/ 3rd and 4th quarter].

Membership Committee: To develop outreach mechanisms to increase retention of current mechanisms, and recruitment of new members [6hrs/quarter].

Public/Media Relations Committee: To raise awareness of performing arts physical therapy within the physical therapy profession, the performing arts community, and with the public at large; to assist members in marketing their services to the performing arts community; to act as a clearinghouse for clinical pearl, regional news, and specific membership achievements; to act as an ambassador for performing arts clinicians [3hrs/quarter].

Regional Directors (Subcommittee of P/M Relations): To highlight regional activities of the performing arts physical therapy community, and PASIG members in particular; to foster communication and interaction among PASIG members; to act as an ambassador for the PASIG Executive Board to the regional members [3 hrs/quarter].

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 Tara Jo Manal

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Jeff Stenback, PT, OCS
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Members: Joe Berman, Susan Guynes, Jill Olsen

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(Subcommittee of Public Media Relations Committee)

- Northeast (CT, MA, ME, NH, NY, RI, VT)
 Marshall Hagins, Marijeanne Liderbach
- Mid-Atlantic (DE, DC, MD, NC, NJ, PA, VA, WV)
 Tara Jo Manal
- South (AL, FL, GA, KY, LA, MS, SC, TN)
 Edie Shinde, Jeff Stenback
- Central (AR, IL, IN, IA, KS, MI, MN, MO, OH, OK, WI)
 Mark Erickson, Julie O’Connell
- Northwest (ID, MT, NB, ND, OR, SD, WA, WY)
 Needs volunteers
- West (CA, CO, NV, UT, TX, NM, AZ, HI, AK)
 Needs volunteers

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Members: Scott Stackhouse



PERFORMING ARTS SPECIAL INTEREST GROUP • APTA

MEMBERSHIP FORM

To be a PASIG member, you must also be a member of the Orthopaedic Section. You may use this form for **new membership, change of address, or updating your information.**

Name: _____
 Address: _____
 City, State, Zip: _____
 Home Ph: (_____) _____
 Business Ph: (_____) _____
 Email: _____
 APTA member number: _____

What percent of your patient population are performing arts patients?
 ___ Dancers ___ Gymnasts ___ Skaters
 ___ Musicians ___ Singers ___ Circus Performers

If you are affiliated with any performing arts schools, companies, or groups, please list them:

Do you accept Student Affiliations? ___Yes ___No

Are you interested in serving as a mentor to other physical therapists or physical therapy students interested in the treatment of performing artists?

Physical Therapists ___Yes ___No
 Students ___Yes ___No

Are you interested in serving on any of the PASIG Committees?

___ Practice ___ Public/Media Relations
 ___ Education ___ Regional Director
 ___ Research ___ Membership



Pain MANAGEMENT

SPECIAL INTEREST GROUP • ORTHOPAEDIC SECTION, APTA, INC.

President's Message

Joe Kleinkort, PT, MA, PhD, CIE

At this writing, it is a few weeks after the WTC disaster and I am receiving a large number of calls from fellow therapists all over the US saying that their caseloads are up with people complaining of various types of pain and wondering if there is any connection. The answer is definitely YES!

We must realize that pain is a response that is not limited to the body. It is a mind, body, spirit response. The consequences of the attack first start out with grief of loss, stress and anxiety, and fear. This creates in the individual a certain hypersensitivity of the entire person. This hypersensitivity is not only at the bodily level but also at the psychological level and even the cellular level. The immune system mirrors your vigilance and attitude and becomes intense and anxious looking for the source of discomfort and pain. A side effect of this reaction is often to stimulate a chronic type muscle spasm especially in the back and neck causing headaches and various other types of chronic pain response. The result is an increase in the numbers of people who present with subacute or chronic pain syndromes of unknown etiology. As therapists we are one of the few health care providers that still spend enough time with the person so that they are able to share their concerns. This is critical to solve the mirrored responses of the body. It is important that you be aware of this phenomena and are able to respond appropriately to the person who presents with it.

It is important that the therapist identify the concern the patient has and is able to LISTEN carefully to the individual. Be a good listener but do not offer unqualified therapy. If you believe that the person is having a difficult time and may need to discuss feelings with a professional, let their physician know or suggest they consult one. If you feel the person is in immediate need of care, call the physician and discuss that immediately. The ability of the therapist to listen and offer support and guidance at the easiest level is often all these patients need. One of our greatest strengths as therapists has been lending an ear in a time of need. We may be one of the last of a vanishing breed of health care providers willing and able to do this. This is one of the most powerful forms of therapy you will ever use with the patient...the art of listening!

Pain SIG Programming at CSM

Chronic Musculoskeletal Pain: *What Is It and How Do We Treat It?* will be presented by Kathleen Sluka PT, PhD. The program will explore the mechanisms behind joint mobilization analgesia and electronic neuromodulation. Literature will be discussed that

deciphers the mechanisms involved in the reduction of pain produced by neuromodulation and joint mobilization utilizing the animal model of musculoskeletal pain. The clinical implications of the basic science mechanisms involved in these treatments will be discussed. This will certainly give us a better realization of what we do as therapists and the physiology behind the choices we have for treatment.

Elaine Pomerantz, PT will be addressing an overview of chronic pelvic pain. She will be giving an overview of the various chronic pelvic pain syndromes and some of the efficacious treatments for them. Both programs will present information the therapist will be able to immediately put to good use. I encourage each of you to join us for these highly informative lectures and the business meeting to follow. We would like to expand into a few committee areas and have a stronger representation from the Pain Management SIG. I look forward to meeting each of you there in Boston for the 2002 CSM!

EEG NeuroFeedback

Dede Lewis, PT

As a PT who has treated patients with chronic pain conditions, particularly headache, neck, and TMD for the past 12 years, I am always looking for improved methods to achieve good outcomes in terms of reduced pain and improved function. I have used surface electromyography with decent success during this time, as an adjunct to a treatment program including education, therapeutic exercise (primarily Feldenkrais-based), mobilization, and modalities. In reading the literature in biofeedback over the past few years, I began seeing more articles on the use of electroencephalographic neurofeedback as a treatment for central nervous system disorders.^{1,2} Eventually references to chronic pain began to surface.³ My interest was piqued as I began to think that this modality might finally allow access to the *central* processor in central pain disorders.

After looking into it for over a year, we decided to implement an EEG neurofeedback program at our clinic. After doing some intensive training, I began treating patients with EEG in February 2000.

The types of patients selected for treatment have included: TMD/bruxism (clenching/grinding), tension headache, cervicgia, fibromyalgia, myofascial pain, low back pain, and dystonia, amongst a smattering of others. The results have been quite astounding in many cases. Again, used as a part of an overall program as noted above, EEG has proven to be a very effective tool in assisting patients in changing in the patterns that are unconsciously perpetuating their problem. It has meant

faster and more complete results in about 80% of cases. In about 30% of patients, the results are remarkable. In another 30%, results are significantly helpful, and in 20%, results are positive, but more marginal in their effect. There are about 20% who don't respond, and a few who have a negative response. The negative responses are likely a result of my inexperience, or lack of finesse at applying the technology.

How does this EEG neurofeedback actually work? It's all about changing unhealthy patterns within the brain that have become habitual. I have a ROSHI (ROSHI Corporation, Beverly Hills, Calif), which I believe to be the best available EEG trainer. It gives the brain immediate information about what it is doing and provides a stimulus for change in a particular desirable direction. Different frequencies or ratios of frequencies in different areas of the brain are associated with different states (eg, muscle relaxation, calm/non-anxious, alert/attentive, positive outlook). These frequencies can be promoted via feedback from: (1) video display, (2) pulsing lights on goggles (worn with eyes closed), or (3) pulsed electromagnetic energy also provided via goggles with eyes closed. In the case of the video display, the patient seeks to make changes in the display that correspond to frequency changes in their EEG. The pulsed lights or electromagnetic feedback provide a stimulus for what I call *unconscious learning* where the brain signal is put through an algorithm and tweaked in the desired direction. Without any effort, the brain will move toward the pulsing frequency. For example, connecting electrodes over the sensorimotor cortex, and asking the brain to produce more amplitude in the 12-15 Hz frequency range will improve a patient's muscle relaxation and sense of calm relative to their initial state. The results are more profound than with EMG. This effect has variable carryover. Most patients note 4 to 6 days of improvement initially, and longer carryover with subsequent visits when home relaxation is practiced. Exceptionally tense, or extremely stressed patients note shorter effects, but benefit nonetheless, and require more frequent treatment initially. One other profound benefit of this protocol is improvement in sleep and a decrease in nocturnal clenching/tension. Doing EEG for a few sessions initially will often help these patients relax enough to allow hands-on work to proceed more easily. Other EEG protocols can help decrease the unpleasantness of pain/sensitivity to pain while improving positive outlook and decreasing negativity associated with chronic pain.⁴ The benefits of EEG training become permanent in most cases with 5 to 20 visits, depending on the severity and duration of the problem and the faithfulness to the home program.

One interesting aside — there are EEG changes induced by cranial treatment by a skilled PT with advanced training. In one patient being monitored with EEG during cranial treatment, when a still point or release was reached, the patient's readings shifted down to very low frequencies in the 1-2 Hz range. These frequencies are known as delta, which is produced in the very deepest stage of sleep. In effect, a patient undergoing cranial work may be getting deep restorative rest and may actually be learning how to attain delta stage IV sleep, which is lost in many chronic pain conditions. It would be an interesting study to measure a large population of patients in such a manner.

In summary, EEG neurofeedback has proven to be a valuable treatment modality at our clinic when applied in conjunc-

tion with a complete program including education, mobilization, therapeutic exercise, and other traditional modalities. Our patients have been very appreciative of the benefits received from this new form of treatment.

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Pain Management Update: Ultrasound Does Not Work and Fibromyalgia Syndrome Treatment Breakthrough

Tom Watson PT, MEd, FAAPM

I returned from the American Academy of Pain Management Annual Conference in Washington, DC Sept. 9, 2001. I was privileged to present and moderate a manual therapy program. My portion was *The Clinical Evidence for the Use of Ultrasound, Heat, and Manual Therapy*.

The October 1995 article, Ultrasound Therapy in Musculoskeletal Disorders: A Meta-analysis found in the journal, *Pain*, reviewed 293 papers published since 1950 to assess the evidence of ultrasound in the treatment of musculoskeletal disorders. This review concluded "the use of ultrasound in the treatment of musculoskeletal disorders is based upon empirical evidence, but lacking firm evidence from well-designed control studies."

The July 2001 issue of *Physical Therapy* had 2 articles on ultrasound: A Review of Therapeutic Ultrasound: Effectiveness Studies and A Review of Therapeutic Ultrasound: Biophysical Effects. The first article reviewed 35 randomized controlled trials published between 1975 and 1999. Ten of the articles had acceptable research methods. Conclusions of the first article were "there was little evidence that active therapeutic ultrasound is more effective than placebo ultrasound for treating people with pain or a range of musculoskeletal injuries or for promoting soft tissue healing."

Conclusions of the second article included "the frequently described biophysical effects of ultrasound either do not occur in vivo under therapeutic conditions or have not been proven to have a clinical effect under these conditions." This review reveals that there is currently insufficient biophysical evidence to provide scientific foundation for the clinical use of therapeutic ultrasound for the treatment of people with pain and soft tissue injury.

Does ultrasound work? Based upon a review of the literature, this scientific evidence does not support the use of ultrasound for pain and soft tissue musculoskeletal injuries. This does not address the use in open wound healing.

Many of us have anecdotal responses to ultrasound but were they any more than placebo response or were the multiple stud-

ies reviewed lacking good scientific research foundation? You be the judge. I personally have stopped using ultrasound in my practice except for the draining of maxillary sinuses. This is a treatment that dates back to the 40s and 50s and the evidence for it is that within 5 to 10 minutes the sinuses drained rapidly. This, of course, is anecdotal on my part.

Fibromyalgia is a condition with which many of us work and have had a variety of successes with our interventions. Jacob Teitelbaum, MD, has written a book called *From Fatigued To Fantastic* and developed an exciting way to approach primary fibromyalgia syndrome and chronic fatigue syndrome. His approach addresses the multiple aspects of treatment including nutrition, sleep, hormones, antiviral agents, viral infections, autoimmune problems, migraines, parasites, bacterial infections, pain treatment, and psychological aspects.

The entire program can be accessed at www.endfatigue.com or by calling and ordering his book and newsletter at 1-800-333-5287. The program that can be downloaded from the web is 37 pages. It is quite extensive and exhaustive addressing multiple areas that many of us have been aware of but are unable to address due to our licensing restrictions.

I invite you to share this information with the physicians who refer patients with fibromyalgia chronic fatigue to your practice. Dr. Teitelbaum does have scientific evidence and positive outcome studies to support his program. This is accessible from the web.

Remember: "Pain Does Not Have To Be a Way of Life."

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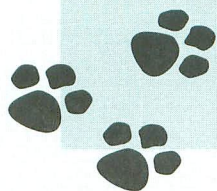
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Program in Physical Therapy in Knoxville, Tennessee, USA. This conference will be instrumental in shaping the field of Veterinary Rehabilitation and Physical Therapy, and will consist of 5 full days of programming by speakers from around the world who are involved in this field. This is an excellent opportunity for physical therapists, physical therapist assistants, veterinarians, veterinary technicians, and students of these fields to come together in a collaborative manner to learn and share their expertise with each other. It is scheduled for August 10 - 14, 2002. To get on the mailing list either send an e-mail to: Conferences@utk.edu or call (865)974-0280. Website <http://www.utc.edu/~vetpt/>

THE ANIMAL PHYSICAL THERAPIST SPECIAL INTEREST GROUP (ANIMAL SIG) UPDATE:

1. Orthopaedic Section member and nonmember directories are available through the Section Office 800-444-3982, Fax: 608-788-3965, or Email: ssnyder@centurytel.net. There are currently 544 members.
2. State Liaisons: To date there are 33 states that have Animal SIG Liaisons. Contact Siri Hamilton for further information 865-974-2993 and E-mail: sirivtpt@utk.edu.
3. The APTA has a web site that lists all of the State Practice Acts: www.apta.org/advocacy/state/state-practice

SACROILIAC JOINT MOBILIZATION FOR THE HORSE

Reprinted with permission from the *ACPAT Journal* Autumn 2000, Jackie Grant MCSP, SRP (Cat A).

Sacroiliac joint anatomy:

- Sacrum (5 fused vertebrae) joined to the ilium to form the sacroiliac joint.

Bony Landmarks:

- Tuber Sacral
- Tuber Coxae
- Ischial Tuberosity

Joined by ligaments:

- Dorsal sacroiliac
- Lateral sacroiliac
- Sacrosacral

Muscles:

- Gluteals
- Hip flexors (iliopsoas)
- Quadriceps
- Hamstrings
- Tensor fascia latae

CALENDAR OF EVENTS:

❖ The home study course **BASIC SCIENCE FOR ANIMAL PHYSICAL THERAPISTS** is still available. Contact 877-766-3452 for more information.

❖ The 2nd International Symposium on Rehabilitation and Physical Therapy in Veterinary Medicine will be hosted by the University of Tennessee College of Veterinary Medicine and the University of Tennessee at Chattanooga, Graduate

History and causes of dysfunction:

- Falls
- Slipping
- Trauma that causes twisting or high stress to sacroiliac joint. Damaged ligament leads to instability and lameness
- History of poor performance

Signs:

- Horse not moving straight
- Refusing correct canter lead
- Difficulty turning
- Stiffness especially turning in one direction
- Mild pain
- Lack of impulsion

Prominence of one or both tuber sacrale may be due to:

- Partial dislocation of sacroiliac joint
- Bone malformation
- Muscle atrophy
- Old pelvic fracture

Lameness may be:

- Unilateral
- Bilateral
- Shifting

Examination:

Standing square on a level hard surface. During static observation look for:

- Asymmetry of tuber sacrale, tuber coxae, tuber ischium
- Muscle wastage
- Palpate to measure asymmetry

Kinetic Observation:

- Walk: Pelvic drop or movement of one or both tuber sacrale
- Trot: A/A plus sometimes dragging hind toe, hitching hind limbs especially on circles
- Circling: variable, usually difficulty crossing hind limbs
- Reinback*: Often restricted hip extension and abduction

Palpation:

- No pain elicited
- Atrophy/shortening of gluteals
- Gaylands test for sacroiliac joint instability: test good side. Abduct and flex hip, hold for 40 seconds if the horse trots away lame test is positive (ie, if lame after flexing off hind = positive for near hind sacroiliac joint instability)

Treatment Techniques:

Acute Phase:

- No treatment
- Box rest 30 - 45 days
- Medication phenolbutezol
- Allow time for soft tissues to heal

Subacute Phase:

- Mobilization - Hip extension & elevation 10 minutes
- Pelvic lift - Ischial compression
- Manipulation under anesthetic by veterinarian
- H- Wave **

After Care:

- Stable management, feed and water on floor
- 2 days box rest (plus 1 phenolbutezol)
- Turn out in small paddock
- Straight line work in hand

- Hack day *** 10
- Gentle schooling day 14
- Strapping and grooming by hand by owner

Stretches:

Back: Encourage lumbosacral flexion

Hind Limb: stretches after 48 hours in resistance free range

Exercise Rehabilitation:

- TTEAM walking over poles
- Long lining
- Lunging

Nutritional supplement to build muscle tissue

- Surelimb (Dodson & Horrell)
- Boiforce (Natural Animal Feeds)

Other treatment modalities:

- Muscle stimulation
- Massage

Prognosis - functional improvement but not 100% return to previous level of performance.

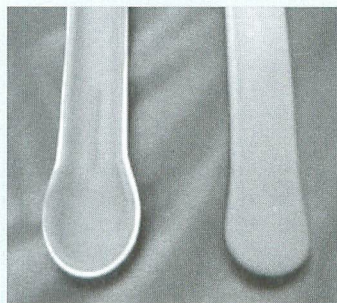
- Key:
- *Reinback = Backing up the horse quickly
 - **H-Wave = Form of High Volt Electrical Stimulation
 - ***Hack Day = Ride the horse lightly, no collected work

MAX – THE LONG ROAD TO RECOVERY

Caroline Adamson, MS, PT



Max, a 3-year old male Chow mix, was referred to Alameda East Veterinary, Hospital, Denver, Colorado, on 4-28-99 with a primary complaint of intermittent lameness and an occasional nonweightbearing lameness of the right hindlimb. He had a history of Lupus and was currently on Prednisone. The veterinarian's evaluation revealed an intertarsal luxation.



On 5-6-99, Max underwent an intertarsal arthrodesis of the right hock. The right hindlimb was spoon splinted immediately post-op and bandage changes were performed every 4 to 5 days through 6-23-99. At that time, the splint was removed, and the owner was instructed to only leash walk Max. A final recheck appointment was scheduled for 7-28-99. Max was using the limb well and could resume normal activity.

One and a half years later, on 1-3-01, Max re-presented with a sudden onset of a right hindlimb nonweightbearing lameness and tarsal swelling. Max was resplinted with frequent bandage changes through 1-26-01. A recheck appointment on 1-24-01 stated that Max was "doing better, but would need a plate removal." On 1-26-01, he underwent a plate removal that included one broken screw. The right hindlimb was resplinted.

The next day, Max arrived at Alameda East after the owner heard him cry out and he stopped using his left hindlimb. The veterinarian's musculoskeletal exam revealed a nonweightbearing lameness on the left hindlimb with soft tissue swelling on the plantar aspect of his proximal left tarsus. Flexion of the left tarsus with pressure applied caudally and dorsally produced a dorsal luxation of his tarsus.

On 1-30-01, Max underwent a left tarsal arthrodesis and a splint was applied. Bandage changes were again performed on a regular basis on both hindlimbs. The splint on the right hindlimb was removed on 2-6-01. February 15, 2001, the veterinarian noted an arthrodesis breakdown in the original right hindlimb. The plan was to wait 30 days and resplint. On 3-7-01, recheck radiographs showed the need to schedule Max for restabilization of the right tarsus, and Max again underwent a right tarsal arthrodesis on 3-15-01. He was again splinted, now bilaterally, with frequent bandage changes.

On May 7, 2001, Max began rehabilitation using the Equi-Light, a monochromatic infrared light system, to stimulate osteoblastic activity. Two pads surrounding each tarsal joint were in place for 45 minutes, 5 days per week. This treatment lasted through 8-3-01. After 3 months, it was determined via radiograph that no significant changes in the appearance of the tarsi were present and the Equi-Light was discontinued.



Concurrently, on 7-13-01, bilateral molds were casted for orthotics. His initial orthotic fitting took place on 7-16-01. The splints were removed and the orthotics donned while Max lay quietly in his cage, only going outside for short periods of time for elimination. After 1 hour, the orthotics were removed and redness and irritation were noted at the medial and lateral metatarsal heads. Adjustments were made and Max wore the orthotics for an increasing amount of time throughout the day over a 3-week period. Each night, Max was rebandaged in soft-padded bandages. He was discharged home one evening wearing the orthotics and returned the next morning with irritation on the calcaneus, cranial tibia, and metatarsal heads. His owners stated that Max was "attacking and chewing at the orthotics." The orthotics were then cut down at the distal end to prevent rubbing at the metatarsal heads and holes were drilled into the back to increase ventilation to his feet. Again, Max's orthotics were donned for increasing periods of time.

His skin condition continued to deteriorate; the fur had rubbed off, skin was dry and flaky, and a small sore developed on the lateral aspect of his right tarsus. Max returned 3 days a week for wound care: bandages were removed, his feet and legs were cleaned with Nolvasan wound solution and Silvadene was applied. After an e-collar was placed, Max was put back in his cage for 4 to 6 hours, with no activity, until soft-padded bandages were reapplied. This routine was continued for 3 weeks until Max presented with intermittent weightbearing on the right hindlimb. The veterinarian's assessment revealed further deterioration of his right tarsal collateral ligaments and Max was placed back in bilateral spoon splints. Two weeks later, on 9-10-01, Max arrived for a bandage change to find a large pressure sore that developed on the lateral aspect of his left hock.



Currently, the plan consists of daily wet-to-dry bandage changes and Equi-Light for wound healing, 2 pads surrounding the wound for 30 minutes, until the pressure sore heals. Soft-padded bandages have been reapplied. The calcaneal region of the orthotics will be cut out and Max will again be gradually weaned into wearing the orthotics throughout the day. If necessary, the orthotics will be doffed for a few hours every evening while Max is crated.

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RUNNING WITH BUCKEYE

Barrett L. Dorko, PT

No matter where we are, the shadow that trots behind us is definitely four-footed. — Clarissa Pinkola Estes

We bought a beagle pup for my son and managed to keep it a secret clear through till Christmas morning. This required that I sleep through the previous night with a small dog draped across my throat, but the look on Alex's face the next morning was worth it. He immediately named her Buckeye.

Now I walk this dog daily, often turning this task into a run that covers a couple of stop-and-start miles. It's this movement around my neighborhood that inspired this essay. I run Buckeye on a long retractable leash that I can manipulate to control her closely or let her move with a great deal of freedom. For a few hundred yards at a time I can loosen the lead while she almost floats along beside me. If a dog can emote, it seems to me that Buckeye is perfectly joyful at this time. But at any moment this lovely picture can change. This begins with a sudden stopping or veering by the 4-footed member of the team. Without warning, Buckeye is overwhelmed by a scent, and her instinct to follow it takes immediate precedence.

Emotion: an affective state of consciousness.

Instinct: a natural or innate impulse...natural intuitive power...urged or animated by some inner force.

Random House College Dictionary

It's this effortless, rapid shift from emotion to instinct that separates me from the beagle, and this is what I want to talk about here.

There is this noteworthy difference between savage and civilized: that while a sick, civilized man may be six months convalescing, generally speaking, a sick savage is almost half well again in a day.

Herman Melville

Man's Presumptuous Brain by ATW Simeons, MD (Dutton, 1961) traces the evolution of instinctive response to threat and clearly differentiates these from human emotion: "An instinct is a very old impulse which is generated in the diencephalon by a combination of hormonal and sensory stimuli. In this process the cortex is involved only to the extent that it censors the raw incoming messages from the senses. An emotion is the conscious or subconscious elaboration of a diencephalic instinct by the cortical processes of memory, association, and reasoning. Emotions are thus generated in the cortex out of crude instinct." Simeons goes on to describe the cortex as a censor of instinctive movement or expression. Beyond that, once the cortex transforms instinct into emotion, it will commonly censor any expression of the emotion itself. He feels that since our society is built on cortical control (as opposed to our basic instincts), psychosomatic illnesses will commonly occur. Only by identifying this conflict and accepting the complex working of our inner and outer lives might we avoid the insidious onset of chronic illness. Consider this: A person experiences some sort of trauma, perhaps an attack, a fall in the shopping center, or even some especially upsetting news. In each case our immediate initial response will be a perfectly appropriate instinctive movement toward protection and preservation, but our second response is not nearly so predictable. When you ask most people what they feel first when falling in public, they will say, *embarrassment*.

It is this tendency to turn toward emotion that blocks the human animal's ability to recover as easily as any other animal might. Peter Levine suggests in *Waking The Tiger* (North Atlantic Books, 1997) that the human reaction to trauma is often arrested before the physiologic response is complete. Thus we are left in a state of heightened sympathetic tone characterized by cooling, rigidity, increased sweat gland activity, upper respiratory breathing, and general nervous facilitation. This makes it easy for any subsequent mechanical deforming of the body to become symptomatic. This being the case, seemingly minor trauma can result in long lasting problems.

Let's return to Buckeye's behavior while we run together. During the course of any run there are several moments when Buckeye is either pursued by or suddenly pursues other animals. These include other large, barking dogs and squirrels. The whole event lasts no more than a few seconds but it's quite intense, and during those moments Buckeye's protec-

tive and predatory instincts are perfectly evident. But a few steps away from the event she returns effortlessly to her apparently joyful state, calm and obedient. By contrast, I would find it impossible to return to normal autonomic tone if I were just as scared or excited as she. While her emotion (assuming it's there) is fleeting and quickly replaced with instinctive recovery, mine will remain, and it will propel me toward chronic illness. At least, that's the theory.

If there is a way of understanding instinctive movement toward recovery from trauma, it is probably in the study of ideomotor activity, a category of nonconscious movement rarely expressed fully in our culture but obvious among animals*.

Tonight I'll take Buckeye running again, and I'll wonder at her ability to tolerate the leash with such skill and forgiveness. I'll watch her recover from attack within a few seconds. If I observe her carefully, she'll teach me how to tolerate and recover from the restraints in my own life.

* See "Without Volition: The Presence and Purpose of Ideomotor Movement" by Barrett L. Dorko P.T. at <http://barrettdorko.com>

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1. *Orthopaedic Physical Therapy Practice (OPTP)* will publish articles pertaining to clinical practice. Articles describing treatment techniques as well as case studies and reviews of literature are acceptable. Language and format of articles should be consistent with the *Guide to Physical Therapist Practice*.
2. Manuscripts should be reports of personal experiences and written as such. Though suggested reading lists are welcomed, references should otherwise be kept to a minimum with the exception of reviews of literature.
3. Manuscripts are accepted by mail or electronically. If by mail, two copies of the manuscripts should be submitted along with a 3.5" disk with the document saved as Microsoft word or ascii. They should be double-spaced, with one-inch margins on each side. Four double-spaced pages equals one page in print. The *American Medical Association Manual of Style*, 9th ed. should be followed. The title page should include the author's name, degree, title, place of work, corresponding address, phone and FAX numbers, and email address. The manuscript should be sent to: *Orthopaedic Physical Therapy Practice*, ATTN: Managing Editor, 2920 East Avenue South, Suite 200, La Crosse, WI 54601-7202. If submitted electronically, please e-mail to Sharon Klinski, Managing Editor (sklinski@centurytel.net) and Susan Appling, Editor (sappling@utm.edu), as well as mailing a hard copy to the Section office.
4. Black and white photographs to accompany the texts should be glossy 5 x 7. A photo release form must accompany any photographs where patients may be seen. Digital photos are also acceptable. Any tables that might add to the usefulness of the article are also welcome.

Attention CSM 2002 Attendees!

In previous years, handout booklets for Orthopaedic Section CSM programming were available at the Orthopaedic Section booth.

PLEASE TAKE NOTE: Handouts WILL NOT be available at CSM 2002! Instead, all Orthopaedic Section handouts will be available via the Orthopaedic Section's Website: orthopt.org.

These handouts will be available by January 15, 2002, and will be easily downloaded for printing.

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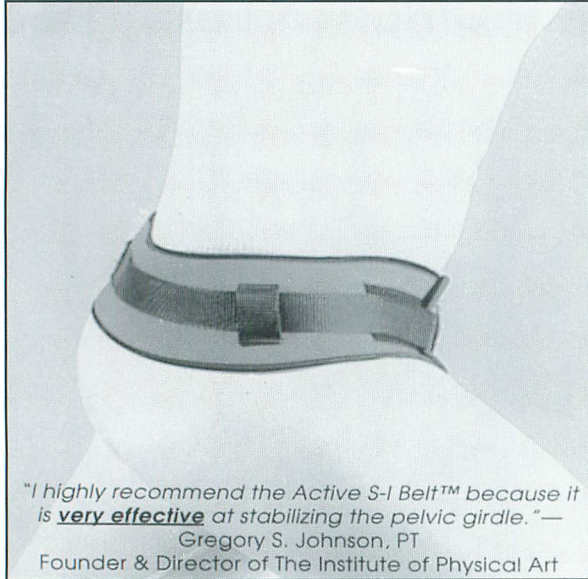
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