

# ORTHOPAEDIC

# PHYSICAL THERAPY PRACTICE

THE NEWSLETTER OF  
THE ORTHOPAEDIC SECTION  
AMERICAN PHYSICAL THERAPY ASSOCIATION



VOL. 10, No. 1

WINTER 1998

# STRENGTH & CONDITIONING APPLICATIONS IN ORTHOPAEDICS

April - September 1998

## Proposed Topics and Authors

- **Plyometrics-Specific Applications in Orthopaedics**  
*Donald A. Chu, PhD, PT, ATC, CSCS and Douglas J. Cordier, MS, PT, ATC, CSCS*
- **Flexibility - Principles of Soft Tissue Extensibility & Joint Contracture Management**  
*Gordon Cummings, MA, PT and Carol Reynolds, PT*
- **Concepts of Muscle Training**  
*Mark Albert, MED, PT, SCS, ATC*
- **Cardiopulmonary Considerations in Orthopaedic Physical Therapy**  
*Scott Irwin, MA, PT*
- **Proprioception, Balance and Coordination**  
*William Inverso, Jr., PT*
- **Open & Closed Kinetic Chain Exercise - Functional Applications in Orthopaedics**  
*Jeff G. Konin, MED, ATC, MPT*

## Registration Fees

Register by Feb. 6, 1998  
Limited supply available after this date.

**\$150 Orthopaedic Section Members**

**\$225 APTA Members**

**\$300 Non-APTA Members**

Special discounted rates are available for institutions with multiple registrants. Please call the Section office for complete information.

\*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.

## Educational Credit

30 contact hours

A certificate of completion will be awarded to participants after successfully completing the final test. Only the registrant named will obtain the CEUs. No exceptions will be made. ATC approved.

## Editor

*Carolyn Wadsworth, MS, PT, OCS, CHT - Editor*  
*Gary Shankman, OPA-C, PTA, ATC, PTA - Editorial Consultant*

## Additional Questions

Orthopaedic Section, APTA, 1-800-444-3982 x 213

**Objective:** The objective of the Orthopaedic Section Home Study Course is to provide a self-paced learning experience on issues relating to assessment, treatment and research as these topics apply to the patient with musculoskeletal problems.

## Registration Form

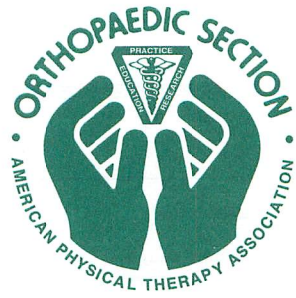
### Orthopaedic Physical Therapy Home Study Course 98-A

Name \_\_\_\_\_  
Mailing Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Daytime Telephone No. ( \_\_\_\_\_ ) \_\_\_\_\_ APTA# \_\_\_\_\_

Please check:  I wish to become an Orthopaedic Section Member (\$50) or Affiliate Member (\$30) and take advantage of the member rate.  
 Orthopaedic Section Member  
 APTA Member  
 Non-APTA Member

Please make check payable to: **Orthopaedic Section, APTA**  
**Fax registration & Visa or MasterCard number to:**  
**608-788-3965**  
Visa/MC (circle one)# \_\_\_\_\_ Exp. \_\_\_\_\_  
Signature \_\_\_\_\_

(Wisconsin Residents add 5.5% Sales Tax)



# ORTHOPAEDIC PHYSICAL THERAPY PRACTICE

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La Crosse, WI 54601-7202

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Short Term Courses

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All advertisements which appear in or accompany *Orthopaedic Physical Therapy Practice* are accepted on the basis of conformation to ethical physical therapy standards, but acceptance does not imply endorsement by the Orthopaedic Section.

# Orthopaedic Section Directory

## ■ ELECTED OFFICERS

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<i>LaVerne Gurske, Publishing Assistant</i>	x 205
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## ■ PAST PRESIDENTS

<b>PAST ORTHOPAEDIC SECTION PRESIDENTS:</b> Stanley V. Paris, PhD, PT, 1975-77 Sandy Burkart, PhD, PT, 1977-79 Dan Jones, PT, 1979-81 H. Duane Saunders, MS, PT, 1981-83 Carolyn Wadsworth, MS, PT, CHT, OCS, 1983-85 Robert H. Deusinger, PhD, PT, 1985-87 Jan K. Richardson, PhD, PT, OCS, 1987-92 Z. Annette Iglarsh, PhD, PT, 1992-95	
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# President's Message

## Look Out Future Here we Come

As described in my last President's Report (*OP* - Fall 1997) the Section's September 1997 Fall Board of Directors (BOD) Meeting was marked by a long range strategic planning session. This session was expertly chaired by Jody Gandy, PhD, PT, Director of Education at APTA who intuitively knew when to let the participants' creative juices flow and when to tighten the leash and reel us back into reality. The goal of the strategic planning session was to develop a mission and vision for the Orthopaedic Section and specific goals and objectives designed to guide the BOD as we seek to utilize our resources in a fashion which best serves you, the membership. Our intent is for this document to be membership-driven and therefore present the following to you as a draft. What do you like? What do you dislike or question? What other specific strategies can you suggest reading the objectives? Contact us via phone, fax, or E-mail. This proposed plan will also be discussed at our Combined Sections Business Meeting after which the BOD will finalize the document and begin taking on the future. Thank you for your efforts associated with this process!!!

## PREAMBLE

As the Section approaches its 25th anniversary, your leadership with an appreciation for the past, met to celebrate the present and develop a vision for the future. The following strategic plan was developed by the Board of Directors and Committee Chairs on September 27, 1997 and is presented to the membership.

## MISSION

The mission of the Orthopaedic Section of the American Physical Therapy Association is to be the leading resource for orthopaedic physical therapy. The Section serves members and represents the interests of orthopaedic physical therapy 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.

## VISION

The Orthopaedic Section is the leader in advancing orthopaedic physical therapy practice through the professional development and increased involvement of members through bold and innovative education, practice, and research initiatives while maintaining fiscal and ethical accountability.

## GOALS

### GOAL #1

Facilitate continued professional development in orthopaedic physical therapy clinical practice.

### OBJECTIVES:

1. Provide programming to facilitate professional development of members in advanced clinical competencies. (1-3 years)
2. Develop highly accessible, cost effective methods of delivering orthopaedic physical therapy continuing education. (2 years)
3. Investigate mechanisms to facilitate preparation of members for the Orthopaedic Clinical Specialist (OCS) exam. (1 year)
4. Develop a template for clinical residency programs for program development, assessment, and documentation to meet credentialing criteria. (1 year)
5. Support a certification process for the credentialing of orthopaedic clinical residency programs. (2 years)
6. Revitalize, evaluate, and provide support for the Section's clinical practice mentorship program. (2 years)

### GOAL #2

Create dynamic leadership development programs for members.

### OBJECTIVES:

1. Provide leadership training for committee members and chairs, SIG officers, and elected officers for present and future involvement as Section leaders. (1-3 years)
2. Develop and maintain pool of candidates for nominating committee. (1-3 years)
3. Prepare selected committee chairs, officers, and members for national positions. (1-3 years)
4. Find new and innovative ways to

meet and involve "grass roots" membership including student and affiliate members with the intention of grooming them for future leadership roles. (1-3 years)

5. Identify members in current or past leadership roles in other components for potential involvement in Section Activities. (2 years)
6. Increase cultural diversity in Section leadership. (2-3 years)

### GOAL #3

Provide leadership for fostering and directing clinical research to establish outcomes effectiveness and efficacy of orthopaedic physical therapy.

### OBJECTIVES:

1. Support clinical research that validates the outcome effectiveness and efficacy of orthopaedic physical therapy. (1-3+ years)
- 2) Collaborate with external organizations to identify critical topics and research strategies relevant to outcome effectiveness and efficacy of orthopaedic physical therapy. (2+ years)
- 3) To gather and disseminate orthopaedic physical therapy research to communities of interest. (1-3+ years)
- 4) Identify and promote members with orthopaedic physical therapy research expertise to organizations external to the Section. (1-3+ years)
- 5) Recognize members demonstrating research excellence in orthopaedic physical therapy. (1-3+ years)

### GOAL #4

Promote knowledge of and provide support for physical therapists as an entry point in the management of musculoskeletal dysfunction.

### OBJECTIVES:

- 1) Collaborate with other communities of interest to increase public recognition and appreciation for the role of physical therapists as an entry point for musculoskeletal evaluation, diagnosis, and treatment. (1-2 years)
- 2) Facilitate utilization of and reimbursement for physical therapists as the primary provider of management for musculoskeletal dysfunction. (3 + years)

#### GOAL #5

Actively strive to promote orthopaedic physical therapy presence in the legislative arenas and to protect orthopaedic physical therapy practice.

##### OBJECTIVES:

- 1) Promote the exchange of information relative to legislative rules and regulations.
- 2) Monitor the on-going activities related to practice issues in orthopaedic physical therapy.
- 3) Obtain input and provide resources for members regarding practice challenges. (1+ years)
- 4) Facilitate interaction and dialogue with other professions and organizations for the purpose of refining and defining common legislative goals. (1+ years)
- 5) Coordinate efforts of the Orthopaedic Section Practice Committee with other practice affairs committees within APTA. (1+ years)

#### GOAL #6

Utilize technological advancements to educate and communicate with membership, and facilitate Section governance.

##### OBJECTIVES:

- 1) Improve communication to members and other components using technology.
- 2) Improve member access to Section education programs through utilization of technology. (1 - 3+ years)
- 3) Convert Orthopaedic Section Board of Directors meetings to paperless meetings. (3 years)

#### GOAL #7

Generate alternate sources of revenue to increase benefits to members, protect fiscal solvency, and control costs.

##### OBJECTIVES:

- 1) Increase revenues and decrease costs within the structure at the Orthopaedic Section. (1 year)
- 2) Establish an endowment fund. (1-3 years)
- 3) Increase revenue for orthopaedic physical therapy through educational products and services offered to external organizations. (1-3 years)

#### GOAL #8

Attain international recognition for the Orthopaedic Section.

##### OBJECTIVES:

- 1) Market all continuing education programs internationally. (1-3 years)
- 2) Grant SIG status to AAOMPT with the intention of continued representation in IFOMPT by the Academy. (1-3 years)

- 3) Encourage all SIGs to establish relationships with the appropriate international organization.
- 4) Invite international speakers and guests to the Section's 25th anniversary "program" in the year 2000. (3 years)

#### GOAL #9

Maintain current membership growth rate of 2%.

##### OBJECTIVES:

- 1) Facilitate student member conversion.
- 2) Increase responsiveness to the needs of current and future members.
- 3) Utilize information from the needs assessment survey to best address members needs. (1 year).
- 4) Assure that Section publications continue to be a useful and valued member benefit. (1-2+ years)
- 5) Enhance lines of communication between leadership and membership. (1 year)
- 6) Address needs of culturally diverse members of the Section. (3 years)
- 7) Support continued growth and development of SIGs. (1 year)
- 8) Continue to develop innovative mediums for offering continuing education. (2+ years)

#### GOAL #10

Develop and maintain a record of Section history. (2+ years)

#### OBJECTIVES:

- 1) To develop a pictorial, historical account of the Orthopaedic Section.
- 2) Develop an audio visual library of interviews of Section leaders.
- 3) Develop a display of Section historical items at the Section office.

#### ETC.

1. Thank you Section office staff, committee chairs/members, and officers for a tremendous effort leading up to and during the Fall BOD meeting.
2. Welcome Frank Welk, our new APTA BOD liaison, and thank you for your contributions to our Fall BOD meeting.
3. Thank you Jody Gandy for your efforts leading up to and during our Fall BOD meeting.
4. Congratulations to Joe Farrell who was crowned the 1997 Orthopaedic Section history champ during our Fall BOD meeting.
5. Please join us in Boston, February 14, 1998 (8 - 10 AM) for our Combined Section Business Meeting!



William G. Boissonnault, MS,  
PT President

### ORTHOPAEDIC SECTION AWARDS EVENING

COMBINED SECTIONS MEETING  
BOSTON, MA

February 14, 1998

#### SECTION AWARD WINNERS

Outgoing Officers and Committee Chairs  
6:00 - 6:30 PM  
Marriott Copley Place, Ballroom E

#### PARIS AWARD LECTURE

Paris Distinguished Service Award Winner  
6:30 - 7:00 PM  
Marriott Copley Place, Ballroom E

#### BLACK TIE & ROSES RECEPTION

Rose Excellence in Research Award Winner  
7:00 - 10:00 PM  
Marriott Copley Place, Ballroom G

# From The Section Office

Terri A. DeFlorian, Executive Director

The Section's Board of Directors and Committee Chairs met in Chicago last September and approved the 1998 strategic plan and budget. The percent breakdown for the different areas is shown below.

Plans for the *JOSPT* office space in the Section building are nearing finalization. We hope to begin construction on the first floor space in February or March with a completion date of June 1998.

The Section office welcomes LaVerne Gurske to our publications staff. LaVerne is the new Publishing Assistant whose main responsibility is to assist the Publications Manager in duties related to all journals and newsletters produced by the department.

The Section office also welcomes Linda Toedter, our Receptionist/Secretary. Linda will work directly with the Executive Associate and handle all membership questions and requests. Linda will be the one answering the telephone when you call the office so please extend your welcome to her.

The Orthopaedic Section was represented at the APTA Student Conclave meeting in Phoenix, Arizona last October by Nancy White, Vice President; Mari Bosworth, Public Relations Chair; and Tara Fredrickson, Executive Associate. There were approximately 1,000 students in attendance, almost double the number of attendees in 1996. A few student members were recruited and a lot

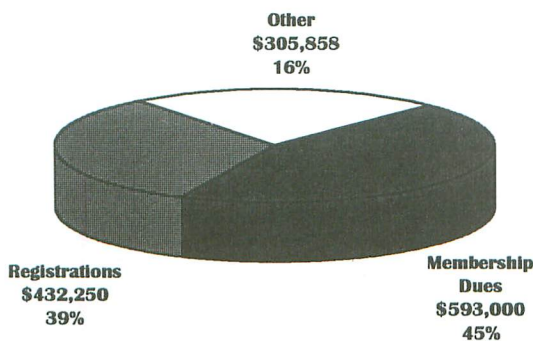
of Section literature was handed out. The Section's participation in this meeting continues to be very worthwhile.

The Current Concepts course held in San Diego last November was a success with registrations reaching just under 50. The topic was the upper extremity. The next current concepts course will be held in Boston at CSM as a pre-conference course on February 11. The topic is total knee arthroplasty.

A copy of the 1998 Combined Sections Meeting programming schedule for orthopaedics is included on page 26. I hope you have made plans to attend. I look forward to seeing you there.

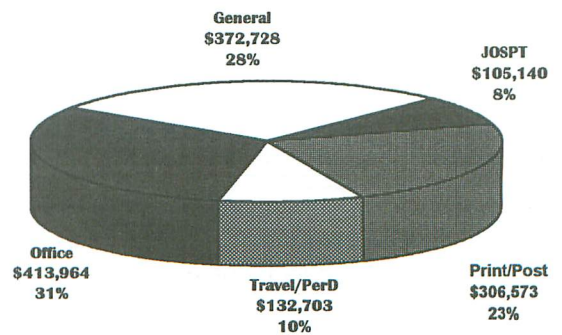
## ORTHOPAEDIC SECTION, APTA, INC BUDGET 1998

### INCOME



**BUDGETED \$1,331,108.00**

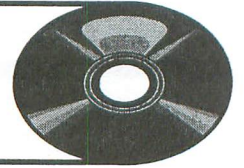
### EXPENSES



**BUDGETED \$1,331,108.00**

# Introducing an entirely NEW way to learn!

## The Athlete's Knee on CD-ROM



The **Athlete's Knee** makes you an active problem-solver. The program was developed by the American Academy of Orthopaedic Surgeons and centers around 3 real-world case studies. This program was developed by JW Ewing, MD; RS Gruby, MD; and TL Whipple, MD and is being offered to physical therapists through the Orthopaedic Section.

These clinically relevant cases will challenge your knowledge and reasoning ability. Pretest and post-test questions are included with each case study and each answer includes a rationale and reference. The definition of "athlete" is broadly used, encompassing an elderly gentleman with a degenerative knee.

Each case begins with a history. The participant is then required to prioritize the best questions to ask the patient during the subjective interview. Varied point values are given for each question and a rationale and reference as to why one choice is better than another is included. The case then proceeds through examination techniques, radiographs, special studies, dispositions, surgical techniques, and rehabilitation programs.

This CD-ROM is appropriate for the physical therapist. While some of the program is beyond the scope of PT practice, a wealth of information applicable to physical therapy is embedded in each case. Video clips and still photos supplement more than 50 relevant journal articles, abstracts of 100 articles, and excerpts from *Orthopaedic Basic Science*.

Thirty hours of continuing education units (CEUs) are offered through the Orthopaedic Section for participants completing the program.

Level: Intermediate to Advanced

### REGISTRATION FEES

\$180 Orthopaedic Section Members      \$235 APTA Members      \$290 Non-APTA Members

\*Absolutely no refunds will be given. Shipping and handling charges of \$35 will be added for registrations outside the U.S./Canada.

**ADDITIONAL QUESTIONS: 1-800-444-3982 x 213**

### THE ATHLETE'S KNEE REGISTRATION FORM

Name \_\_\_\_\_  
(For clarity, please enclose a business card.)

Mailing Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Daytime Telephone (\_\_\_\_\_) \_\_\_\_\_ APTA # \_\_\_\_\_

Please check:  Orthopaedic Section Member  APTA Member  Non-APTA Member

I wish to become an Orthopaedic Section Member (\$50) and take advantage of the member rate.

Mail registration and check made payable to:

Orthopaedic Section, APTA, 2920 East Avenue South, La Crosse, WI 54601.

FAX your registration with Visa or MasterCard number to: 608/788-3965.

Visa / MasterCard (circle one) #: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

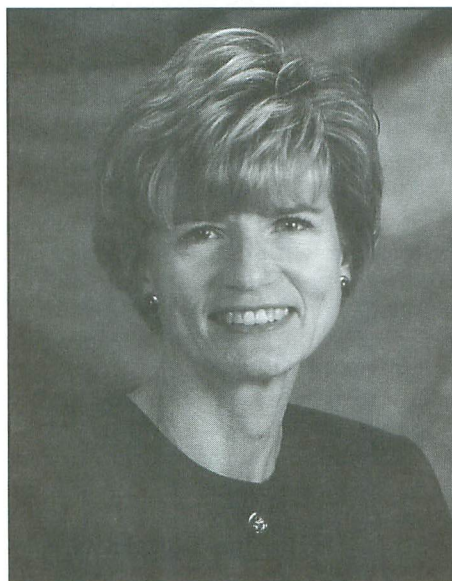
Signature: \_\_\_\_\_



OP



## 1998 PARIS DISTINGUISHED SERVICE AWARD



Carolyn Wadsworth, MS, PT, CHT, OCS

The Orthopaedic Section, APTA, proudly recognizes the fifth recipient of the Paris Distinguished Service Award, Carolyn Wadsworth, MS, PT, CHT, OCS.

Carolyn was born on June 7, 1947, and grew up in Winchester, KY. She attended Denison University in Granville, OH from 1965 to 1967. After transferring to the University of Kentucky as a premed major, she "discovered" physical therapy, and graduated with a BS degree in 1970. She worked as a staff therapist at the University of Kentucky Medical Center from 1970 through 1974. Carolyn completed her MS degree in education in 1975. She then held an appointment on the UK physical therapy faculty from 1975 to 1977.

In the fall of 1977, Carolyn moved to Cedar Rapids, IA, and worked in private practice and hospital settings. She joined the University of Iowa physical therapy faculty in 1979, where her primary teaching responsibilities included orthopaedics and clinical skills courses. In 1987 she established Heartland Physical Therapy with her husband, John, and performed part-time clinical work. She resigned from teaching at the U of I in 1993 to devote full time to private practice. She also has held an adjunct faculty appointment at the University of Indianapolis since 1987.

The field of orthopaedics and manual therapy attracted Carolyn early in her career. After completing postgraduate course work, she developed and co-taught a joint mobilization course nationally with Mary

Martin, Stan Schlachter, John Wadsworth, and Duane Williams. She expanded material from this course to supplement her orthopaedic teaching syllabus, which eventually evolved into a book, *Manual Examination and Treatment of the Spine and Extremities* (Williams and Wilkins, 1988). Carolyn continues to teach continuing education courses on orthopaedic assessment, upper extremity dysfunction, and hand rehabilitation. She has recently co-edited a book, *Orthopaedic Review for Physical Therapists*, with Timothy Loth, MD (Mosby, 1998). She has also published various articles and chapters on topics related to treating the elbow, wrist, and hand.

Carolyn has been a member of the Orthopaedic Section since its inception in 1974, serving as secretary from 1978 to 1980 and president from 1983 to 1985. During her tenure on the Board of Directors from 1978 until 1986, the Section membership grew from 5000 to 9000. She worked with the board to deal with this phenomenal growth by expanding the Section's committee structure, developing policies and procedures, and implementing strategic planning. The Board established the first Section office in Winter Park, FL, in 1985. Carolyn was also involved in the arduous task of developing specialist certification in orthopaedic physical therapy. She co-authored the petition for "Establishment of a Specialty Area in Orthopaedic Physical Therapy" in 1979. Later, she served as the Section's liaison with the Ortho-

paedic Specialty Council. Since 1996, Carolyn has served as the Section's Home Study Course Editor.

Carolyn's other professional memberships include the Section on Hand Rehabilitation (Vice President from 1990 to 1992), and the American Society of Hand Therapists. She serves on the Hand Therapy Certification Commission, and chairs the Recertification Committee. In her local community, she works on the Board of Directors of the Linn County Trails Association.

Beyond professional pursuits, Carolyn enjoys family activities with John and their teenagers Beth, 19, and Brian, 16. She loves nature and the opportunity to be out-of-doors. She competes in road races and tennis, and has become hooked on RAGBRAI, a week-long bicycle trek across the state of Iowa. She is also an avid reader.

Carolyn is committed to enhancing the body of knowledge in orthopaedic physical therapy. She works to promote the quality of education, and stimulate both entry-level and experienced therapists to continue a lifelong learning process. She is a tireless supporter of the Section's efforts to advance professionalism through research, publications, mentoring, educational programming, and specialist certification. Leading by example, she serves as an enthusiastic role model in both academic and clinical endeavors.

It is with great pleasure that we honor Carolyn Wadsworth with the 1998 Paris Distinguished Service Award.

# Complex Regional Pain Syndrome

By Paul E. Ponikvar, BS, OTC

## INTRODUCTION

A variety of complications can result from trauma to the body. These traumas could occur from injury to soft tissue and bone, or result from surgical procedures. The human body contains a multitude of different organelles that work in accordance with each other. This paper will analyze nerve tissue. More specifically, I will discuss a pain disorder associated with nerve tissue called Complex Regional Pain Syndrome (CRPS), formerly referred to as Reflex Sympathetic Dystrophy (RSD). CRPS and RSD are terms used to describe chronic pain disorders that have similar clinical characteristics and the same underlying pathological changes.

RSD has been explained in the following way. (1) Reflex refers to the pathological response from a traumatic, infectious, medical, visceral, or vascular stimulus. Sympathetic refers to the autonomic neurological pathway that helps create and maintain this abnormal response. Dystrophy refers to the trophic changes (ie, in skin, nails, connective tissue) that occur if the extremity continues to receive persistent sympathetic stimulation. RSD was the term used in the past to describe the above condition when a major nerve was not involved in the initiation of the problem with increased pain.

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CRPS can be interpreted as follows: Complex refers to the wide variety of clinical presentations, (sometimes within a single individual), and this includes inflammation, cutaneous, anatomic, motor, and dystrophic changes. These changes are not seen with other forms of neuropathic pain. Regional refers to the fact

that symptoms and physical findings go beyond the region of the original injury. Although the findings usually affect the distal portion of a limb, this is not absolute, and the problem can spread to other body regions. Pain is disproportionately increased to what one would expect, and findings include spontaneous pain, allodynia, and hyperalgesia. Syndrome represents the fact that the signs and symptoms of CRPS describe a series of events that represent a distinct entity. The two subdivisions of CRPS are: Type I (RSD) - tissue damage without nerve damage. Type II (Causalgia) - tissue and nerve damage.

There are three recognized stages of CRPS. Stage I (acute) is characterized by burning pain, tenderness, swelling, and vasomotor changes. Stage II may include persistent aching, swelling with induration, and skin and nail bed changes. Stage III can be classified by skin and subcutaneous atrophy and the development of contractures in the hand or foot.

The probability of a patient developing CRPS after a nerve injury is in the vicinity of 5 to 20%, depending on the study analyzed. Most cases involve the upper extremity and many of these patients achieve resolution of their symptoms without medical intervention. CRPS occurs most often in people between the ages of 20 and 70. The black population has a lower incidence of occurrence. Females have a higher incidence rate than men. (2)

Symptoms of CRPS include the following: 1) pain out of proportion to the cause, 2) loss of function with weakness, 3) allodynia (increased touch sensitivity), 4) hyperpathia (severe pain with repetitive touch or gentle pressure), and 5) significant evidence of an autonomic disorder. These are often accompanied by psychological disturbances, which can dominate the condition. (2)

## PATHOGENESIS

CRPS evolves from a prolongation of the normal sympathetic response to an injury. Painful afferent signals from peripheral sensory nerves (A delta and C fibers) enter the spinal cord via the dorsal root ganglion and synapse in the gray matter of the dorsal horn of the spinal cord (laminae I, II, and IV). Interneurons

carry these impulses to ascending tracts (spinothalamic and spinoreticular tracts). These tracts travel to the thalamus and other brainstem locations, and synapsing neurons transfer the signals to the somatosensory cortex. A multitude of neurotransmitters (eg, substance P, somatostatin, enkephalin, glutamate, norepinephrine, and prostaglandin) can enhance or depress the ascending signal. (1)

The signals entering the spinal cord can also be picked up by the motor cells in the anterior gray dorsal horn, resulting in muscle fasciculation or contraction in the affected limb. Stan also believes that these afferent signals can be picked up by neurons in the intermediolateral cell column and then transferred to sympathetic neurons that respond with efferent impulses causing vasoconstriction at the injury site. (1) This is a normal type of reflex; however, if this reflex arc does not “shut down,” a hyperdynamic sympathetic response continues. These problems may lead to increased vasoconstriction (ie, ischemia) that can exponentially cause more sensory afferent input (ie, more pain) and increased stimulation of the sympathetic response. If the motor arc continues, muscles spasms occur along with ischemia and increased efferent response.

## DIAGNOSIS

Diagnosis begins by listening to the patient without having preconceived notions that they may have a low pain tolerance or that they are narcotic seekers. Early diagnosis and treatment can quickly reduce symptomatology and return the patient “back” to their normal life of pain free living. The health care provider should suspect CRPS when persistent disproportionately severe pain occurs following trauma, surgery, or certain painful medical problems arise. (3) Radiographic or scintigraphic findings often will help confirm or establish a diagnosis. Other diagnostic aids include stellate ganglion blocks, lumbar sympathetic blocks, phenolamine challenge tests, thermography, and qualitative sweat testing.

Pain syndromes that can mimic CRPS include thrombophlebitis, infection, arthritis, fracture radiculopathy, avulsion of

nerve roots, soft tissue damage, tenosynovitis, fasciitis, autoimmune disorders, spinal radiculopathy, neuritis, herpetic neuralgia, thoracic outlet syndrome, and myofascial pain syndromes. (2)

#### USE OF BONE SCANS

Twenty-nine bone scans were performed on 16 patients with postfracture CRPS of the hand, in a study by Atkins, et al. (4) The authors found that a close correlation between increased uptake in the metacarpophalangeal joints and the metacarpal bones, suggesting that the increased uptake in RSD/CRPS is not confined to the periarticular areas as had been previously reported, but occurs throughout the affected region. This data was obtained using technetium -99m labeled methylene diphosphonate. In seven of these cases examined three months after fracture, CRPS was associated with a significant increase in uptake at all sites in the hand on the delayed scan, which was not seen in matched postfracture controls. This confirms that increased uptake on delayed bone scintigraphy is a sensitive test for the presence of CRPS even in the presence of a fracture. (4)

Leitha, et al (5) concluded that the quantitative analysis of five phase bone scintigraphy for CRPS reveals different aspects of tracer kinetics and provides different pathophysiological information. This information discloses that lateralization of regional hyperemia, increased microvascular permeability, and bone metabolism in CRPS parallels shifts in protein concentrations and blood cell counts that are suggestive of a subacute inflammatory process, even in patients with no overt signs of inflammation.

#### SYMPATHETIC BLOCKS

The most important diagnostic and therapeutic technique in dealing with CRPS is sympathetic blockade. Most, but not all, patients with CRPS will experience pain relief transiently following sympathetic block. However, the response to such blocks is not definitively diagnostic of CRPS, nor should the physician exclude this diagnosis in patients who do not respond. (3) Also, a series of three to five sympathetic blocks may be required to illicit a response.

Sympathetic blocks are usually performed by first administering 10 to 30 ml of local anesthetic in the area of the stellate ganglion for the upper extremity CRPS and in the lumbar sympathetic ganglia for lower extremity syndromes. Criteria that demonstrate a successful

block include body temperature increase, erythema, vasodilation, and in the upper extremity, a Horner's sign (eye twitching). (3)

#### TREATMENT

Recommended treatment for CRPS begins with decreasing the bombardment of painful afferent stimuli to the spinal cord, thus preventing neurotransmitter release and morphological changes. By using local anesthetics, narcotics, and NSAIDs before the pain occurs, prolongation of the sympathetic response may be prevented. Bone scans, sympathetic blocks, microcirculation testing, and physical therapy may also be employed. Treatment protocols for CRPS include the following: sympathetic nerve blockade with and without steroids, somatic nerve block with and without steroids, Bier blocks, various medications, occupational therapy, physical

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therapy, TENS therapy, continuous epidural blockade, implantable epidural nerve stimulator, and psychological intervention. (1) A variety of medications can prove beneficial to the patient with CRPS. These medications include: antidepressants, sedative hypnotics and anxiolytics, anticonvulsants, muscle relaxants, narcotic analgesics, NSAIDs, local anesthetics, corticosteroids, and vasodilators.

Physical therapy regimens may include passive range of motion (PROM), strength training exercises with minimal weight, and contrast baths. Passive range of motion and strengthening maintains as much motion and strength as possible, while the sympathetic blocks work on resolving the symptoms of CRPS to that particular region. Contrast baths remain a mainstay in the treatment of CRPS. Contrast baths promote increased circulation to the affected region. This increased circulation will enhance the

healing process and improve function.

Aggressive analgesia and early aggressive treatment when symptoms of CRPS are first observed may be appropriate. When other conservative treatments have failed, sympathectomy might free the patient from the intense pain of CRPS. Samuelson, et al (6) conducted transthoracic endoscopic electrocautery of the upper thoracic ganglia on seven patients with sympathetic pain. The mean pain intensity of the patients was reduced 79% postoperatively, and this pain relief was maintained after three months. Long term follow-up reveals that two patients have had no recurrence of CRPS. This information shows that this procedure can be effective in treating patients with the syndrome.

The most radical of all treatments would be amputation of the affected limb. Data on outcomes described by Szeinberg-Azaria, et al (7) showed in 12 patients with CRPS who underwent amputation that there was functional improvement, but the psychological dysfunction persisted.

#### SUMMARY

There is ongoing research to study the causes of CRPS, the neuropathology involved in the chronicity of the syndrome, new methods of preventing occurrence, and better ways of treating the symptoms. Much progress has been achieved in the past ten years, and surely new advances will be made over the next few years. By implementing therapeutic modalities, physical therapy, nerve blocks, medication and psychologic interventions, we as health care professionals can adequately and accurately evaluate, diagnose, and treat the causes and symptoms of complex regional pain syndrome.

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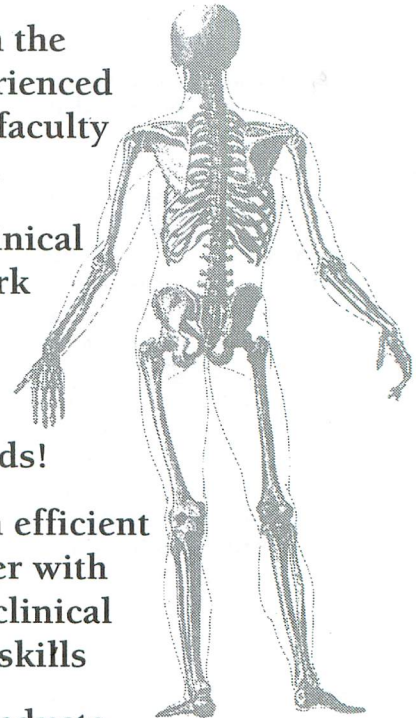
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# Commentary

Ian K. Barstow and Mark Bishop

*"It is easier to get 1000 prescriptions than find a single remedy."*

If you suffer a heart attack, would you rush to an alternative healer or would you rush to a hospital to see a healer who practices medicine based on science? Low back pain (LBP), like angina pectoris, is a serious ailment in industrialized nations. Nachemson calls LBP a modern health care epidemic. (1) Waddell states "back pain is a 20th century health care disaster." (2) That is, simple backache is the number one disabling condition in persons less than 45 years of age. (3) In 1989, \$3.3 billion was spent on care of the AIDS patient (4) and it is plausible that approximately \$24-100 billion was spent on LBP. (5) It would appear that the low back problem requires more scientific management.

Today LBP is big business to physical therapy. In fact it is the most common complaint reached by outpatient physical therapists. (6) Conspicuously our management of this problem is characterized by rampant practice varieties, skyrocketing costs, and alarmingly, increasing disability. There is a lack of data to support assessment procedures and treatment approaches. Insurance companies will soon be invigorated by the paucity of outcome studies supporting our anecdotal stories of success. For example, although they have identified 105 assessment procedures for evaluating low back pain, (7) they have proven that few were reliable, (8-13,15) let alone valid. Many seasoned therapists should find it sobering that many of our assessment techniques have proven to be unreliable. This list includes SIJ palpation techniques, (8,9) postero-anterior mobility assessment, (10,11) leg length assessment, (12, 13) and location of trigger points. (14,15) Making important clinical decisions based on these techniques is questionable and sometimes may lead to worse, not better outcomes.

Despite this, the "spine salesmen" continues to sell unreliable techniques to well intended therapists. Seminars are given weekly by so-called experts in the use of unreliable techniques to treat unproved diagnosis of low back dysfunction with unfounded approaches. The saga of continuing education is exempli-

fied by courses on the sacroiliac joint. Aficionados of manual medicine routinely teach complex seductive biochemical theories of movement dysfunction with unfounded approaches. Studies show there is only minimal motion of this joint. (17)

Reliability studies show that there is poor interrater reliability between two physical therapists assessing SIJ motion on the same patient. (8,9) More recently SIJ provocative tests have been shown to be reliable. (17) This leads to the important question whether these tests are valid. Damning to many "experts" is the lack of validity and questionable usefulness (18) of these clinical tests. Recently the 12 best sacroiliac tests have been refuted. (19) That study showed that there was no correlation between positive sacroiliac joint provocative test and injections of the joint which are considered the diagnostic "gold standard." Why do therapists continue to use these tests? At

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a recent Occupational Certified Specialist meeting (OCS), the group spent the first half hour talking about a vignette regarding "position" of a sacroiliac joint!

Experts in manual medicine will teach posteroanterior (PA) mobility testing. They will teach one to judge whether a joint is hyper or hypomobile. When a panel of 30 experts was given a questionnaire asking them to define instability, this panel gave 30 different answers. (20) Despite this one can pay to learn how to diagnose hypermobility leading to instability. Australian manual therapists have shown that two different therapists using the Maitland approach on the same patient will not glean the same accessory motion information. (10) They concluded that this is ironic that such importance is placed on the results of the

PA motion assessment. The unreliability of motion testing has been confirmed by Binkley, et al. (12)

The self professed expert therapist will routinely assess leg length by measuring the distance from AIS to medial malleolus. This is thought to be important to prevent asymmetrical loading of spinal structures such as zygapophyseal joints. (13) Studies that compare these measurements to long leg radiographs show them to be unreliable. (12) Previous studies have shown that leg length discrepancies were common and that persons with discrepancies up to 2 cm were no more likely to have back pain than other subjects. (22,23)

Physical therapists as a group are concerned with providing excellent care for their patients. Eager to learn, they flock to continuing education courses where they become seduced by charismatic but biased case study presentations and intoxicated by dogma. They apply sacroiliac techniques to acute patients and get 90% success. It appears to them that their diagnosis and treatment must have been correct. Others will evaluate and treat leg lengths. They treat patients with these biomechanically based theories and 90% will get better. It appears to them that their diagnosis and treatment must have been correct. This learning paradigm is known as the therapeutic illusion. (24) The truth is that you can tell acute sufferers to brush their teeth more often and get approximately 90% success. Very few of these therapists understand the nonspecific effects of treatment, regression toward the mean, and the favorable natural history of many disorders. (25) In low back pain 75-95% of acute patients will recover regardless of treatment.

Often there is not a piece of solid, scientific evidence to validate techniques taught at courses by self proclaimed experts. For the good of patients and therapists alike, why have the "gurus" not validated their claims? The guidelines for such studies have long been understood and after the many financial donations by well-intended therapist there most surely exist the funds.

Unfortunately therapists in this quest to better help patients, seem good consumers of misinformation. Guidelines for

the treatment of acute low back pain determined from the review of 10,317 articles exist to separate myth from reality. (26) If we are to survive the health care reforms we must understand and practice good medicine for the benefit of our patients and society. Rigorous clinical trials need to support our clinical experience if we are to become a progressive profession. The onus is now on the spine salesmen to provide evidence that the course for which you have paid several hundred dollars is more than a horse and pony show that relies predominantly on nonspecific effects of treatment. It is of utmost importance to recognize some spine salesmen for the charlatans they are.

Until that time there needs to be a paradigm shift from passive treatments to active treatments. (2) These active programs consist of graded exercise and operant condition and have been proven in randomized studies of acute, subacute and chronic pain conditions. (1,27-35)

The low back problem will be our greatest challenge.

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## RESPONSE

Joe Godges, PT

I would like to commend Mr. Barstow for his thought provoking and challenging contribution to this month's *OP*. I agree with Mr. Barstow's observation that the current and future emphasis of the payors in health care is practice guidelines that are based on evidence found in the peer-reviewed literature. Therefore, physical therapists who receive reimbursement from third party payors will be increasingly expected to follow practice guidelines supported by the scientific literature.

Mr. Barstow describes commonly utilized examination procedures which, in his review of the literature, lack intertester reliability and, thus, questionable usefulness for treatment planning and implementation. I encourage readers of Mr. Barstow's article to comment upon and challenge his review of the literature (the editor of *OP* invites your contributions for publication in upcoming editions of *OP*). For example, when considering the points about sacroiliac examination reliability, Cibulka, et al provide evidence for the reliability of using a composite of positive SIJ examination findings in order to determine, the appropriate treatment classification.(1) Also, when considering the value of passive treatment, spinal manipulation (which is a component of many physical therapy post-graduate training programs) is a physical treatment method recommended for individual's with acute low back pain by the U.S. Government Agency for Health Care Policy and Research. This recommendation is based on the evidence of clinical research in peer-reviewed literature.(2)

Emotion stirring commentary, such as provided here by Mr. Barstow, should stimulate us all to assume our professional responsibility to contribute to the scientific literature. This can be accomplished by: 1) submitting case studies for peer-review and publication, 2) promoting researchers among our graduate students and clinical residents, 3) initiating, carrying-out, and publishing clinical research, and 4) contributing to physical

therapy research funds at the chapter, section, and national levels.

In the past when we were reimbursed simply because we submitted a bill, it was sufficient to practice in a particular manner because "it is reasonable" or "it works for my patients." However, those days are going fast. It may be reasonable and it may work, but, (paraphrasing a statement by Dr. Steve Rose) "If it is not published in peer-reviewed literature, it didn't happen".

These are exciting and rapidly changing times for practitioners of orthopaedic physical therapy. I appreciate the energy and insight of practitioners like Mr. Barstow who challenge us all to explore new (and defensible) levels of clinical practice.

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# Q & A on The Model Practice Act for Physical Therapy

by Blair J. Packard, PT

It has been almost thirty years since the physical therapy profession had a model practice act to aide states in considering and implementing practice act changes. The Federation of State Boards of Physical Therapy (FSBPT) recently completed and distributed *The Model Practice Act for Physical Therapy: A Tool for Public Protection and Legislative Change*. A relatively small number of individuals in the profession have followed the development of this document closely. But many more have been part of discussions in various states about the need for practice act changes and have been tangentially aware that a model act was being developed. This article, prepared for component newsletters, addresses many of the questions raised about the Model Practice Act, its potential impact, and how it may be used by individual states.

## Who Developed The Model Practice Act?

The Model Practice Act was developed by the Federation of State Boards of Physical Therapy, an organization of all state licensing agencies that regulate the practice of physical therapy. The Federation was formed just over 10 years ago. It is the organization responsible for developing the national entry level tests for physical therapists and physical therapist assistants, but its interests and activities go far beyond entry level testing and encompass all aspects of state regulation of the profession. The Federation's major mission is to afford greater public protection by enhancing the regulatory process. The APTA's major intention is the advancement of the profession through development of education, practice, and research. These focuses both ultimately result in public benefit, and so are very complementary.

In late 1994 the Board of Directors of the Federation appointed a nine-member task force to develop the Model Practice Act. The task force consisted of eight physical therapists and one attorney. All the therapists had extensive experience on state licensing boards and in association leadership. They were from diverse geographical and practice environments including acute care, private practice, education, and administration.

## How Was the Model Practice Act Developed?

The task force regularly sought feedback on their work in a number of ways. Presentations were made outlining the progress of the Model Practice Act's development at three successive Combined Sections Meetings, at three successive Federation annual meetings, and for all component presidents at the 1996 Annual Conference of the APTA. A field review involving nearly 275 individuals, including representatives from all APTA components and state licensing boards, was also conducted in late 1996 and early 1997. From all of these avenues excellent feedback was obtained and dozens of substantive changes were made along the way to producing a final document.

The Model Practice Act will remain a "living document" subject to regular review and modification by the Federation's legislative committee and as approved by the FSBPT Board of Directors. Every effort will continue to be made to maintain the currency and applicability of the document as a tool for states in making practice act changes.

## What Exactly Is The Model Practice Act?

The document itself is about 125 pages containing three main sections. The first section is the *Key Areas*. The second section is the *Guidelines for Rules*, followed by the *Appendix*. The Key Areas contain 12 regulatory topics determined as "key" or integral to any state practice act. These 12 subsections contain recommended or "model" language for state statutes. They also give extensive rationale for the recommended model language, and finally provide additional legal commentary. The *Guidelines for Rules* follows the basic organization of the 12 key areas, but generally does not provide model language, with several exceptions. It primarily suggests the areas where states should formulate "rule" language. State practice acts include a statutes section, usually adopted and modified by a state legislature, and a rules sections, generally promulgated and modified by the respective state boards. The rules, however, must be consistent with the statutes. The *Guidelines for Rules* provides help for states in develop-

ing their own rules if they are to be consistent with the model statute language. The Appendix contains several additional references to assist states in making legislative changes to their practice acts.

The Model Practice Act for Physical Therapy's primary intent is as stated in its subtitle, to serve as "A Tool for Public Protection and Legislative Change." Enhanced public protection and a more effective system of regulation is envisioned from state to state. The document is intended to stimulate widespread legislative initiatives for change in physical therapy practice acts.

## Is The Model Practice Act Applicable to Current and Future Practice Trends and Regulatory Issues?

The Model Practice Act addresses many regulatory and practice issues regularly raised and discussed by those both in and outside of the profession. First of all, it provides a clear and sensible organizational format for a practice act that flows easily from section to section.

Among other things, the Model Practice Act:

1. Includes clear statute definitions of "physical therapy," "physical therapist," "practice of physical therapy," "physical therapist assistant," "physical therapy aide" and "other assistive personnel."
2. Supports the preservation of independent boards of physical therapy. It encourages adequate public member representation on boards and clarifies and outlines duties and powers of boards.
3. Includes direct access practice and obligates physical therapists to practice ethically.
4. Establishes very clear and legally defensible title protection for the various terms and titles associated with physical therapy.
5. Establishes consistent entry level requirements for physical therapists, both US and foreign educated, as well as physical therapist assistants. Does not contain temporary licenses and recommends a standardized interim permit period for clinical supervision of foreign-educated physical therapists not to exceed six months.
6. Provides for uniform "certification"



- rather than "licensure" as the appropriate model of regulation for the physical therapist assistants.
7. Clarifies supervisory responsibility, underscoring that physical therapists are always legally and professionally responsible for all patient care given under their supervision. The term "delegation and supervision" applies strictly to licensed physical therapists. Assistive personnel may, however, "share" delegated procedures or activities with other assistive personnel.
  8. Identifies 20 specific potential causes for disciplinary action. Both physical therapists and physical therapist assistants are subject to varying disciplinary action.
  9. Provides adequate tools for boards to deal with "unlawful practice," or the violation of a practice act by those not regulated under the physical therapy statutes. This is an important section to provide adequate public protection.
  10. Finally, the Model Practice Act is sensitive throughout to greater consumer protection and consumer advocacy issues. It allows for specific consumer access to information about those regulated by the practice act. It also addresses disclosure and freedom of choice issues.

### Is There Anything Controversial In The Model Practice Act?

The task force, in developing the Model Practice Act, extensively reviewed APTA documents and generally used terminology consistent with other professional documents. There are just a few areas, however, that are not consistent, or vary somewhat, with APTA positions. The most obvious is the Model Practice Act's recommendation for a uniform system of certification rather than licensure of physical therapist assistants. The APTA currently recommends that physical therapist assistants be licensed.

The rationale for this recommendation follows, which is also included in The Model Practice Act:

1. Physical therapist assistants may be fully regulated through the certification model as easily and effectively as with licensure. The proposed model language includes standardized entry that requires graduation from an accredited educational program and passage of the national examination. Distinct title protection is provided for the physical therapist assistant, and they are subject to certain disciplinary provisions - all accomplished

- effectively with certification.
2. Licensure creates certain assumptions and inherent implications. The first is that a licensee has a scope of practice, whether full or limited. A second assumption is that a licensee has authority to delegate and supervise others. Physical therapist assistants do not "practice" physical therapy, but rather assist physical therapists in the delivery of physical therapy services through application of various delegated tasks and procedures. Also, a physical therapist is always legally and professionally responsible for all patient care and cannot delegate the responsibility to delegate and supervise care to others. A physical therapist assistant may "share" delegated procedures with other assistive personnel, but the physical therapist remains responsible for overall supervision of delegated procedures.

Also, certification does not confer or infer professional status as licensure inherently does. The inherent conferral upon physical therapists of professional status associated with licensure is appropriate. They are professionally educated generally at a masters or doctoral level. Physical therapist assistants, by definition within the APTA, are "paraprofessionals" and technically educated at the associate degree level. Certifying, rather than licensing, physical therapist assistants helps to clarify this role differentiation.

3. Since physical therapist assistants always work under the direction and supervision of physical therapists, and under the authority granted by the license of the physical therapist, additionally licensing physical therapist assistants is redundant and overly burdensome from a regulatory standpoint. No further public protection is granted by a duplication of the licensure process.
4. The potential problem of insurance company denial of reimbursement without licensure is sometimes cited as justification for licensure of physical therapist assistants. However, there are cases of this denial occurring even where assistants are licensed. Insurance companies have a history of being arbitrary in their payor policies. Licensing statutes should not be based on responding to arbitrary payor policies, but should clearly allow, as they do in the Model Practice Act, for delegation of certain tasks and procedures to assistive per-

sonnel. When statutory authority to delegate clearly exists in a practice act, and an insurance company denies reimbursement of services provided by assistive personnel after claiming to cover physical therapy, then the policy-holder and/or provider needs to challenge the insurance company.

Another area of the Model Practice Act some may consider controversial is the provision included for implementing evidence of continuing competence as a requirement for relicensure. This is listed as an "optional" provision in the model language, but states need to be prepared to address this issue now or in the future.

### How Should A State Be Using the Model Practice Act Relative To Updating Its Own Practice Act?

Every state could benefit from a critical analysis of their physical therapy practice act using the Model Practice Act as a reference point in the process. A "checkup" is long overdue in most cases. But I emphasize that a careful analysis rather than a rush to change will yield better results in the end.

I recommend the following seven point process:

1. **Leadership Conference:** Hold a conference with chapter leadership, licensing board representatives, legislative legal counsel, and others as invited to explore the topic of practice act changes. Use the Model Practice Act document in preparation for the conference. Identify areas of weakness or problematic areas of a state's current practice act.
2. **Chapter Forum:** Present an issues forum at an upcoming chapter meeting regarding the potential for updating the practice act. Seek a consensus where changes should be made.
3. **Member Initiative:** Obtain chapter support through a membership motion to begin the process of proposing changes to the practice act.
4. **Task Force Work:** Appoint a task force comprised of members with a good history of experience with regulatory and professional issues. Include representatives from chapter leadership, the licensing board and others from diverse practice backgrounds. You may or may not wish to use the chapter legislative counsel at this phase of the drafting. Carefully compare areas of the existing practice act needing change with FSBPT model language, and then draft proposed changes.

5. **Leadership Consensus:** Gain approval on recommendations, making appropriate modifications through a process of chapter leadership and licensing board consensus.
6. **Legislative Counsel Review:** Now is the time to bring in chapter and/or licensing board legal counsel for their review and consideration of further changes as necessary.
7. **Member Approval:** At a chapter business meeting a formal motion to proceed to the legislature should be adopted. Unity and support in the legislative process is crucial.

Throughout the above process the Federation's legislative committee is ready to help. Several Model Practice Act Task Force members continue to serve on the Federation Legislative Committee and are willing to serve as speakers at component meetings and to consult with chapters considering or initiating practice act changes.

**Why Bother With The Extensive Effort Needed To Make Major Practice Act Changes?**

First, the Model Practice Act for Physical Therapy will make the work of revising a state's practice act much easier, whether minor or major revisions are anticipated. The enhanced public protection aspects of the model language are by far the primary reason for considering opening a practice act for revision. This is a prevailing theme apparent to any who read through the Model Practice Act document.

Another reason for updating practice acts, however, relates to the profession itself. I use a visual analogy in the Model Practice Act document known as the "three-legged stool" to help explain an important concept. The scope of practice of any health care discipline, or what one may legally do in practice, is determined by 1) the established history of education or training, 2) the established history of clinical practice, and 3) specific statutory authority, or sometimes the lack of statutory prohibition when 1) education and 2) clinical practice are well established. As a profession we are expending considerable effort to advance practice and educational competencies and standards. Research is being used to substantiate

these areas as well. We may not have "arrived" to the satisfaction of all clinicians, researchers, and educators, but we are certainly advancing. On the other hand, many practice acts contain language that is often archaic and sometimes problematic from a regulatory standpoint. To ignore the third, or regulatory, aspect of establishing the profession's scope of practice is to be satisfied to sit on only a two-legged stool, perhaps a precarious perch. As we establish clinical guidelines and determine research-supported clinical efficacy, and as we arrive at (or strive to approach) consensus on models of professional education and determine entry level competencies, it will be equally important to remember the "third leg" of our stool - and strive to achieve a solid regulatory model for the profession now and well into the future.

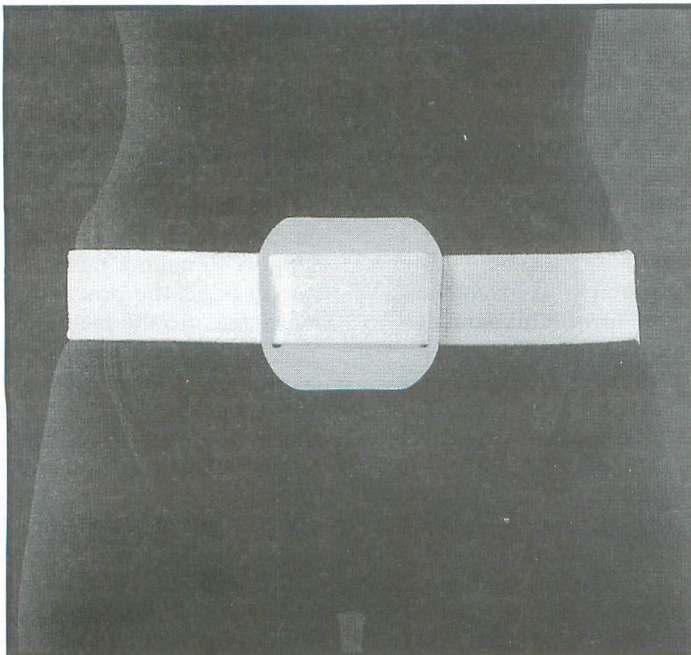
**Who Has Copies of the Model Practice Act?**

The Federation of State Boards of Physical Therapy has sent copies to the following groups and individuals with permission to reprint them as necessary for the

*(Continued on page 24)*

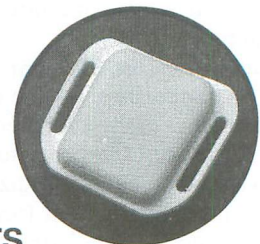
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# Clinical Problem Solving and Physical Therapist Assistants

by Alicia R. Dittmar, MEd, PT

This column is geared toward the physical therapy assistant and is being coordinated by Gary Shankman, OPA-C, PTA, ATC.

## Introduction

Are physical therapist assistants able to do clinical problem solving? As a physical therapist, what type of clinical problem solving skills can I expect from a physical therapist assistant? As a physical therapist assistant, am I confident enough in my observations, treatment skills, and communication skills to broach the subject of clinical problem solving with my supervisors? How often have you asked yourself one or more of the above questions? If you are like me, a practicing PT for 18 years, a PTA educator for 8 years, these questions have always been at the core of defining and improving relationships between therapists and physical therapist assistants. I am glad to have the opportunity here to explore and define the differences between physical therapists and physical therapist assistants in the application of critical thinking and problem solving skills.

I know most physical therapists would agree that one of the most significant skills they possess, the one by which they judge themselves worthy, is excellence in clinical problem solving. I know I am most satisfied when I complete a thorough spinal evaluation, come to a clear conclusion as to the tissue/tissues involved and can quickly generate several ideas for effective treatments. I am even more gratified when the patient responds well to treatment and meets all initial goals within 6-10 treatments. This process is one of those defining characteristics for physical therapists; one that "requires the unique skills, knowledge, and judgment of a physical therapist" alone. (1) Clinical problem solving is a process that we all do and take pride in.

Even in situations where the patient does not respond to treatment as anticipated, I am confident that I can assess the effects of the treatments, modify treatments as needed, and continue to monitor and address other variables affecting the physical therapy care of my patient. Am I willing to delegate any part

of this later problem solving process to anyone else? Are PTAs really able to do this level of clinical problem solving without violating our code of ethics? If they are, what parts of this critical thinking and problem solving process do I feel I can delegate without violating our code of ethics? Will I feel just as gratified in "solving the puzzle" and providing for the well being of another human when I do delegate?

Many physical therapist face this dilemma, especially in light of changing practice parameters engendered by managed care. They are faced daily with new practice and delegation decisions that may be based on outdated practice models and a lack of information about the clinical problem solving and critical thinking processes involved in PTA education. There are also just as many physical therapist assistants who for years have relied on the "checklist" approach to providing patient care. For some valid and many invalid reasons, some PTAs have never had to make clinical decisions or rely on their critical thinking skills. They find themselves uncomfortable with their new "more responsible" roles in today's health care arena. They continue to add fuel to the fire of miscommunication about roles and responsibilities within their practice environment. Perhaps what is needed here is a closer look at what is involved in clinical problem solving from both a PT and a PTA viewpoint. This may help us all to answer those nagging ethical practice questions.

## Problem Solving

First, problem solving can be defined simply as "the ability to: recognize and define problems, analyze data; develop and implement solutions; and evaluate outcomes." (2) Certainly PTs are required to develop and manifest a high level of skill in this process during their academic and clinical education. But are PTAs? I have taught in two different PTA programs, attended countless CCCE meetings and PTA educators forums, and studied the curricular requirements of CAPTE regarding PTA education. (3) I know that PTAs are taught in school to recognize and define common pathologies seen in physical therapy. I know

that PTAs are taught to perform goniometry and vital signs assessments. PTAs are taught to assess the basic strength and flexibility of their patients. They are taught how to recognize abnormalities in sensation, balance, tone, and gait. They are taught how and where to document these findings. They are taught how to read and analyze the pertinent data in a PT evaluation report and would know if the recorded values were within normal ranges or not. (2) Many are also taught how to develop short term goals (STG) regarding this data when given a functional, long-term goal statement generated by a physical therapist. Then, many PTA faculty members ask their PTA students to generate "ideas for treatment" based on these STGs for the purpose of discussion with the evaluating therapist. Certainly, PTAs are taught how to implement the solutions and are highly qualified to provide therapeutic treatments with physical agents, basic therapeutic exercises, soft tissue techniques, balance training, gait training, functional training, etc. They are also taught to determine if and how the patient responds to the treatment in terms related to those in the PT evaluation. (2) Following this definition of problem solving, it is evident that PTAs are taught within their accredited 2 year programs to perform clinical problem solving, albeit at very basic levels toward the goal of improved communication between a PT and a PTA. In addition to basic problem solving, PTAs are taught their legal and ethical limitations within this process based on the various state practice acts and the APTA code of ethics (1).

## Critical Thinking

Now, understanding that both PTs and PTAs are able to problem solve, the next question becomes what are our distinct roles in that process? Perhaps investigating critical thinking skills taught in both PT and PTA schools will help us better delineate these roles. Critical thinking is "having the ability to: question logically; to identify, generate and evaluate elements of logical argument; to recognize and differentiate facts, illusions, assumptions (and hidden assumptions) and to distinguish the relevant from the irrelevant. Physical therapists certainly have

a more rigorous educational process with which to develop this skill based on their 4-6 years of schooling. Indeed, much of the focus in PT education is geared toward developing the ability to formulate a logical clinical investigation sequence; to identify, generate and evaluate elements of clinical treatment planning; to recognize and differentiate facts, illusions, assumptions (and hidden assumptions) in the provision of health care. It is our role then as physical therapists to use these skills to provide thorough, efficient, accurate and well documented initial evaluations and treatment plans. We must use these skills when communicating with physicians, other health care providers, patients, family members, and 3rd party payers. We need to use these skills in managing the department or facilities within which we work. We must use these skills to supervise those persons who work for and with us. I contend, however, that new graduates from PT (and PTA) programs need a few years of clinical practice and mentoring to become truly proficient with critical clinical analysis. Time and experience are indeed master teachers.

In contrast, the focus in PTA education is more toward developing and refining specific treatment techniques and communication skills during their 4-6 semesters. This does not mean, however, that PTAs are not required to develop and apply critical thinking skills during this time. Just ask any PTA student who has taken a test where the answer was not provided for them to memorize. They would argue vociferously that quality instructors require more from them than memorization and recitation. PTAs are, however, only introduced to this process during their education due to time limitations. They are not expected to be proficient nor independent in this area at graduation. They are only expected to understand that good clinicians, be it a PT or a PTA, will continue to develop and apply these critical thinking skills during each clinical encounter. They are taught to respect the influence of time, experience, and continued professional development in honing this craft toward the goal of providing the highest level of care for our patients at all times.

I have had the privilege of working with many PTAs who had several years of clinical experience and many CEUs under their belt. They had learned to discern what is clinically significant in their "subjective" interactions with patients. They developed the ability to distinguish relevant clinical signs, and symptoms,

and report them to me with alacrity. They began to recognize and perform clinically advanced treatments through mentoring, further self study, and professional development. These PTAs became honest in critical self assessment and sought to improve their information base and skills as they saw themselves unable to respond to patients in need. They formed partnerships with PTs who respected their ability to generate logical arguments (discussions) about the best possible care for their patients. I am one of those therapists who is truly grateful to the PTAs with whom I have worked; to those who took the time to critically analyze our patient's case; to those who brought significant facts and measured data to my attention before the "7th visit." I was thankful to those PTAs who also brought at least 2-3 new treatment ideas with them each time we discussed a patient's case. I was able to be efficient as well as effective in providing patient care when I had more than one or two ideas or treatment strategies in my "toolbox."

As I began to expand my definition of the role of a PTA in clinical practice to include that of my partner in clinical problem solving and critical thinking, it meant that the broad reach of my eyes, my ears, my hand, and my mind was extended many times over. I began to trust others to help me solve the puzzles of clinical practice, and I shared the joy of our accomplishments with not only my patients but also my partners. I became more clinically gratified in that process.

I have a new puzzle in my professional life these days. "To whom do I delegate what and when? and "What should I keep for myself?" These days, not only most I apply critical thinking and problem solving skills to patients in need, but I also use this process to determine which PTAs I can trust with what designated treatments or levels of patient care and education. I use those critical thinking and problem solving skills learned in PT school now to determine which PTAs are ready (and those not ready) to advance their patient care skills. I am

learning to nurture and nudge those PTAs who do not feel comfortable with an expanding role. I am learning to recognize and promote those PTAs who do. I am learning to discuss these new roles with my colleagues without fear of reprisal. After all, we all use critical thinking and problem solving skills for the same outcome: to provide the best possible care for other human beings in need.

#### REFERENCES

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2. PT Program, University of Wisconsin-Madison. *Journal of Physical Therapy Education* 1995;9:1.
3. CAPTE, *Accreditation Handbook*. Evaluative Criteria for Accreditation of Educational Programs for the Preparation of Physical Therapist Assistants.

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Alicia R. Dittmar, Med, PT is currently a faculty member at the PTA program at Greenville Tech in Greenville, South Carolina.

## Section Members in the News

Jonathan M. Cooperman, MS, PT, JD was recently appointed by Ohio Governor George Voinovich to the Occupational Therapy, Physical Therapy, and Athletic Trainers Board of Licensure. Jonathan is currently serving as Editor of *Orthopaedic Physical Therapy Practice*. Congratulations Jonathan!



Congratulations Bob Burles! Bob has recently created a "Bulletin Board" for PTs. Post a question about practice management, share your insight on a reimbursement issue, or just make new contacts in the profession. Fill out the Post a Message box to add your own thoughts to the discussion or to introduce a new topic. It's a great way to share information and meet new colleagues.

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# In The News

## Kaiser Permanente Moves Forward with Physical Therapists in Primary Care

By Carol Jo Tichenor, PT

*Originally published in November 1997 issue of the California Chapter Newsletter. Reprinted with permission.*

A major new service delivery model with physical therapists providing primary care services for patients with musculoskeletal disorders is being implemented within the Northern California Region of Kaiser Permanente (KP). This new service delivery model is potentially the most important change in the role of physical therapists in the history of our organization.

Out-patient medical clinics will have a team of professionals, including physicians, nurse practitioners, a behavioral medicine specialist, a physical therapist, and a health education specialist. Each Adult Primary Care (APC) team will be responsible for managing patients within that clinic, making appropriate referrals to other team members and to other specialties. Approximately 20-25% of all internal medicine referrals within Northern California are for musculoskeletal complaints. It is projected that half of these can be seen by physical therapists. When the model is fully implemented as many as 80 physical therapists will be in primary care roles.

### Changing the paradigm of the physician-patient interaction

The premise underlying the new service model is to get the patient to the most skilled provider at the first point of entry into the health care system. Having a nonphysician provider involved early in the diagnostic process provides the opportunity for the patient to understand their problem from the professional who can provide skilled instruction and a skilled, focused examination. The patient can be involved early on in the management of THEIR condition. The primary care model seeks to change the paradigm of health care delivery from an illness oriented, "fix-me" interaction to one that focuses on the patient's role in his or her care.

### A successful start

Several pilot clinics are already operating with physical therapists in various primary care roles. In some, physicians will do a quick screen of the patient and immediately refer the patient to the physical therapist. In others, the patients are being seen directly by the physical therapist after an initial phone screen to determine the presence of a potential musculoskeletal problem. Patients who require ongoing physical therapy are seen initially by the primary care PT and then referred to the PT department. Our long term goal is to have patients with suspected neuromusculoskeletal problems referred directly to PT so that we become actual first contact providers.

Preliminary data suggests that many physicians are very satisfied and supportive of the high level of musculoskeletal expertise that physical therapists bring to the team. Patient satisfaction for PT in primary care has been high. Clearly the evolution of new roles for all practitioners is stressful and threatening for some practitioners, including physical therapists. This new role challenges us to the highest level of interdisciplinary communication and trust.

### Meeting the challenge of a new role

Qualifications for entry into primary care roles, educational preparation, and supervisory/governance relationships between physicians and physical therapists have been developed. In designing these criteria, the PT Directors' Peer group of KP is aware of the implications to our entire profession of placing qualified therapists in primary care roles. Guidelines for educational preparation and mentoring have been developed. Development of competency based examinations are being explored. Coursework in differential diagnosis of medical versus nonmedical conditions has been initiated.

### Redesign of the Kaiser Hayward PT Residency in Advanced Orthopedic Manual Therapy — a new program for 1998

Inter-linked with the change in service delivery is the redesign of the Kaiser Hayward PT Residency which has a 17 year history in post-professional residency training. The redesign program will contribute to the preparation of therapists entering primary care roles within Kaiser and will continue to be open to therapists around the country. Beginning in 1998, two different options for advanced training are available. A three month **Orthopedic Manual Physical Therapy Mentorship** will offer clinical coursework, 1:1 clinical mentoring, and small group tutorials on examination and treatment of the spine, shoulder, hip, and knee complexes.

After completing the 3-month Mentorship, a therapist may apply to go into a 6-month **Advanced Orthopedic Manual Physical Therapy Fellowship** which will include coursework, 1:1 clinical mentoring, and tutorials on the spine and all peripheral joints.

Ongoing one-on-one mentoring with clinical faculty has been at the core of the Kaiser Hayward PT Residency and will continue to be. Both programs will assist therapists to learn how to streamline their evaluations and become more efficient, effective practitioners to meet changing health care roles.

### Stepping out of our comfort zone

The redesign of health care delivery has been a tremendous challenge for all of us. When changes began at Kaiser, the PT Directors' Peer Group realized that we had to move rapidly and aggressively to be on design teams for the organization. If we were not the **FIRST ONE TO THE DOOR**, we could easily be looked out of musculoskeletal management.

For questions:  
caroljo.tichenor@ncal.kaiperm.org  
or (510)441-4259 (phone)



# Occupational Health

Course Length: 6 Manuscripts

January - June 1998

## PROPOSED TOPICS & AUTHORS



### The Science of Ergonomics

Mark Anderson, MA, PT, CPE

### Consulting with Business and Industry

Joanette Alpert, MS, PT, CIE, CPE

### Clinical Management of the Injured Worker

Linda Darphin, PT

### Marketing and Contracting for On-site Physical Therapy

Roberta Kayser, PT, Stephen Hunter, PT, Steven Crandall, PT

### Functional Capacity Evaluation

Ed Barnhard, PT

### Issues in Employment Testing and the ADA

Sue Patenaude, MA, PT, CIE

## OVERALL COURSE OBJECTIVE

This comprehensive course includes current topics in occupational health, such as the application of ergonomics, job analysis, FCE development and implementation, legal ramifications of employment testing, and measurement and the ADA. Learn what physical therapists can offer industry and how to market those services. Also gain an in-depth understanding of techniques for treating the injured worker and how to successfully manage a work rehabilitation program. Participants will acquire a wealth of resources including didactic references, internet contacts, product manufacturers, professional organizations, and OSHA and ANSI standards and regulations.

## EDUCATIONAL CREDIT

**Educational Credit:** 30 contact hours. A certificate of completion will be awarded to participants who successfully complete the final test. Only the registrant named will obtain the CEUs. No exceptions will be made.

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- **EDITOR:** Carolyn Wadsworth, MS, PT, CHT, OCS
- **Instructional Level:** Various

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OP

## Abstracts and Book Reviews

Giles LGF and Singer KD. *Clinical Anatomy and Management of Low Back Pain*. Oxford: Butterworth-Heinemann; 1997; 411 pp., softcover, illus.

*Clinical Anatomy and Management of Low Back Pain* should be a part of every physical therapist's library that evaluates and treats low back pain. Teachers and faculty involved in teaching gross, structural, or functional anatomy of the spine should refer to this book for current information to present to their students. The underlying theme throughout the text was that the clinician needs to understand gross anatomy and histopathology when dealing with mechanical low back pain. There was significant emphasis on educating the reader that despite sophisticated imaging tests, a good history and systematic physical examination based on sound basic science principles was a primary choice of assessing and treating individuals with low back dysfunction.

This text was an interdisciplinary, international collaboration with contributions from epidemiology, anatomy, pathology, physiology, psychology, clinical medicine, orthopaedics, chiropractic, osteopathy, and physical therapy. Section I provided a brief epidemiological review of mechanical low back pain. Section II covered clinical anatomy and pathology of the lumbar spine. Individual chapters included introductory graphic anatomy, detailed intervertebral disc structure including changes associated with creep and stiffness, zygapophysial joints, an update on spinal and intervertebral canal structure and ligamentous support, blood supply, muscle, sacroiliac joints, and thoracolumbar junction. Section III highlighted spinal clinical neuroanatomy and neurophysiology of spinal structures, inflammation in spinal tissues, compression of spinal nerve roots, and somatic and neurogenic syndromes. Section II and III were filled with outstanding diagrammatic, photomicrographic, radiographic imaging, histological sections, and illustrations that truly place this text in the "must have" category for all clinicians involved in spinal care. Section IV reviewed imaging of the lumbar spine, psychosocial aspects of back pain, diagnosis of mechanical low back pain medi-

cally and from the perspective of the chiropractor, osteopath, and physical therapist.

This text highlighted the value of a team approach and brought together a wide range of authors to present this comprehensive review of spinal pain. The chapter detailing spinal musculature would have benefited from more extensive illustrations, photographs, and descriptions of these contractile structures. There was a lack of gross and microscopic anatomy and its relationship to structure and function of the spine and interrelationships with the fascial system. In the physiotherapy chapter the authors, Edmondston and Elvey, presented a thorough history and assessment section. However, the scope of treatment was limited to acute and subacute management of dysfunction and pain through manual techniques. This somewhat does a disservice to our profession, as readers from other professions will not realize that physical therapists have a more broad based treatment regime that may include the following: postural and positioning instruction, stabilization, biomechanical education, ergonomic intervention, neuromuscular re-education and relaxation training, therapeutic exercise prescription, and reconditioning for acute to chronic patients and may utilize thermo or electro modalities or their hands for soft tissue mobilization.

The editors and authors are to be complimented on their very fine effort.

*Edie Knowlton Benner MA, PT, OCS*

Gudeman SD, Eisele SA, Heidt RS, Colosimo AJ, Stroupe AL. Treatment of Plantar Fasciitis by Iontophoresis of 0.4% Dexamethasone. *Am J Sports Med*. 1997;25(3):312-316.

The purpose of this randomized, double-blind, placebo-controlled study was to ascertain whether iontophoresis of dexamethasone used in conjunction with other traditional modalities was more efficacious in providing more immediate pain relief than traditional modalities alone in treating plantar fasciitis. Subjects consisted of 32 women and 7 men (mean age, 42.1 ± 13.6 years) with a total of 44 affected feet. Three patients

(4 feet) were eliminated prior to enrollment. All subjects were diagnosed with plantar fasciitis. Secondary causes of discomfort were ruled out with radiographs and/or additional special tests.

The subjects were divided into two groups. Group I feet were treated with traditional modalities alone. As a placebo, Group I individuals received phosphate buffered saline iontophoresis to the plantar aspect of the foot. Group II feet received the traditional modalities as well as iontophoresis of 0.4% dexamethasone sodium phosphate USP. Both groups were treated six times over the course of two weeks. All subjects were instructed in a home program of plantar fascia and gastrocnemius-soleus stretching and extrinsic muscle strengthening and utilized a viscoelastic heel orthosis. Subjects' clinical course was evaluated employing the Maryland Foot Score.

Results indicated that Group II subjects experienced greater immediate post-treatment improvement than Group I subjects (increase on the Maryland Foot Score of 6.8 ± 5.6 for Group II and 3.1 ± 4.1 for Group I). At follow-up one month after completion of treatment, however, there was no notable difference between the two groups (increase of 5.6 ± 8.0 for Group I and 7.4 ± 6.3 for Group II).

The authors concluded that utilization of iontophoresis of dexamethasone is effective in creating a more rapid reduction in plantar fasciitis-related discomfort. However, because the end result of function is the same whether iontophoresis is or is not used, the authors suggest that the modality be employed with patients that require an immediate reduction in symptoms (ie, the elite performance athlete). Although iontophoresis will initially reduce the symptoms of plantar fasciitis, it is suggested that traditional methods of physical therapy still be practiced and that the underlying cause of the disorder be identified.

*David A Schulz, PT, CSCS*

Gallagher S. Trunk Extension Strength and Muscle Activity In Standing and Kneeling Postures. *Spine*. 1997;2(16):1864-1872.

The purpose this split-plot experimental study was to evaluate the influ-

ence of posture, trunk angle, and rotational velocity on peak torque output and myoelectric activity during trunk extension maneuvers in kneeling vs. standing postures. The main question to be explored was two part. First, does the kneeling posture actually alter extension torque values in isometric and isokinetic motions as compared to that in standing? Then, are trunk muscle recruitment patterns modified by this postural change?

After obtaining informed consent, 21 healthy male subjects, mean age 36 years, performed a series of 12 trunk extension exertions in standing, then in the kneeling posture. Isometric tests were performed at 22.5, 45, and 67.5° angles. Isokinetic trials were completed at 30, 60, and 90° per second speeds of motion utilizing a CYBEX II dual channel recorder (Lumex, Inc., Ronkonkoma, NY) to assess peak torque values. Electromyographic data was collected from surface electrodes placed on eight trunk muscle groups, normalized, and assessed with regard to positional muscle recruitment patterns. A priori orthogonal contrast were used in the analysis of both torque and electromyographic data.

The data revealed that, on average, 15% less torque was generated in the kneeling posture vs. standing with no change in trunk muscle activity in either position. Isometric vs. isokinetic tests approximated a 20% increase in peak torque in isometric trials, yet reduced torque values were identified in both postures. It was determined that trunk muscle activity was primarily affected by changes in trunk angle and velocity of contraction. The study discovered that a reduced trunk extensor capability exists in kneeling, in spite of equal trunk muscle activity. Based on the results, the author hypothesizes that a strength deficit in trunk extension most likely does not result from alterations in muscle function. It is thought that this may be a consequence of reduced ability to control and rotate the pelvis in the kneeling posture due to a significant alteration of the biomechanical closed chain system.

Although technical in nature and dependent on isokinetic dynamometer data, this study adds to our understanding of the very complex, integrated biomechanical system and its performance in nonstanding alternate work positions. In reviewing the results of this study, we more clearly understand that posture does, in fact, inhibit the forces generated in active trunk extension with both isometric and isokinetic extensor strength significantly reduced in kneeling.

Decreased kneeling extensions torque correlates with an 10-18% decreased lift capacity. This information provides insight for the design of manual lifting tasks to be performed in kneeling by a worker when safely completing job functions.

*Roberta L Kayser, PT*

Daltroy LH, et al. A Controlled Trial Of An Educational Program To Prevent Low Back Injuries. *The New England Journal of Medicine*. 1997;337(5):322-328.

This study was developed to assess the effects on rates of low back injury, on time off from work, on costs associated with injury, and on time elapsed until further injury in a randomized, controlled trial in an industrial setting.

The study population consisted of approximately 4000 U.S. postal workers at two mail-processing facilities. Types of workers included mail-handlers, and maintenance workers who lift 16 to 32 kg bags, and clerks who do light work - manual and mechanical mail sorting. The study was a randomized controlled trial lasting 5.5 years. The workers were divided into 34 units, 17 received training from a physical therapist that included principles on back safety, correct lifting and handling, posture, exercises, and pain management. Examination and assessment of the work station was also done by the physical therapist. Workers and supervisors in the training units were instructed at the beginning of the study, and reinforced six months after the initial training, then yearly thereafter. All the units including the control groups received the standard Postal Service training in back injury prevention film, and periodic safety talks by the supervisors.

Results of the study showed that there was no significant difference in prevention (time elapsed between injuries) of low back injury, no significant difference in lost work days, and no significant difference in cost of low back injury cases in comparison of trained versus untrained groups of workers. The study mentioned that possible reasons for not attaining significant differences in their results may be due to an increased acceptability on reporting injuries among the trained group, no change in practice of desirable behavior, job satisfaction levels, ineffective reinforcements of behavior, economic factors, social factors, and management-labor issues.

*Solomon Joseph, MSc, PT*

Barber-Westin SD, Noyes FR, Andrews M. A Rigorous Comparison Between the Sexes of Results and Complications After Anterior Cruciate Ligament Reconstruction. *Am J Sport Med*. 1997;25(4):514-525.

It has been frequently noted in newspapers and sports magazines that there is an epidemic of ACL injuries of female athletes in the past five to ten years. The NCAA statistics showed that women sustained ACL injuries at three times the rate of men, yet the authors of this article reported, based on a literature review, that females were studied at half the rate as men post ACL repairs. The purpose of their study was to determine whether differences existed between the sexes in complications and outcomes of 94 patients (47 of each sex) after ACL reconstruction.

This was a two-year prospective study of 47 men and women who were randomly selected and matched, first for age and the time interval from injury to surgery and then for preoperative activity level, months at follow-up, condition of the articular cartilage, and the number of operative procedures that had been done before the ACL reconstruction. Two subgroups were analyzed separately, acute (operation within 14 weeks of the injury rupture) and chronic.

There were no significant differences between the men and women in the preoperative values in the acute group, and only one significant difference in the chronic group and that was in the mean anteroposterior (AP) displacement values ( $P=0.05$ ).

The objective evaluation at follow-up consisted of knee displacement testing with a KT-2000 arthrometer and isokinetic quadriceps and hamstring muscle testing in the isometric mode. A classification system for determining ligament function using arthrometric and pivot shift test data was used. Categories of functional, partially functional, or failed were used to describe the ability of the operative procedure to restore normal knee motion limits (knee stability) after the reconstruction at the most recent follow-up examination. All patients completed subjective questionnaires and were interviewed for the assessment of symptoms, sports activities, and functional limitations.

The rehabilitation program was similar for all patients and included immediate knee motion in a range of 0 to 90 and immediate partial weightbearing. For the first 6 postoperative weeks emphasis was



on patella mobilization, flexibility, SLR, isometrics, closed-chain (minisquats), and electrical stimulation. Progressive resistive exercises were begun at the 4th post-operative week. Stationary bicycling was delayed until the 12th week to minimize patellafemoral crepitus. Light running was allowed by weeks 20 to 24. Full activity was usually allowed by weeks 36 to 52 if several criteria regarding pain, crepitus, and AP displacement were satisfied.

There were no significant differences between the men or women in either subgroup in arthrometric or pivot shift evaluation. No differences in either subgroup in range of motion complications. No patients required arthroscopic release of adhesions of scar tissues. Two women in the chronic group required gentle manipulations for limited flexion. No significant differences in either subgroup

were found for moderate patellafemoral crepitus or anterior knee pain. Strength testing, articular cartilage, subjective and functional evaluation, and overall ratings were not significantly different.

In addition to the clinical contributions that this study provided, several practice management factors were identified. Women in this study required an average of six more rehabilitation visits than men which increased the costs significantly (mean difference, \$536;  $P=0.01$ ). Factors such as preoperative education and frequent visits in the first 2 to 3 months assists in favorable outcomes according to the authors.

This study provided a plethora of useful clinical information and should be read in its entirety by any therapist involved with this patient population.

*Elise Trumble, PT*

1997 ROSE  
EXCELLENCE IN  
RESEARCH  
AWARD WINNER

Diane U. Jette, DSc, PT  
*"Physical Therapy and  
Health Outcomes in  
Patients with Spinal  
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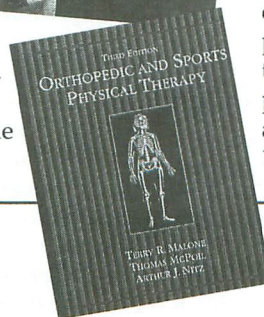
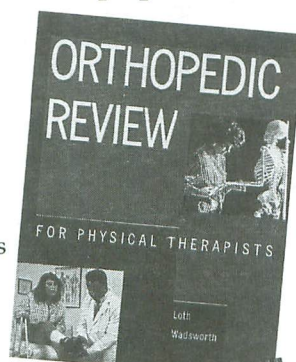
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# Efforts in the Nation's Capitol Should Aid Long-Term Investors

By Fred Fletcher

They stood around the podium, arms raised and hands locked, looking like they had just won an election. But something was different about this picture, for it represented an accomplishment that brought together legislators from both sides of the aisle to complete a budget agreement that offers a little something for everybody.

Billed as the "Taxpayer Relief Act of 1997" and signed into law last month by President Clinton, the long-awaited deal contains a series of tax reduction provisions which investors should find quite favorable. If you are investing for long-term capital appreciation, saving for retirement, planning a child's education, or developing an estate plan, the new tax bill should benefit you in one form or another.

## Capital gains taxes -

We have long believed that lowering taxes on long-term capital gains the profits from the sale of stocks, bonds, real estate, and other select assets - will stimulate the economy. Now, with 40 percent of U.S. households holding investments in the stock market, capital gains have become an issue affecting many taxpayers.\* Beginning May 6, 1997, investors in the top tax brackets will be assessed a 20 percent tax rate, down from 28 percent. Gains currently taxed at 15 percent will only be taxed at 10 percent. There are even more significant breaks for investors willing to stay the course. A new incentive offers a top tax rate of 18 percent to investors who purchase assets after 2000 and hold them more than five years.

## IRAs -

Investors saving for retirement may want to take a new look at Individual Retirement Accounts (IRAs). The new Roth IRA was created for investors who wish to withdraw earnings free of federal taxes. Contributions will not be tax deductible, as they are with conventional IRAs. But withdrawal of earnings will be tax free, as long as you are at least 59½ years of age and four years have passed since your initial contribution. Contributions to Roth IRAs are phased out for individuals with adjusted gross income beginning at \$95,000 and joint filers be-

ginning at \$150,000. Limitations on IRA contributions according to income limits will gradually lift, doubling by 2004.

You may also be able to receive tax-free withdrawals if you are paying for college or a first home. Although the \$2,000 limit is the same for both Roth and conventional IRAs, the Roth plan may make sense if you expect to be in the same or higher tax bracket after retirement.

## Education IRAs -

This benefit, which will be available beginning in the 1998 tax year, allows tax-free earnings on nondeductible contributions of up to \$500 per year, per student. The income limits are \$110,000 for single filers and \$160,000 for joint filers.

## Gain on sale from principal residence -

Now excluded from tax are gains of up to \$250,000 from the sale of a personal residence (\$500,000 if married and filing jointly).

## Estate taxes -

If you are planning to leave an estate to your heirs, more of the value of your estate may be tax exempt in the future. Federal estate and gift tax exemptions will increase to \$1 million from \$600,000 over the next 10 years. If you consider a \$1 million estate in the year 2006, the new tax exemptions would mean a savings of \$153,000 in tax.\*\* For small businesses and family farms, the exemption will rise to \$1.3 million on January 1, 1998.

One of the best ways to reduce the value of your estate is to gift assets to your heirs or charity while you are still alive. The estate or gift tax credit will gradually increase to \$345,800 in 2006.

This far-reaching new tax legislation promises to have a dramatic impact on the saving, investment, and college funding plans of many Americans. In light of the changes this legislation brings about, now is an opportune time for all investors to review their current situation to determine if the course they are on is the most effective route for achieving their financial goals. As always, if you'd like a more detailed explanation of how these extensive changes may affect your

individual situation, please give us a call.

\* Standard & Poor's "Financial News This Week," August 4, 1997.

\*\* U.S. News & World Report, August 11, February 1997.

This article is for general information only and is not intended to provide specific advice or recommendations for any individual. Consult your financial adviser, attorney, accountant, or tax adviser with regard to your individual's situation.

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Fred Fletcher is an Investment Executive who provides investment advice to the Orthopaedic Section, APTA. If you would like additional information, please contact Fred through the Orthopaedic Section office.

## Q & A

*(Continued from page 17)*

purpose of education and reviewing/revising legislation:

- State physical therapy licensing boards
- FSBPT: Board of Directors, committee, and task force members
- APTA: Board of Directors, senior staff, all chapter and section presidents

Those wishing to review the Model Practice Act might want to contact their APTA chapter or section presidents. Copies may also be obtained by sending a check (Cost: \$ 10.00 per copy) along with a request for the number of copies to:

Federation of State Boards of Physical  
Therapy  
ATTN- Model Practice Act  
509 Wythe Street  
Alexandria, VA 22314

Blair J. Packard, PT is Chair of the Legislative Committee for the Federation of State Boards of Physical Therapy.

ORTHOPAEDIC SECTION, APTA, INC.  
FALL BOARD OF DIRECTORS MEETING  
SEPTEMBER 26-27, 1997  
CHICAGO, ILLINOIS

MINUTES

The Fall Board of Directors meeting was called to order at the Tremont Hotel in Chicago, Illinois at 8:00 AM on Friday, September 26, 1997 by President Bill Boissonnault.

ROLL CALL:

Present

Bill Boissonnault, President  
Nancy White, Vice President  
Dorothy Santi, Treasurer  
Elaine Rosen, Director  
Joe Farrell, Director  
Lola Rosenbaum, Education Chair  
Dan Riddle, Research Chair  
Steve McDavitt, Practice Chair  
Terri DeFlorian, Executive Director  
Jonathan Cooperman, *OP* Editor  
Ann Grove, Finance Committee Member  
Jean Bryant, Specialty Council Member  
Mari Bosworth, Public Relations Chair  
Catherine Patla, Nominating  
Committee Chair  
Fran Welk, APTA Board Liaison

Absent:

William O'Grady, Specialty Council Chair  
Helene Fearon, Practice Chair  
Ed Barnard, President, OHSIG

MEETING SUMMARY:

The minutes from the May 29 and 31, 1997 Board of Directors meeting in San Diego, CA were approved by the Board as printed. Minutes from the June Finance Committee Meeting in San Diego, CA and the August Finance Committee Meeting in La Crosse, WI were broken down by recommendations and discussed as action items during the Fall Board Meeting in Chicago, IL.

The agenda for the Fall Board of Directors meeting on September 26, 1997 was approved as printed.

MOTIONS

**MOTION 1=** The Orthopaedic Sec-

tion officers and committee chairs will not be allowed to apply for Orthopaedic Section sponsored clinical research grants. **=PASSED=**

**=MOTION 2=** Adopt the APTA's policy on white papers. **=PASSED=**

**=MOTION 3=** Increase the ceiling on the reserve fund to 100% of one year's operating expenses. **=PASSED=**

**=MOTION 4=** Utilize the services of A.G. Edwards as the Section's second investment firm. **=PASSED=**

**=MOTION 5=** The Finance Committee meeting held at SME in June each year will be eliminated and a conference call be conducted in its place. **=PASSED=**

**=MOTION 6=** Add \$5,000 to Governance for four to five people to meet for two to three days to develop a template on how residencies can become certified. **=PASSED=**

**=MOTION 7=** Fund each new President to visit the Section office for an orientation session shortly after they are elected to office. **=PASSED=**

**=MOTION 8=** Delete the mailing to recruit new members once every other year from the 1998 membership budget. **=PASSED=**

**=MOTION 9=** Approve the 1998 budget as presented by the Finance Committee with changes. **=PASSED=**

POLICIES

**=POLICY 1=** Implement an Awards Night beginning with CSM 1998 and advertise as follows: Orthopaedic Section Awards Ceremony Featuring (list all award winners and outgoing officers/committee chairs/SIG presidents) from 6:00 - 6:30 PM immediately followed by the Paris Lecture Award from 6:30 - 7:00 PM and ending with the Rose Excellence in Research Award Reception from 7:00 - 10:00 PM.

**=POLICY 2=** Handouts will be made available at CSM business meetings stating all Section award winners, outgoing officers and committee chairs (including committee chairs whose term has ended) along with a recognition statement for each. An announcement will be made that these individuals will be formally recognized during the evening awards ceremony.

**=POLICY 3=** A handout will be made available at CSM business meetings stating all SIG outgoing officers along with their meeting reports. The location and time of each business meeting along with the major items on their agendas will be listed. Outgoing presidents will be recognized by having them stand in the audience. Since reports will be printed in the handout no verbal reports will be given during the meeting.

**=POLICY 4=** The Orthopaedic Section logo should appear on everything that is sent out from the Section office.

Adjournment

# Orthopaedic Section

## 1998 CSM Boston Schedule, February 11-15, 1998

### WEDNESDAY,

**February 11, 1998**

8:00-5:00

Current Concepts in Total Knee Arthroplasty

### THURSDAY,

**February 12, 1998**

8:00-12:00

Multi-Section Program

A Guide to Physical Therapist Practice, Part II: Preferred Practice Patterns

12:30-3:30

Oncology for the Rehabilitation Professional  
Joint program with Oncology Section

1:00-2:00

Educating for Meaningful Health Care Practice  
Joint program with Education Section

1:00-4:30

Legal and Ethical Concerns in Orthopaedics  
Speakers:  
Jonathan Cooperman, MS, PT, JD  
Ron Scott, JD, PT, OCS

1:00-3:00

Application of Practice Parameters to Patients with Musculoskeletal Pathology  
Joint program with Sports Section

1:00-4:30

Research Platforms

3:30-4:30

Update on OCS Certification and Recertification

Speakers:

Jean Bryan, PhD, PT, OCS  
Joe Godges, MPT, OCS  
Bill O'Grady, MS, PT, OCS, MTC

4:30-6:30

Unopposed Exhibit Hall Break

### FRIDAY,

**February 13, 1998**

8:00-10:00

Orthopaedic Section Board & Committee Chair Meeting

3:30-8:30

Orthopaedic Section Board & Committee Chair Meeting Continued

8:00-10:00 & 11:00-1:00

Research Platforms

8:00-12:30

*Upper Quadrant Evaluation and Treatment of the Musician*

Joint program: Performing Arts SIG and Hand Section

Moderator: Marshall Hagins, MA, PT

8:00-8:30

Epidemiology of Upper Quadrant Injuries in the Musician

Speaker:

Brent Anderson, PT, OCS

8:30-9:15

On-site Evaluation and Treatment of Two Musicians

Speaker:

Jeff Stenback, PT, OCS

9:15-10:00

Ulnar Neuropathy in the Musician

Michael Charness, MD

10:00-11:00

Exhibit Hall Break

11:00-11:45

Treating the Neural Consequences of Repetition in Musicians and Keyboard Users

Speaker:

Nancy Byl, PT, PhD

11:45-12:30

Case Study Presentation Panel

8:00-10:00

Functional Outcomes in Chronic Pain Management

Pain Management SIG Programming

Moderator: Joe Kleinkort, MA, PhD, PT

Speakers: Harriet Wittink, MS, PT, OCS

Anita Wagner, PharmD, Diane Cynn

8:00-10:00 & 11:00-12:00

Practical Rehabilitation of the Knee for the Physical Therapist Assistant

Joint program with Sports Section Knee SIG

Moderator: Gary Shankman, OPA-C, PTA, ATC

Speakers: Jeff Konin, MEd, ATC, MPT

Terry Trundle, PTA, ATC

8:00-10:00

Case Management and the Physical Therapist  
Joint program with Community Health Section

10:00-11:00

Exhibit Hall Break

11:00-12:00

Foot and Ankle SIG Practice Committee Workshop

Speaker:

Joseph Tomaro, MS, PT, ATC

11:00-2:30

*Occupational Health SIG Programming*

11:00-12:00

Hot Topics Forum: Status on Ergonomic Regulatory/Certification Issues

Moderator: Gwen Parrott, PT

Speakers: Susan Isernhagen, PT

Joanette Alpert, MS, PT, CIE, CPE

Scott Minor, PhD, PT

1:00-2:30

Diversifying your Industrial Physical Therapy Practice

Speakers: Steve Crandall, PT, OCS

Stephen Hunter, PT, OCS

1:00-2:30

Performing Arts SIG Research Workshop

1:00-2:30

Single Subject Research Design and Options for Data Analysis and Manuscript Preparation

Speakers: Nancy Byl, PT, PhD

Jennifer Gamboa, MPT

Phyllis Browne, PT, PhD

Robert Turner, PT

2:30-3:30

Exhibit Hall Break

1:00-5:30

*Foot and Ankle SIG Programming*

1:00-2:30

The Hallux-First Metatarsal: Kinematic Analysis and Treatment

Speakers: Deborah Nawoczenski, PhD, PT  
Judith Baumhauer, MD

2:30-3:30

Exhibit Hall Break

1:00-5:30

Foot and Ankle SIG Programming (cont.)

3:30-4:10

Foot and Ankle Nerve Entrapments: Unusual Clinical Presentations

Speaker: Mike O'Donnell, DPT, OCS

4:10-4:50

Sinus Tarsi Syndrome: a Misdiagnosed Foot Pathology

Speaker: Steve Baitch, PT

4:50-5:30

Achilles Tendon Repair: Traditional Postoperative Management vs. Early Motion

Speakers:

Jim Zachazewski, MS, PT, ATC, SCS

Jane Gruber, PT, OCS

1:00-2:30 & 3:30-5:00

Shoulders & Breathing: More Linked than you Think

Joint program with Cardiopulmonary Section

Speaker: Mary Massery

1:00-2:30 & 3:30 - 5:00

The Lumbar Spine and its Influence on Pelvic Dysfunction

Joint program with Section on Women's Health

Speaker: Jeff Ellis, PT

3:30-5:00

Neck Problems in Patient with Vestibular Dysfunction

Joint program with Neurology Section

Speaker: Patricia Winkler

7:00-9:00

Performing Arts SIG Reception

---

## SATURDAY, February 14, 1998

8:00-10:00

Orthopaedic Section Business Meeting

10:00-12:00

Unopposed Exhibit Hall Break

12:00- 12:30

Orthopaedic PTA Informational Meeting

12:30-2:00

Occupational Health SIG Business Meeting

12:30-1:30

Manual Therapy Roundtable Business Meeting

Pain Management SIG Business Meeting

Performing Arts SIG Business Meeting

Veterinary PT Informational Meeting

Foot and Ankle SIG Business Meeting

2:00-5:20

Research Platforms

2:00-5:00

Manual Therapy Roundtable Programming

Manual Therapy Exercise Strategies for Acute

Low Back Pain

Moderator: Laurie Kenny, PT, OCS

Speakers: John Olson, MA, PT, OCS

Jim Rivard, PT, MOMT

2:00-5:30

*Foot and Ankle Problems of Dancers*

*Performing Arts SIG and Foot and Ankle SIG*

Joint Programming

Moderator: Marshall Hagins, MA, PT

2:00-2:15

Introduction to Occupational Stressors of the Dancer

Speaker: Marshall Hagins, MA, PT

2:15-3:00

Epidemiology and Assessment of Foot and Ankle Injuries to Dancers

Speaker: Jennifer Gamboa, MPT

3:00-4:00

Treatment of Foot and Ankle Injuries of Dancers

Speaker: Lynn Medoff, MA, MPT

4:00-4:45

Orthopaedic Evaluation & Surgical Treatment of Foot and Ankle Injuries of Dancers

Speaker: Lew Schon, MD

4:45-5:30

Case Study Presentation

2:00-5:00

Veterinary Physical Therapy: How to Get Started

Moderator: Lin McGonagle, PT, BS Animal Sci

Speakers: Lin McGonagle, PT

Jane Avery, PT, CVT

David Levine, PhD, PT

Leslie Kerfoot, PT, Pres. of Chap

6:00-7:00

Awards Program and Paris Award Lecture

7:00-10:00

Black Tie and Roses

---

## SUNDAY, February 15, 1998

8:30-10:30

Eccentric Control of Movement: Relevance to Orthopaedics and Neurology

Joint Program with Neurology and Clinical Electrophysiology

Moderator: Lola Rosenbaum, PT, OCS

Speaker: Mark Trimble, PhD, PT, OCS

8:30-12:30

Nonoperative and Operative Management of Adolescent Idiopathic Scoliosis

Joint program with Pediatric Section

8:00-12:00

OHSIG Board Meeting

# SECTION NEWS

## Board of Directors Report

1. I have been continuing to work with Linda on the chiropractic compendium.

A full copy of all the material was sent to Stanley Paris and to Nancy Garland as was a copy of the disc with the complete bibliography. Copies of the compendium were sent to all chapters and components for their reference. A notification of availability, as was in *OP*, is on our home page.

2. I have been reviewing the copies of Chiropractic Economics as they come in. To date, there hasn't been any earth shattering information.

3. Contact has been made with APTA regarding planning of another informational forum to be sponsored by the section in conjunction with government affairs at CSM.

4. Rick Di Fabio contacted Joe and myself to say that he is moving along on the cervical manipulation article. He hopes to have a draft for review just prior to CSM.

5. I have been maintaining ongoing contact with the section office.

*Elaine Rosen, PT*  
*Board of Directors*

## Awards Committee Report

1. Gould Research Award Criteria has been published in the Section newsletter.

2. Nominations have been requested for the two student awards and the teaching award through Section publications. Direct requests to schools will be sent later this month.

3. The Awards committee held a conference call prior to the Board meeting to consider nominations for the Paris Award. A recommendation was made to the Board of Directors.

*Nancy White, MS, PT*  
*Awards Committee Chair*

## Education Program Report

### 1998 COMBINED SECTIONS MEETING

This meeting will take place in Boston from Feb. 12-15, 1998. Please see the program on page 26 for titles of specific programming during those dates. The Orthopaedic Section meeting schedule:

SATURDAY 2/14/98

8:00-10:00

Orthopaedic Section Business Meeting

All Section members are invited to attend. A continental breakfast will be served. Section business will be discussed the first hour and an open forum for members concerns will take place the second hour.

10:00-12:00

Unopposed Exhibit Hall Break

12:00-12:30

Orthopaedic PTA Informational Meeting

NEW THIS YEAR. Programming specific to the PTA will be presented on Friday and this time is reserved for PTAs with an interest in orthopaedics to meet and discuss the Section PTA awards and to provide input as to what topics they would choose for future CSM programming. We would like to see this group become more active in the Orthopaedic Section.

12:30- 1:30

Foot and Ankle SIG Business Meeting

Manual Therapy Roundtable Business Meeting

Pain Management SIG Business Meeting

Performing Arts SIG Business Meeting

Veterinarian PT Informational Meeting

12:30-2:00

Occupational Health SIG Business Meeting

Anyone attending CSM with an interest in one of these specialty areas is invited to attend these meetings. NEW this year is the Veterinarian PT Informational Meeting. An update on progress toward becoming a special interest group (SIG) of the Orthopaedic Section will be provided.

Saturday Evening Programming

6:00-6:30

Orthopaedic Section Awards

6:30-7:00

Paris Award Lecture

7:00

Black Tie and Roses

The Rose Research Award is presented during the Black Tie and Roses reception. This is a social affair sponsored by the Orthopaedic Section. All Orthopaedic Sec-

tion members are encouraged to attend.

OTHER EDUCATIONAL PROGRAMMING  
Our upcoming Home Study Courses:

98-1 (January-June)

OCCUPATIONAL HEALTH

98-A (April - September)

STRENGTH & CONDITIONING APPLICATIONS IN ORTHOPAEDICS

98-2 (July - December)

PHARMACOLOGY

We are also offering a CD ROM home study course entitled, "The Athlete's Knee." See our display ads in this issue for more information or call the Section office.

ADVANCED ORTHOPAEDIC EDUCATION  
(Preparation for specialty exam in orthopaedics)

The Education Program Committee has been charged with the task of finding an alternative means of assisting Section members in their preparation for the OCS exam. We have handout information available at the Section office and, in the past, have offered an advanced review course. The expense and time requirements of this course made it difficult for many Section members to attend. We would like your ideas on how we can meet this need. Please call or e-mail the Section office or Lola Rosenbaum with your ideas or concerns.

*Lola Rosenbaum, PT, OCS*  
*Education Program Chair*

## Public Relations Committee Report

Tara Frerickson, Executive Associate, and I attended the fifth annual National Student Conclave in Phoenix, Arizona, October 24-26, 1997. The Section donated \$3000 toward sponsorship of the Conclave, which had over 1000 students in attendance. The meeting afforded a wonderful opportunity to interact with students and educate them on the benefits of membership in the Orthopaedic Section.

The winner of the Student Guest at CSM program is Heather L. Smith. Heather's name was drawn from a pool of 46 students whose names were submitted by their schools. Heather is a physical therapy student at Indiana University. She will receive funding from the Orthopaedic Section to attend the Combined Sections

Meeting in Boston in February. Please join in welcoming Heather at CSM in Boston.

Efforts continue in obtaining media spokespersons for the top 100 media markets. If you are interested in serving on this network, please let me know. We are specifically in need of individuals in the following areas: Charlotte, NC; West Palm Beach, FL; Dayton, OH; Charleston-Huntington, WV; Tulsa, OK; Wichita Hutchinson, KS; Knoxville, TN; Green Bay-Appleton, WI; Omaha, NE; Springfield, MO; Fort Myers-Naples, FL; Johnstown-Altoona, PA; Youngstown, OH; Colorado Springs, CO; Greenville, SC and Asheville, NC; Providence, RI and New Bedford, MA; Albany-Schenectady-Troy, NY; Fresno-Visalia, CA; Flint, MI; Mobile, AL and Pensacola, FL; Lincoln, NE; Rochester, NY; Springfield-Decatur, IL; South Bend, IN; Huntsville, AL; Burlington, VT and Plattsburg, NY; Evansville, IN; and Waco, TX.

We continue to need sponsors to sponsor a student's one year membership (\$15) in the Section. Remember, if you sponsor five students you are eligible for a free Home Study Course.

Details of our Fall Board Strategic planning meeting will be forthcoming at our Business Meeting at Combined Sections. I encourage your attendance and input at the Business Meeting as we prepare to advance our present programs and develop new programs. Suggestions for additional activities for the Public Relations Committee are always welcome. Let us hear from you!

*Mari Bosworth, PT*  
Chair, Public Relations Committee

### Nominating Report

Slate of candidates:

President -

William G. Boissonnault, MS, PT

Vice President -

Nancy White, MS, PT, OCS

Nominating Committee:

Robert Donaldson, PT, OCS, DC

Mary Ann Wilmarth, MS, PT, OCS

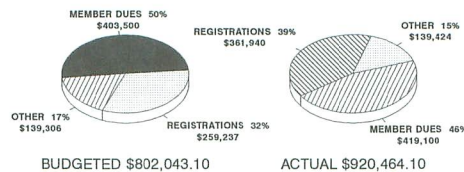
Michael Tollan, PT, OCS

*Catherine Patla, MMSC, PT, OCS*

Chair, Nominating Committee

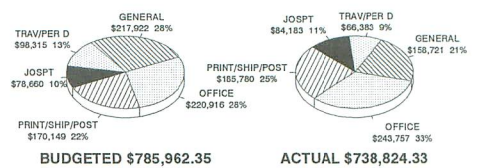
## FINANCE COMMITTEE REPORT

### ORTHOPAEDIC SECTION, APTA, INC. BUDGET TO ACTUAL SEPT. 30, 1997 INCOME: BREAKDOWN



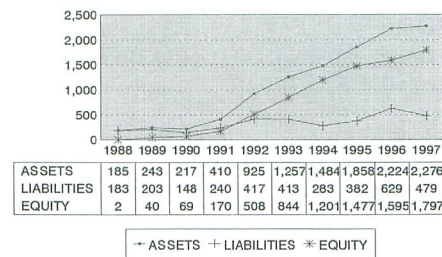
(+14.76% over our expected budget)

### ORTHOPAEDIC SECTION, APTA, INC. BUDGET TO ACTUAL SEPT. 30, 1997 EXPENSE: BREAKDOWN



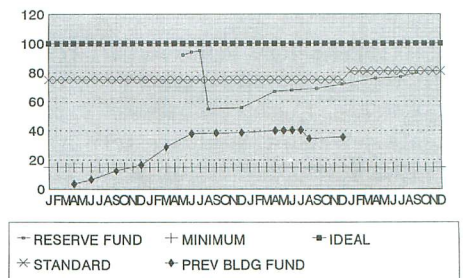
(-6.00% under our expected budget)

### ORTHOPAEDIC SECTION, INC. YEAR END FISCAL TRENDS FROM 1988-1997 1997 DATA IS AS OF SEPT 30, 1997



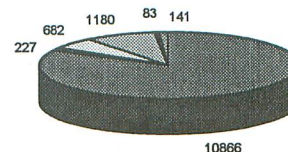
To nearest thousand

### ORTHOPAEDIC SECTION, APTA, INC. RESERVE FUND JAN. 1, 1994 to SEPT. 30, 1997



## MEMBERSHIP REPORT

Orthopaedic Section Members							
By Type							
1997							
Month	Physical Therapists	Physical Therapy Life Members	Physical Therapist Assistants	Physical Therapy Students	Physical Therapy Graduate Students	Physical Therapist Assistant	Total
January	10760	204	631	1196	73	166	13030
February	10797	205	633	1263	81	177	13156
March	10812	207	648	1293	85	185	13230
April	10834	211	667	1301	85	184	13282
May	10982	225	730	1214	83	169	13403
June	10838	226	688	1058	131	79	13020
July	10813	227	678	1013	77	121	12929
August	10847	228	687	1097	79	127	13065
September	10866	227	682	1180	83	141	13179



# 1998 CSM PLATFORM & POSTER PRESENTATIONS

## PLATFORM PRESENTATIONS

THE RELATIONSHIP BETWEEN PAIN DISTRIBUTION AND LUMBAR MAGNETIC RESONANCE IMAGING FINDINGS

Paul Beattie, 300 E. River Road, Ste. 1-102, Rochester, NY 14623

DIFFERENTIAL DIAGNOSIS OF LOW BACK/LEG PAIN: A CASE REPORT

Richard Maas, 2525 Chapel Ave., Springfield, MO 65809

HYPNOSIS WITH PHYSICAL THERAPY IN THE TREATMENT OF HIV INDUCED PERIPHERAL NEUROPATHY

Catherine E. Patla, 19 Dolphin Drive, St. Augustine, FL 32084

REHABILITATION FOLLOWING TOTAL SHOULDER ARTHROPLASTY: A CASE REPORT

Cynthia Watson, Southwestern Allied Health Sciences School, 5323 Harry Hines Blvd, Dallas, TX 75235-8876

A KINEMATIC ANALYSIS OF A SKILLED DANCE MOVEMENT, (PASSÉ) IN A HEALTHY AND ACL-RECONSTRUCTED DANCER

Shaw Bronner, SOAR Research, HealthSouth Manhattan II, 18 E. 50th Floor, New York, NY 10022

THE EFFECTS OF ANTERIOR THIGH SOFT TISSUE STRETCHING ON PASSIVE UNILATERAL STRAIGHT LEG RAISE MEASUREMENT

Steven Clark, UOMHS, 3200 Grand Ave, Des Moines, IA 50312

THE INFLUENCE OF ANKLE DORSIFLEXION RANGE OF MOTION ON REARFOOT MOTION DURING WALKING

Mark Cornwall, Dept of PT, Northern Arizona University, NAU Box 15105, Flagstaff, AZ 86011

INTRATESTER AND INTERTESTER RELIABILITY OF FOURTEEN TESTS COMMONLY USED TO EVALUATE PATIENTS WITH PATELLOFEMORAL PAIN SYNDROME

Duane (Scott) Davis, 155 East Hillview Drive, Morgantown, WV 26505

PHYSICAL THERAPY TREATMENT EFFECTIVENESS FOR OSTEOARTHRITIS OF THE KNEE: A PROSPECTIVE, RANDOMIZED, CONTROLLED COMPARISON OF CLINICAL EXERCISE AND MANUAL PHYSICAL THERAPY VERSUS PLACEBO TREATMENT

Gail Deyle, 3 Sherborne Wood, San Antonio, TX 78218

DEVELOPMENT OF A REHABILITATION OUTCOMES MEASUREMENT TOOL FOR POST ACUTE REHAB: PRELIMINARY RESULTS

Ed Dobrzykowski, FOTO, P.O. Box 11444, Knoxville, TN 37939

PATTERNS OF OUTCOMES FOR PATIENTS WITH CARPAL TUNNEL SYNDROMES

Ed Dobrzykowski, FOTO, P.O. Box 11444, Knoxville, TN 37939

A COMPARISON OF THE PHYSIOLOGICAL COSTS OF HARNESS SUPPORTED TREADMILL AND AQUATIC TREADMILL AMBULATION

J. Doug Ellett, 280 Gold Leaf Drive, Christiansburg, VA 24073

THE EFFECTS OF ICING ON ACTIVE KNEE JOINT POSITION SENSE IN OPEN AND CLOSED KINETIC CHAIN

Cindy Gill, Kiah Hall, Dept of PT, University of MD Eastern Shore, Princess Anne, MD 21853

THE EFFECT OF ACTIVE EXERCISE ON THE ONSET AND RECOVERY OF DELAYED ONSET MUSCLE SORENESS (DOMS)

Hilary Greenberger, Ithaca College, Dept of PT, Smiddy Hall, Ithaca, NY 14850

A MODIFICATION OF TEGNER'S SINGLE LEG HOP TEST FOR PATIENTS WITH ACL RECONSTRUCTION

Victor Harding, 671 Naomi Ave, Arcadia, CA 91007

GEOGRAPHIC DIFFERENCES IN REHABILITATION OUTCOMES

Dennis Hart, FOTO, 10523 Brevity Drive, Great Falls, VA 22066

RELIABILITY OF COMPONENTS OF CYRIAX'S SELECTIVE TENSION TESTING.

Karen Hayes, Programs in PT, Northwestern University Medical School, 645 N. Michigan Ave., Ste 1100, Chicago, IL 60611

A COMPARISON OF RIGHT AND LEFT KNEE EXTENSION DURING THE SLUMP TEST IN ASYMPTOMATIC SUBJECTS

Paul Howard, 205 Rhoads Ave., Haddonfield, NJ 08033

PREDICTING FORCES APPLIED BY THERA-BAND DURING RESISTIVE EXERCISES

Kathryn Jones, 3345 Circle Brook Drive #D, Roanoke, VA 24014

RELATIVE ACTIVITY OF ABDOMINAL MUSCLE GROUPS DURING STRENGTHENING EXERCISES

Gregory Karst, Div. of PT Education, University of Nebraska Med. Ctr., 600 S. 42nd St, Omaha, NE 68198

CORRELATION OF A FUNCTIONAL LIFT TASK WITH ISOINERTIAL TRUNK PERFORMANCE IN MALE FIRE FIGHTERS

Deborah Lechner, University of Alabama at Birmingham, Bishop Bldg Room 102, 900 19th Street South, Birmingham, AL 35294

FUNCTIONAL DEFICITS FOLLOWING TOTAL HIP REPLACEMENT

Janice Loudon, 9848 Outlook, Overland Park, KS 66207

SHOULDER KINEMATICS IN PERSONS WITH SHOULDER IMPINGEMENT SYMPTOMS

Paula Ludewig, PT Program, University of Iowa, 2600 Steindler Bldg, Iowa City, IA 52242

MATCHED PAIR, FIVE YEAR MINIMUM CLINICAL AND RADIOGRAPHIC FOLLOW-UP STUDY OF AN EXACT-FIT VS PRESS-FIT FEMORAL COMPONENT IN TOTAL HIP ARTHROPLASTY

Corrie Mancinelli, West Virginia University, Div. of PT, P.O. Box 9226, Morgantown, WV 26506

THE USE OF LOWER LEG ROTATION RATHER THAN SUBTALAR NEUTRAL POSITION WHEN ASSESSING NAVICULAR DROP

Thomas McPoil, Dept of PT, Northern



Arizona University, NAU Box 15105, Flagstaff, AZ 86011

PHYSICAL THERAPY UTILIZATION BY PATIENTS WITH ACUTE LOW BACK PAIN

Thelma Mielenz, Medical School Wing E, CV #7135, Chapel Hill, NC 27599

RELATIONSHIP BETWEEN SHOULDER FUNCTION AND PHYSICAL STATUS IN AN ADULT POPULATION

Janet Murphy, 34 Erik Street, Merrimack, NH 03054

BACKWARD VERSUS FORWARD WALKING: CLINICAL APPLICATIONS IN THE TREATMENT OF LUMBAR DISC PATIENTS

Ellen Noble, 86 Fall Mill Road, York, ME 03909

LIFTING CHARACTERISTICS OF FUNCTIONALLY LIMITED ELDERLY

Michael Puniello, 100 Station Street, Hingham, MA 02043

ACCURACY IN GRADING MATERIAL STIFFNESS AND LINEAR DISPLACEMENT

Elizabeth Ratcliffe, 11 Highland Street, Cambridge, MA 02138

VALIDITY AND RELIABILITY OF THE BLANKENSHIP ELECTRONIC INCLINOMETER

Symantha Reenders, c/o Peter Loubert, Pearce Hall 105, Central Michigan University, Mt Pleasant, MI 48859

HYPERBARIC OXYGEN THERAPY FOR ACUTE ANKLE SPRAINS

Jeff Ryan, 1 Greentree Centre, Ste 103, Marlton, NJ 08053

A FUNCTIONAL TEST BATTERY FOR REHABILITATION FOLLOWING ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION

Ruben Salinas, 671 Namoi Drive, Arcadia, CA 91007

EFFICIENCY OF TREATMENT AND FUNCTIONAL OUTCOMES OF CERVICAL PAIN PATIENTS TREATED WITH THE MCKENZIE APPROACH COMPARED TO THOSE TREATED WITH A COMBINED APPROACH

Ronald Schenk, D'Youville College, Madonna Hall, 320 Porter Ave, Buffalo, NY 14201

RELIABILITY, VALIDITY, AND PREDICTIVE ABILITY OF AN ASSESSMENT FOR FUNCTIONAL CHRONIC ANKLE INSTABILITY

Matthew Thomas, c/o Sharon Olson, TWU School of PT, 1130 Anderson Blvd, Houston, TX 77030

THE EFFECT OF LUMBAR SUPPORT ON ISOKINETIC MEASURES AND LIFTING CAPACITY

James Viti, 105 Sago Palm Way, Ponte Vedra Beach, FL 32082

THE EFFECT OF FOOT POSITION ON THE PEAK TORQUE AND ELECTROMYOGRAPHIC ACTIVITY OF THE HAMSTRINGS AND GASTROCNEMIUS MUSCLES DURING A PRONE KNEE FLEXION EXERCISE

Darren Volk, 703 Sperry Drive, Las Vegas, NV 87701

ISOKINETIC TESTING OF HIP ABDUCTOR STRENGTH IN ADOLESCENTS AND YOUNG ADULTS WITH ACETABULAR DYSPLASIA: CYBEX EVALUATION WITH DIFFERENT SURGICAL APPROACHES

Heidi Walburger, Children's Hospital PT Dept, Bader 6, 300 Longwood Ave., Boston, MA 02115

EFFECT OF CIGARETTE SMOKING ON THE INCIDENCE OF MUSCULOSKELETAL DISORDERS IN SENIOR MILITARY OFFICERS

Joyce White, 54 Pineroft Road, Weston, MA 02193

FACTORS AFFECTING KNEE RANGE OF MOTION AND FUNCTIONAL OUTCOME AFTER TOTAL KNEE ARTHROPLASTY

Jane Worley, 16 E. Kent Road, Duluth, MN 55812

HEALTH OUTCOMES IN PATIENTS WITH PATELLOFEMORAL PAIN

Teddy Worrell, University of Indianapolis, Krannert School of PT, 1400 E. Hanna Ave., Indianapolis, IN 46227

EFFECTS OF ELECTROTHERAPY ON THE QUADRICEPS DURING STEP DOWN EXERCISE

Marlo Yorns, 38 West Main Street, Ware, MA 01082

THE PHYSICAL THERAPIST AND WELLNESS PROGRAMS: THE FINAL FRONTIER

Anita Greenhaus, One Jericho Tpke., Woodbury, NY 11797

A NEW TECHNIQUE FOR NON-INVASIVE, THREE DIMENSIONAL MEASUREMENT OF SCAPULOHUMERAL KINEMATICS

Andrew Kardyna, Allegheny University of

the Health Sciences, MS 502, Broad & Vine Street, Philadelphia, PA 19102

CLASSIFICATION SYSTEM FOR ORTHOPEDIC PHYSICAL THERAPY

Douglas Kelsey, Dept of PT, University of Oklahoma, 801 NE 13th #241, Oklahoma City, OK 73104

WORKSTATION ERGONOMICS

Nicholas Quarrier, Dept of PT, Ithaca College, 335 Smiddy Hall, Ithaca, NY 14850

AN APPROACH TO DERMAL - FASCIAL RELEASE UTILIZING THE METTLER RELEASE TECHNIQUE

Sharon Schwarzbauer, 1605 South State Street, Ste 112, Champaign, IL 61820

CLINICAL IMPLICATIONS FOR THE LUMBOPELVIC MUSCULATURE

Carl DeRosa, PT Program, Northern Arizona University, NAU Box 15105, Flagstaff, AZ 86011

QUADRICEPS FUNCTION DURING THE SIT - TO - STAND MANEUVER IN NORMAL NURSING HOME RESIDENTS

Scott Hasson, University of Connecticut, School of Allied Health, 358 Mansfield Road, U101, Storrs, CT 06269

EFFECT OF TOTAL KNEE ARTHROPLASTY (TKA) ON QUADRICEPS STRENGTH

Scott Hasson, University of Connecticut, School of Allied Health, 358 Mansfield Road, U101, Storrs, CT 06269

EFFECT OF MECHANICAL UNLOADING ON MUSCULAR ACTIVITY IN TOTAL KNEE ARTHROPLASTY (TKA) PATIENTS

Scott Hasson, University of Connecticut, School of Allied Health, 358 Mansfield Road, U101, Storrs, CT 06269

RELATIONSHIP BETWEEN RETURN TO WORK AND LIFT CAPACITY

Susan Isernhagen, 1015 E. Superior Street, Duluth, MN 55802

PROPRIOCEPTIVE FACILITATION OF THE QUADRICEPS WITH RAPID CONCENTRIC REVERSALS

Hye-Seon Jeon, PT Dept, University of Florida, Box 100154 HSC, Gainesville, FL 32610

EFFECT OF QUADRICEPS ACTIVATION ON THE MAGNITUDE OF THE Q-ANGLE IN WOMEN BEFORE AND AFTER FATIGUE

Laura Lathinghouse, PT Dept, Box 100154 HSC, Gainesville, FL 32610

EFFECT OF UNNA POSTOPERATIVE DRESSINGS ON TIMING OF PROSTHETIC FITTING AND FUNCTIONAL OUTCOME

Christopher K. Wong, 153 Fifth Ave, #1C, Pelham, NY 10803

EFFECTS OF TWO CONTRACT - RELAX INTENSITY LEVELS ON PELVIFEMORAL ANGLE

Michael Zito, University of Connecticut, School of Allied Health, 358 Mansfield Road, U101, Storrs, CT 06269

UNLOADING: AN EFFECTIVE NON-OPERATIVE TREATMENT FOR HERNIATED LUMBAR INTERVERTEBRAL DISC WITH RADICULOPATHY

Ford Paulson, 226 W. 700 N., American Fork, UT 84003

CARDIOVASCULAR CONSIDERATIONS IN OUT-PATIENT ORTHOPEDIC PHYSICAL THERAPY

Barbara Billek-Sawhney, 530 E. Brady Street, Butler, PA 16001

TOTAL ANKLE ARTHROPLASTY: A HISTORICAL REVIEW, A SUGGESTED REHABILITATION PROGRAM AND CASE STUDY

RobRoy Martin, C.O.R.E. Network LLC, 4601 Baum Blvd, Second Floor, Pittsburgh, PA 15213

AN OUTCOME STUDY OF SUBJECTS WITH PLANTAR FASCIITIS

RobRoy Martin, C.O.R.E. Network LLC, 4601 Baum Blvd, Second Floor, Pittsburgh, PA 15213

EVIDENCE FOR PERFERENTIAL TYPE II FIBER RECRUITMENT IN MAXIMUM ECCENTRIC CONTRACTION IS LACKING IN FREQUENCY ANALYSIS OF THE EMG  
Timothy Tyler, 130 E. 77th St, Lenox Hill Hospital, New York, NY 10021

## POSTER PRESENTATIONS

WEEDER'S THUM: AN EXAMPLE OF MUSCLE IMPALANCE CONTRIBUTING TO LATERAL EPICONDYLITIS

Max Baumgartner, 605 Jones Ferry Road #JJ-6, Carrboro, NC 27510

CASE STUDY: VERTICAL TRACTION IN SITTING AS AN ALTERNATIVE TREATMENT APPROACH FOR AN ASTHMATIC PATIENT WITH LOW BACK AND RADICULAR LEG PAIN

Beth Coon, 130 Poinciana Court, Versailles, KY 40383

CASE STUDY: TAPE MANAGEMENT OF UPPER EXTREMITY REFLEX SYMPATHETIC DYSTROPHY DUE TO CHRONIC SHOULDER DISLOCATIONS

Beth Coon, RM J111, KY Clinic Physical Therapy, Lexington, KY 40536

SINGLE CASE STUDY ON THE EFFECTS OF MULTIDISCIPLINARY INTERVENTION IN CHRONIC PAIN

Debra Haworth, 160 Sagamore Pky W., West Lafayette, IN 47906

RESOLUTION OF PERSISTENT KNEE PAIN FOLLOWING TOTAL KNEE REPLACEMENT WITH FOOT ORTHOTICS

Mari Kardys-Kelly, 335 Oak Drive, New Windsor, NY 12553

ACTIVE EXERCISE APPROACH TO CHRONIC LOW BACK PAIN: A CASE REPORT

Carl Mangion, 23 Neshaminy Dell Drive, Chalfont, PA 18914

CERVICAL INSTABILITY: A CASE REPORT

Kenneth Olson, 525 Edward Street, Sycamore, IL 60178

STABILIZATION POSITIONS USED FOR MUSCULAR RECRUITMENT AFTER SPINAL ACCESSORY NERVE DAMAGE: A CASE STUDY

Jeffrey Rot, 880 A1A Beach Blvd, Unit #3128, St. Augustine, FL 32084

THORACOTOMY AND THE IMPACT ON SHOULDER FUNCTION

Alexander Stenhouse, 644 Nautical Way, St. Augustine, FL 32084

AUGMENTED SOFT TISSUE MOBILIZATION IN THE TREATMENT OF CHRONIC ACHILLES TENDINITIS: A CASE STUDY

Sue Stover, Performance Dynamics, 3813 South Madison St, Muncie, IN 47302

TREATMENT OF OCCIPITAL NERVE ENTRAPMENT: A CASE STUDY

Richard Walsh, 1330 Truman Drive, St. Augustine, FL 32095

SYSTEMATIC DISEASE MIMICKING MUSCULOSKELETAL DYSFUNCTION: A CASE STUDY INVOLVING REFERRED SHOULDER PAIN

Richard Walsh, 1330 Truman Drive, St. Augustine, FL 32095

FUNCTIONAL PERFORMANCE AFTER ANTERIOR CRUCIATE LIGAMENT INJURY: A COMPARISON OF PATIENTS WHO COMPENSATE WELL FOR THE INJURY AND THOSE WHO REQUIRE OPERATIVE STABILIZATION

Katherine Rudolph, Dept of PT, University of Delaware, 303 McKinly Lab, Newark, DE 19716

RELIABILITY OF A NEW METHOD TO ASSESS SCAPULAR REST POSITION IN HEALTHY SUBJECTS

Michael Johnson, AUHS PT Dept, Broad & Vine Street, Philadelphia, PA 19102

ISOKINETIC WRIST FLEXION AND EXTENSION STRENGTH IN INDIVIDUALS WITH INDECES OF CARPAL TUNNEL SYNDROME

Tim Zipple, University of Osteopathic Medicine & Health Sciences, 3200 Grand Ave., Des Moines, IA 50312

A COMPARATIVE STUDY OF REHABILITATION ON TOTAL KNEE REPLACEMENT

Robert Helfst, Performance Dynamics, 3813 South Madison St, Muncie, IN 47302

COST-EFFECTIVENESS AND FUNCTIONAL OUTCOMES IN A STRUCTURED WORK RECONDITIONING PROGRAM

Leo Albano, 1910 Blanding Street, Columbia, SC 29201

THE EFFECT OF A THERAPEUTIC BALL ON THE QUADRICEPS AND LUMBAR PARASPINALS DURING A FORWARD REACHING TASK

John Sutera, 16 Oakdale Ave, Staten Island, NY 10304

STRUCTURAL INTEGRATION APPLIED TO PATIENTS WITH CHRONIC FATIGUE SYNDROME: A RETROSPECTIVE CHART REVIEW

Cara Talty, 110c Davey Street, Bloomfield, NJ 07003

A COMPARISON OF PREDISPOSING RISK FACTORS IN SUBJECTS WITH AND WITHOUT CHRONIC LOW BACK PAIN

Christopher Albanese, 16 Walton Terrace, Monroe, NY 10950

CORRELATION BETWEEN CLINICAL MEASUREMENTS AND HALLUX-FIRST METATARSAL FUNCTION DURING GAIT

Jeff Sallade, Ithaca College, 300 E. River Road, Ste 1-102, Rochester, NY 14623

KINEMATICS OF GAIT IN NORMAL AND LOW BACK PAIN SUBJECTS  
Tarek Hussein, Texas Woman's University, School of PT, 1130 MD Anderson Blvd, Houston, TX 77030

EIKENELLA CORRODENS INFECTIONS OF THE UPPER EXTREMITY  
MJ Blaschak, PT Program, Allied Health Professions, Northern Illinois University, DeKalb, IL 60115

RELATIONSHIPS BETWEEN COMMON MEASURES USED IN ASSESSING THE LOW BACK PAIN POPULATION  
Mark Weber, 125 Greenfield Way, Madison, MS 39110

FACTORS RELATED TO THE COST OF PHYSICAL THERAPY FOR THE LOW BACK PAIN POPULATION  
Joseph Jacobson, 228 Clark Farms Road, Madison, MS 39110

THE HYPERMOBILITY SYNDROME AND THE RELIABILITY OF BEIGHTON AND HORAN'S JOINT MOBILITY INDEX  
Kyndall Boyle, 19 Copper Hill Court, Durham, NC 27713

AN ELECTROMYOGRAPHIC AND GONIOMETRIC ANALYSIS OF THE LOWER EXTREMITY DURING STAIR CLIMBING WITH AND WITHOUT THE USE OF STEP MODIFICATION  
Thomas Mohr, PT Dept, P.O. Box 9037, University of North Dakota, Grand Forks, ND 58202

PHYSICAL THERAPY IMPAIRMENT ASSESSMENT IN SUB-ACUTE LOW BACK PAIN  
Cynthia Chiarello, Columbia University, Program in PT, 710 West 168th St, N18, New York, NY 10032

A COMPARISON OF ABDOMINAL PEAK ELECTROMYOGRAPHIC (EMG) ACTIVITY DURING AB ROLLER CURL-UPS AND SHOULDER CURL-UPS  
Tanya Kinney LaPier, Idaho State University, Campus Box 8002, Pocatello, ID 83209

THE INFLUENCE OF AN INDUSTRIAL BACK BELT ON FATIGUE DURING ISOKINETIC SQUAT LIFTING  
Jim Creelman, Idaho State University, Campus Box 8002, Pocatello, ID 83209

RELIABILITY AND VALIDITY OF KINEMATIC GAIT ANALYSIS: A COMPARATIVE STUDY OF THE ARIEL PERFORMANCE ANALYSIS SYSTEM AND THE PAPER AND POWDER METHOD

Corlette Luke-Cambridge, SUNY-HSC Brooklyn, Physical Therapy, Box 16, 450 Clarkson Ave, Brooklyn, NY 11203

RELIABILITY IN ASSESSMENT OF ISOMETRIC QUADRICEPS MUSCLE PERFORMANCE BY HAND-HAND DYNAMOMETER AND ISOKINETIC DYNAMOMETER  
David Cameron, Sacred Heart University, Program in PT, 5151 Park Ave., Fairfield, CT 06432

EFFECT OF SEVEN DAY PER WEEK PHYSICAL THERAPY SERVICE ON LENGTH OF STAY AND DISCHARGE OUTCOME  
Catherine Eckels, 222 Pleasant Ave, Burlington, VT 05401

THE EFFECT OF TAMO TREATMENT ON SELECTED GAIT AND STANCE VARIABLES FOR INDIVIDUALS WITH FOOT PRONATION  
Regina Harbourne, Munroe/Meyer Institute, University of NE Medical Center, 600 S. 42nd St., Omaha, NE 68198

EFFECT OF A HOME EXERCISE PROGRAM ON PATIENTS WITH TEMPOROMANDIBULAR JOINT DISORDER  
Susan Arbogast, 8 Pearl Street, Montpelier, VT 05602

COMPARISON OF A REPETITIVE LIFTING TASK WITH AND WITHOUT THE USE OF A SOFT CANVAS BELT  
Elizabeth Ikeda, 421 North Ave E, Missoula, MT 59801

PAIN PERCEPTION OF PHYSICAL THERAPISTS IN PATIENTS WITH CHRONIC LOW BACK PAIN  
Colleen King, 71 Beaver Lake Road, Ware, MA 01082

GOLF SWING SPINAL KINEMATICS OF PROFESSIONAL VERSUS AMATEUR GOLFERS  
Mae Yahara, 910 SE 4th Ave, Pompano Beach, FL 33060

KINETIC AND KINEMATIC ANALYSIS OF PLYOMETRIC BOX JUMPS  
John Sigg, Ithaca College, 55 Hill Center, Ithaca, NY 14850

CORRELATION BETWEEN HEART RATE AND RATING OF PERCEIVED EXERTION DURING ISOKINETIC EXERCISE  
Bess Kathrins, The Richard Stockton College of New Jersey, PT Program, Jimme Leeds Road, Pomona, NJ 08240

CAN FORCEFULNESS OF HEEL LANDING DURING GAIT BE ASSESSED BY OBSERVATION?  
Cheryl Riegger-Krugh, C244 4200 E. Ninth Ave, PT Program, University of Colorado Health Sciences Center, Denver, CO 80262

SCAPULA AND ACROMIOCLAVICULAR JOINT DYSFUNCTION: TAPING OPTIONS AND USE OF THE SCAPULAR/AC STABILIZER SUPPORT  
Richard Maas, 2525 Chapel Ave, Springfield, MO 65809

DECISION MAKING STRATEGIES FOR PHYSICAL THERAPY STUDENTS UTILIZING A CONCEPT MAP MODEL  
Catherine Patla, 19 Dolphin Drive, St. Augustine, FL 32084

CLINICAL USEFULNESS OF AN ORTHOPEDIC OUTCOMES SCALE FOR THE ASSESSMENT OF PATIENTS WITH CHRONIC LOW BACK PAIN  
Judy White, Division of PT, Medical Wing E, CB# 7135, The University of North Carolina at Chapel Hill, Chapel Hill, NC 27599

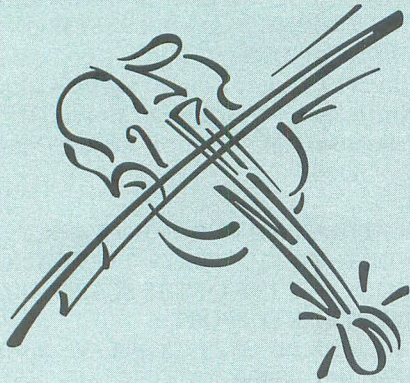
THE CALCANEAL FAT PAD: INTRINSIC DYSFUNCTION AS A CAUSE OF HEEL PAIN  
Joseph Brosky, Carroll College, PT Dept, 100 North East Ave, Waukesha, WI 53186

INTER-TESTER RELIABILITY OF SAGITTAL RANGE OF MOTION OF THE LUMBAR SPINE  
Patrick John Bouley, 14144 W. Cornell Ave., Lakewood, CO 80228

RELATIONSHIP BETWEEN FUNCTIONAL SWUAT LIFING AND MULTIPLE ANTHROPOMETRIC AND DEMOGRAPHIC VARIABLES  
Michael Gross, 416 Constitution Drive, Durham, NC 27705

THE USE OF EMG BIOFEEDBACK TO ENHANCE FUNCTIONAL INTEGRATION OF TRADITIONAL TRAINING  
Vicki Carter, 2910 Neilson Way #411, Santa Monica, CA 90405

EVIDENCE FOR PERFERENTIAL TYPE II FIBER RECRUITMENT IN MAXIMUM ECCENTRIC CONTRACTION IS LACKING IN FREQUENCY ANALYSIS OF THE EMG  
Timothy Tyler, 130 E. 77th St, Lenox Hill Hospital, New York, NY 10021



# Performing Arts



**SPECIAL INTEREST GROUP**

**ORTHOPAEDIC SECTION, APTA, INC.**

Dear PASIG members,

We are pleased at the response to our last petition in the newsletter. The numbers for the PASIG are rising. As mentioned we must exceed a critical membership of 200 in order to maintain the status of our special interest group. We are still shy of the 200 and encourage you to recruit fellow therapists who have an interest in the performing arts.

We also want to let you know that nominations were received and a ballot is being formulated. You should see it within the next 30 days. Remember that only orthopaedic members can vote.

Boston is around the corner and the programming committee has outdone themselves. We know you will be satisfied. We have two days of presentations, forums, and mini-workshops regarding dance medicine, music medicine, and a special research mini-workshop sponsored by the research committee. Jennifer Gamboa will be discussing research options for the clinician interested in research for the arts.

Other committee news, The Practice Committee will be discuss-

ing mentorship and standards of practice at the business meeting in Boston. Your feedback is wanted. The PR Committee will be presenting a series of articles to syndicate nationwide on such topics as how to choose a dance school and music teacher, when to go on pointe, etc.

International News! I recently returned from London, attending the yearly IADMS conference. It was well attended by physical therapists from around the world. It was nice to exchange and encourage each other in this valuable work. Members of our PASIG had a good presence at the conference and contributed greatly to the conference. Thank you.

As you can tell there will be a lot on the agenda in Boston, your participation will be crucial. If you cannot attend, please write or e-mail a member of the executive board with your ideas and comments.

Sincerely,

Brent Anderson PT, OCS  
President, Performing Arts Special Interest Group

## Don't let the Special Interest Groups Dissolve!!

All special interest groups within the Orthopaedic Section must retain at least 200 Orthopaedic Section members on their membership lists in order to stay active. We want to continue to offer special interest group members the great programming and networking that these groups provide.

Be sure to sign up! Send or fax your special interest group(s) membership forms to the Orthopaedic Section as soon as possible!

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Daytime Phone: (\_\_\_\_) \_\_\_\_\_ Fax: \_\_\_\_\_

E-mail Address: \_\_\_\_\_

Special Interest Groups: (Please check all that apply)

- Occupational Health
- Foot & Ankle
- Performing Arts
- Pain Management

OK to put work address in the PASIG Directory?

- Yes
- No

Return to: Orthopaedic Section, APTA, Inc., 2920 East Avenue South, La Crosse, WI 54601, 800/444-3982, FAX: 608/788-3965

# SPONSOR-A-STUDENT PROGRAM

## PURPOSE:

To initiate students to the Orthopaedic Section, APTA, Inc., and serve as a liaison and/or assist in the transition for the student preparing to enter the profession of physical therapy.

## THE SPONSOR SHALL:

- Assist with introducing the student to the Orthopaedic Section.
- Serve as a role model and a resource for questions.
- Sponsor the student financially by funding a one year membership in the Orthopaedic Section. The cost for student membership is \$15.00.

## QUALIFICATIONS:

The sponsor must be a member of the Orthopaedic Section and interested in promoting the physical therapy profession.

## PROCESS:

1. Sponsor will send in Sponsor Application to the Orthopaedic Section office.
2. Office will enter sponsor in computer and send sponsor's application to the PT or PTA program within that sponsor's area (when possible), or to sponsor's school preference if indicated.
3. School liaison will coordinate with the students interested in participating; assisting with matching the student with a sponsor.
4. School will forward student's name to the Orthopaedic Section's office.
5. Orthopaedic Section will notify sponsor of his or her student.
6. Sponsor will contact assigned student.
7. An evaluation form will be sent to student participants and sponsors at the end of one year.

**FOR MORE INFORMATION ON THIS PROJECT, CONTACT THE ORTHOPAEDIC SECTION OFFICE AT 1-800-444-3982.**

## WHY GET INVOLVED?

To assist students in the transition from PT or PTA school to professional involvement in the APTA and the Orthopaedic Section.

## SPONSOR APPLICATION

NAME: \_\_\_\_\_ PT\_\_ PTA\_\_

Other degree(s) earned: \_\_\_\_\_

WORK ADDRESS: \_\_\_\_\_

SCHOOL PREFERENCE (if any): \_\_\_\_\_

1. Would you be willing to sponsor a student(s) from a different school than the school you listed?    Y    N

2. Would you be willing to sponsor a PTA student?    Y    N

AREAS OF EXPERTISE: (please state in 25 words or less)

\_\_\_\_\_

\_\_\_\_\_

AREAS OF PROFESSIONAL INVOLVEMENT:

\_\_\_\_\_

\_\_\_\_\_

## AREAS OF PRACTICE:

\_\_\_\_\_ Ortho \_\_\_\_\_ Pediatric \_\_\_\_\_ Geriatrics \_\_\_\_\_ Private Practice \_\_\_\_\_ Sports Medicine

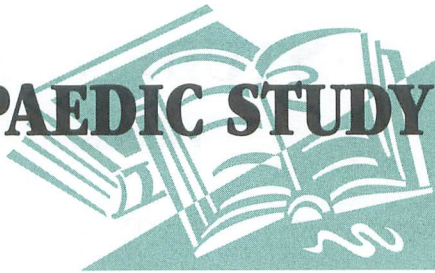
\_\_\_\_\_ Hand Rehab \_\_\_\_\_ Neuro \_\_\_\_\_ Home Health \_\_\_\_\_ SNF/ECF/ICF

\_\_\_\_\_ Academic Institution \_\_\_\_\_ Research \_\_\_\_\_ Hospital \_\_\_\_\_ Rehab Center (Inpt.)

\_\_\_\_\_ Rehab Center (Outpt.) \_\_\_\_\_ School System \_\_\_\_\_ Industry \_\_\_\_\_ Other \_\_\_\_\_

**PLEASE RETURN TO:**  
**ORTHOPAEDIC SECTION, APTA, INC.**  
 2920 East Avenue South  
 La Crosse, WI 54601

# ORTHOPAEDIC STUDY GROUPS



## CALIFORNIA

Manual Therapy Study Group  
Michelle Doyle  
4510 View Ridge  
San Diego, CA 92123  
(619) 492-3999

Richard Fike, MS, PT  
4737 El Camino Avenue  
Carmichael, CA 95608  
(916) 487-3473

San Luis Obispo Orthopaedic Study Group  
Ross Dover  
6854 Morro Avenue  
Morro Bay, CA 93442

Bay Area Orthopaedic Study Group  
Daniel L. James, PT  
West Portal Physical Therapy  
345 West Portal Avenue 4th Floor  
San Francisco, CA 94127

## CONNECTICUT

Regional Physical Therapy  
Sharon Weiselfish, MA, PT  
Crossroads Plaza  
740 North Main Street, Suite 2-G  
West Hartford, CT 06117  
(203) 523-5487

## FLORIDA

Southeastern District Orthopaedic  
Study Group  
Bruce R. Wilk, PT, OCS  
8720 N. Kendall Dr., Ste 206  
Miami, FL 33176  
(305) 595-9425

Tom Segal Physical Therapy  
9045 La Fontana Boulevard  
Boca Raton, FL 33432  
(561) 338-7543

## ILLINOIS

Chicagoland Orthopaedic Physical Therapy  
Robert Prischman  
542 N Woodbine  
Oak Park, IL 60302  
(312) 257-6518

## IOWA

Southeast Iowa Orthopaedic Study Group  
Karl Uhlenhopp  
Mercy Medical Center  
701 10th St. SE  
Cedar Rapids, IA 52403

Mid Iowa Orthopaedic Study Group  
Jim Nespor, PT, ATC  
Sports Medicine & Physical Therapy Center  
132 Lied Recreation Center  
Ames, IA 50011  
(515) 294-2626

Bayou Orthopaedic Study Group  
John Schmidt  
1329 Englewood Drive  
Slidell, LA 70458  
(504) 649-5311

## MARYLAND

Orthopaedic Study Group of Southern Maryland  
Bob Grossman, Chairman  
2415 Musgrove Rd.  
Silver Spring, MD 20904  
(301) 989-9040

Western Mass Orthopaedic Study Group  
Julia Chevan, PT, OCS  
Springfield College, Department of PT  
263 Alden Street  
Springfield, MA 01109-3797  
(413) 748-3569

## MINNESOTA

Minnesota Orthopaedic Study Group  
Christa Coleman  
University of Minnesota  
Program of Physical Therapy  
Box 388 UMHC  
Minneapolis, MN 55455  
(612) 626-0420

Ted Helgerson  
Northern Star Therapy LTD  
1411 W Saint Germain St., #771  
St. Cloud, MN 56302

## MISSOURI

St. Louis Orthopaedic Study Group  
William L. Franzen, PT  
803 Clark Avenue  
Webster Groves, MO 63119

## NEW HAMPSHIRE

Southern New Hampshire Study Group  
Michele McKlean  
OPT: Orthopaedic Physical Therapy Assoc.  
155 Main Dunstable Rd., Suite 155  
Nashua, NH 03060  
(603) 881-5554

## NEW JERSEY

Daniel J. Dussman, PT  
584 32nd Street  
Union City, NJ 07087  
(201) 601-0303

## NEW YORK

Hudson Valley District Orthopaedic Physical  
Therapy Study Group  
Marie Kardys-Kelly, PT, OCS, Chairperson  
37 Oak Drive  
New Windsor, NY 12553  
(914) 496-7240

## OHIO

Northeast Ohio Orthopaedic Study Group  
Edie Knowlton Benner  
Ron Kleinman  
P.O. Box 17  
Mantua, OH 44255  
(216) 274-3148

## OREGON

Oregon Orthopaedic Physical Therapy  
Study Group  
Sally Aerts, Secretary  
2624 NE Skidmore  
Portland, OR 97211  
(503) 768-4110

## PENNSYLVANIA

South Central Pennsylvania Orthopaedic  
Study Group  
Amy Stahlman  
312 Roland Ave.  
Chambersburg, PA 17201  
(717) 530-5333

## WASHINGTON

Washington Orthopedic Special Interest Group  
David Gross  
6800 42nd NE  
Seattle, WA 98115  
(206) 525-8179

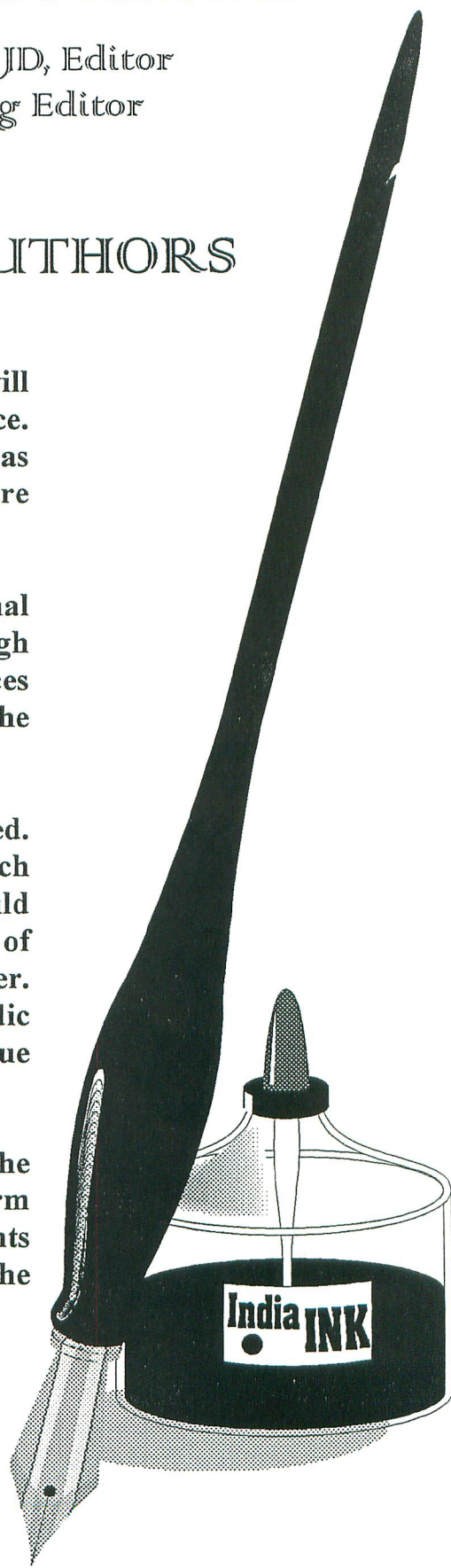
# ORTHOPAEDIC PHYSICAL THERAPY PRACTICE

Jonathan M. Cooperman, MS, PT, JD, Editor  
and Sharon L. Klinski, Managing Editor

800/444-3982

## INSTRUCTIONS TO AUTHORS

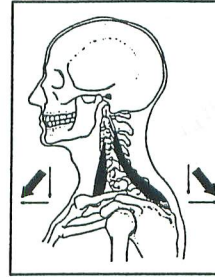
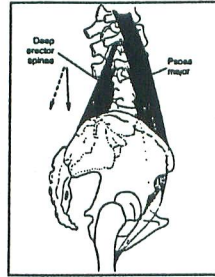
1. *Orthopaedic Physical Therapy Practice (OPTP)* will publish articles relating to clinical practice. Articles describing treatment technique as well as case studies and reviews of literature are acceptable.
2. Manuscripts should be reports of personal experiences and written as such. Though suggested reading lists are welcomed, references should otherwise be kept to a minimum with the exception on reviews of literature.
3. Two copies of the manuscript should be submitted. They should be double spaced, with one-inch margins on each side. The title page should include the author's name, degree, title, place of work, corresponding address, and phone number. The manuscript should be sent to: Orthopaedic Physical Therapy Practice, 2920 East Avenue South, La Crosse, WI 54601-7202.
4. Black and white photographs to accompany the text should be glossy 5 x 7. A photo release form must accompany any photographs where patients may be seen. Any tables that might add to the usefulness of the article are also welcome.



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