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## Translatory Instability Testing, Biceps Tendon Testing, and Slap Lesion Differential Diagnosis

by Cliff Fowler MCSP, MCPA, FCAMT

### TRANSLATORY INSTABILITY TESTS

#### A. Anterior Translatory Instability Test

(Fowler 1997, Fowler 1998)

1. Patient position
  - a. Supine at right edge of table
  - b. Shoulder at 0 degrees of abduction and neutral rotation
2. Operator position
  - a. Standing facing patient's right upper extremity
  - b. Right hand supports patient's right elbow
  - c. Left hand supports patient's right wrist and hand.
3. Method
  - a. Laterally rotate shoulder to resistance
  - b. While maintaining lateral rotation, extend the arm
  - c. While maintaining extension and lateral rotation, abduct the shoulder
4. Positive Response
  - a. Pain
  - b. Clunk/click/catch
  - c. Blocked motion with pain
  - d. Apprehension
  - e. Increased motion
  - f. Decreased motion with or without pain may indicate hypermobility rather than translatory instability. End feel will help discriminate.
  - g. a. though d. are common positive with this test, indicating translatory instability.
5. Soft tissue restraints
  - a. Anterior superior capsule and ligaments

#### B. Anterior Translatory Instability Test 2

(Fowler 1997, Fowler, 1998)

1. Patient position
  - a. Supine at right edge of table
  - b. Shoulder at 0 degrees of abduction and neutral rotation
2. Operator position

- a. Supine at right edge of table
3. Method
  - a. First flex shoulder to 90 degrees. Should remain laterally rotated as dictated by biomechanics. Not necessarily to end range.
  - b. Horizontally abduct the glenohumeral joint
4. Positive response
  - a. Pain
  - b. Clunk/click/catch
  - c. Blocked motion with pain
  - d. Apprehension
  - e. Increased motion
  - f. Decreased motion with or without pain may indicate hypomobility rather than translatory instability. End feel will help discriminate. This is a more common positive with this test, indicating scar tissue at superior aspect of anterior capsule or previous tears in rotator cuff as opposed to translatory instability.

#### C. Posterior translatory instability test

(Fowler 1997, Fowler 1998)

1. Patient position
  - a. Supine at right side of table
2. Operator position
  - a. Stand at right side of table facing patient's head.
  - b. Left hand stabilizes scapula posteriorly.

Continued on page 3 as **Shoulder**

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## Notes from the Editor

Fresh, informative and exciting. Of course, I am referring to this edition of the NAIOMT newsletter which features contributions from two of our senior faculty, Cliff Fowler and Jim Meadows. Cliff's shoulder instability assessment is summarized and should serve as an excellent overview. Jim's unique "Crossword for Manual Therapists" will test your knowledge base and keep you busy for hours. Kathy Stupansky summarizes the highlights of the annual AAOMPT conference held in Charlottesville, VA this past October. Finally, David Deppeler reviews and gives his opinions on the text, "Current Concepts in Prevention, Diagnosis and Treatment of the Cervical Whiplash Syndrome" by Robert Gunzburg and Marek Szpalski. I know you are going to enjoy the contents of this issue as much as I do. Comments may be emailed from the web site or mailed to NAIOMT, 1574 Coburg Rd. #129, Eugene, OR 97401

Bill Temes

### Letter to the Editor:

Dear Editor,

I read with great interest Ed Belding's article entitled Clinical Pearl: Training Transversus Abdominis. The advice outlined in this article was based on the work done by the researchers at the University of Queensland as well as others. The clinical tip outlined was an attempt to further assist clinicians in objective measurements of adequate and appropriate contraction of the transversus abdominis.

The Hagins et al. article that Mr. Belding referred to was based on a previous article published by Jull and Richardson in which they reported on the use of this external biofeedback device as a legitimate means of determining proper transversus abdominis (TA) contraction. When this original article was written, there was no scientific evidence that this form of training was, in fact, effective at producing an isolated TA contraction.

My studies at the University of Queensland working with these researchers, allowed me to learn firsthand that the proper training of this muscle is not as easy as is thought by many practitioners. During that year, a pilot study was performed utilizing both ultrasound and surface EMG to determine the reliability and validity of the external pressure biofeedback device in determining proper and isolated contraction of the TA. The results of this pilot study were very clear. The use of the external pressure biofeedback device as described in the original Jull and Richardson paper is not a reliable or valid means of assessing for proper TA contraction. In virtually all instances of training using this device, and regardless of position tested (prone as described by Richardson or supine as preferred by Belding), undesirable contractions of the internal oblique and other abdominal musculature were also noted. It was concluded, therefore, that the pressure biofeedback device was not able to assist the clinician in differentiation between isolated transversus abdominis contractions and TA contractions in conjunction with other abdominal musculature. In personal communications, Hodges, Richardson, and Jull have stated that it is extremely important for

clinicians to understand that a contraction of the TA in association with other musculature is not the intended goal of training. Rather, it is important that the TA be able to contract in isolation, apart from all other abdominal muscle contractions. Additionally, the presence of movement in the lumbar spine during testing or training which is what is assessed but the pressure biofeedback device, can immediately be interpreted as improper technique. This is concluded as the transversus has no role in active lumbar spine movement.

In my practice, I am fortunate to have a diagnostic ultrasound unit that is of immense help in determining the accuracy of isolated contractions. In my experience, as well as the experience of the researchers at the University of Queensland, there is currently no surefire way of determining isolated contraction of the TA unless one is properly trained in the palpation of such an event. We have determined many verbal cues that are effective in training patients to perform an isolated contraction, though only the use of ultrasound and palpation is effective in determining if these contractions are occurring properly and in isolation.

I would, therefore, strongly caution anyone who is using external pressure biofeedback devices with the assumption that they are accurately assessing isolated TA contraction. This is just not the case.

I would be happy to provide you with ultrasound images of individuals who are performing appropriate contractions according to these external devices and in which significant contraction of the internal oblique is visibly apparent. I would also welcome continued and ongoing discussions about this topic. At our facility, we are currently investigating the frequency of improper deep abdominal stabilizer contractions both with the use of the pressure biofeedback device and with certain verbal cues and positions. I bring these issues to your attention as clarification of proper training techniques for clinicians.

*David McCune*

*rebuttal by Ed Belding pg. 4*

**Shoulder**, continued from page 1

- c. Right hand supports patient's right elbow with elbow flexed.
- 3. Method
  - a. Medially rotate shoulder.
  - b. Flex shoulder to 90 degrees.
  - c. Variations include flexing shoulder to <90 and >90 degrees.
  - d. Horizontally adduct.
  - e. Posterior glide through long axis of humerus.
- 4. Positive response
  - a. Pain
  - b. Clunk/click/catch
  - c. Blocked motion with pain
  - d. Apprehension
  - e. Increased motion
  - f. Decreased motion with or without pain may indicate hypermobility rather than translatory instability. End feel will help discriminate.
  - g. If pain response can be lessened by caudal glide of humeral head, symptom may have been due to impingement.
- 5. Soft tissue restraints
  - a. Testing at 90 degrees flexion incriminates middle posterior capsule.
  - b. Testing below 90 degrees of flexion (i.e. 45) incriminates superior posterior capsule.
  - c. Testing above 90 degrees (i.e. 100-110) incriminates inferior posterior capsule and ligament.

**BICEPS TENDON TESTS****A. Biceps Tendon (long head) Tension Test**

(Fowler 1997, Fowler 1998)

1. Patient Position
  - a. Left sidelying backed up to edge of plinth
  - b. Right shoulder in extension and adduction with elbow extended.
2. Operator position
  - a. Standing behind patient
  - b. Stabilize superior border of scapula with left hand
  - c. Support upper extremity with right arm
3. Method
  - a. With glenohumeral joint in extension and adduction, apply axial force through shaft of humerus.
  - b. Variations include same test with GH joint in medial and lateral rotation
4. Positive response
  - a. Pain
    - i. Pain before resistance indicates inflammatory state.
    - ii. Resistance before pain indicates non-inflammatory state
5. Soft tissue restraints

- a. Stress test of biceps tendon from transverse ligament to insertion into labrum and superior glenoid tubercle with each structure receiving 50% of tendon. 60% inserts straight and posteriorly as far as 9:00 on the right. 30% inserts anteriorly.
- b. 0 degrees rotation incriminates superior insertion
- c. Medially rotated test incriminates posterior insertion
- d. Laterally rotated test incriminates anterior insertion

**B. Speed's test**

1. Soft tissue implicated.
  - a. Tests bicep tendon as it passes through intertubercular sulcus and transverse ligament (Fowler 1997)
2. Positive response
  - a. Pain with test implies tenosynovitis which is more common over 50 years of age. Lesions within the tendon are more common below 50 years of age (Fowler 1997)

**C. SLAP Lesion(Grade 1 and 2) Differential Diagnosis (superior labrum anterior to posterior)**

(Fowler1998)

1. To have a SLAP lesion you must have
  - a. Pain with glenohumeral extension and later rotation
  - b. Positive biceps tendon stress test (II. A.)
  - c. Though having a. and b. positive, does not conclusively indicate SLAP lesion
2. If only biceps stress test is positive with superior GH ligament negative, it implies problem in biceps tendon
3. SLAP lesion will tend to get click or catch with anterior/superior translatory instability test (I. A.)
4. Degenerative changes here will cause more noise as you move the shoulder
5. In a SLAP lesion beyond Grade 2, it is more obvious that serious pathology is present which requires surgical intervention

This article was adapted by Allan Horwitz 5/1999 from the lecture on the shoulder joint in the following references

**REFERENCES:**

- Fowler C: The Shoulder Girdle (course notes) 1997.  
Fowler C: The Shoulder Girdle (course notes) 1998.

## Rebuttal by Ed Belding:

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I appreciate David McCune's interest in my clinical pearl article and I think his comments were excellent. It would be difficult to criticize his comments considering his ability to clinically evaluate the transverse abdominis contraction with ultrasound (unfortunately, I do not have one available to me) as well as his communication and training with Hodges, Richardson and Jull.

In reality, I have been trying various approaches to TA training and lumbo-pelvic control since I wrote the article and before he wrote his comments. I would have to agree that I have had better clinical success using tactile and visualization training for isolation of transverse abdominis with initial cognitive "feed-forward" training. My goals clinically would be to train my patients to initiate a TA and multifidus (inner unit) contraction prior to using other stabilizing musculature and then try to make the timing and the contraction automatic. After patients have learned how to initiate an inner unit contraction and are able to hold it for at least 15 seconds, the biofeedback (BP cuff) does seem to be of benefit to control unwanted lumbopelvic movements when exercises progress to a level in which outer unit stabilization muscles (i.e., obliques, gluteals, latissimus, etc.) have to come in. I emphasize the cognitive contraction of a TA /inner unit just prior to outer unit contraction. This seems to be a natural progression toward functional exercise and normal movement, especially when gross lumbopelvic motion control is needed to protect overused tissues.

With all this said, it would appear that our biggest challenge in regard to transverse abdominis / inner unit training is not just how to isolate contraction, but how to most effectively bridge the gap between exercise specificity and authentic "automatic" functional integration of the inner unit contraction. Thanks again for your comments. Sincerely,

*Ed Belding PT, OCS, COMT, FAAOMPT*

## Summary of the Annual AAOMPT Conference 2000

The 6<sup>th</sup> annual conference of the American Academy of Orthopaedic Manual Physical Therapists was entitled "Excellence in 2000 and Beyond: Evidence, Outcomes and Orthopaedic Manual Physical Therapy". The location was Charlottesville, Virginia, a quaint historic town bursting with brilliant fall colors and crisp autumn breezes adding ambience to the late October weekend (October 20-22, 2000).

The Keynote speakers were both world-renowned: Gordon Waddell, DSC, MD, FRCS and Stefan Blomberg, MD, PhD. There were also 7 breakout sessions covering various topics such as: Research, Chronic Pain, Integrating Mobilization and Therapeutic Exercise, Evidence Based Practice, How People react to Back Pain, High Cervical Instability and Legislation re: Manipulation.

Dr. Waddell (pronounced with the accent on the first syllable rather than the 2<sup>nd</sup>) was the first speaker. He is a Scotsman and the author of The Back Pain Revolution. He gave an historical perspective on Back Pain from the ancient Egyptians to the present. He described the "Railway Spine" of the mid-1800's as the beginning of workers' compensation injuries. Prior to that, back pain was considered a disease. Treatment was "Therapeutic Rest". He referred to Low back pain as a "20<sup>th</sup> century healthcare disaster". His challenge to us, as healthcare practitioners in the New Millennium, when looking at "Nonspecific Back Pain", is that we must stop looking for disturbed anatomy. Rather than looking at physiology, we must look at Function. He defined "Specific Back Pain" as back pain caused by disease, rheumatics, tumors and disc prolapse or stenosis with definite root involvement. All other back pain was considered "Nonspecific".

The new approach for treatment of "Nonspecific Back Pain" is directed toward people rather than "the spine". Some of his clinical guidelines are as follows (for Acute onset of LBP):

1. Keep it simple, don't over-investigate
2. 4-6 weeks of aggressive therapy and Return to Function
3. Encourage return to work
4. Give patients advice to deal with *their* back pain *themselves*, recover quickly and *Move*
5. We get the best results if we see patients in the acute or sub-acute stage—should see some results in a few sessions to a few weeks. Be honest with your treatment results.
6. Must get them *Active*

He presented one of the Breakout Sessions on "How people react to Back Pain", which augmented his original speech. During this session he described many of the non-organic signs for which he is well-known. He emphasized that patients must have 3 of the 5 signs, not just 1 or 2. He also stated that these signs are only for Nonspecific Low Back Pain, not knees, necks or other regions of the body. We must not over-interpret or misinterpret these signs.

The other Keynote speaker was Dr. Blomberg from Stockholm, Sweden. He presented several research studies in which he had participated with other colleagues. The studies involved the use of Manual Therapy and Steroid Injections in the treatment of Low Back Pain (the experimental group). The control group utilized general exercise, massage, modalities, ergonomics and posture training. Overall, the experimental group utilized less treatment sessions and reported less sick leave (reduced by 88%), even after several months follow-up. There was also less drug consumption in the experimental group.

The typical treatment regime starts with treating the dysfunction first with manual therapy. Then when there is nothing left to treat manually, treatment of the irritable tissues with injections is commenced. He stated that there are many injection sites, but the 3 most common for Low Back Pain included:

1. Piriformis
2. Paracoccygeal Structures
3. S-I Joint

The injections included some wet and dry needling and then injection of the steroid.

The Conference was prefaced with 2 Pre-conference Courses:

1. **Diagnosis and Manual Therapy for Cervical Thoracic Junction and Thoracic Outlet Syndrome.** Instructor: Phil Sizer, Jr. Med, PT
2. **Translatorsic Manipulation of the Lumbar Spine: The Nordic Approach.** Instructor: Doug Creighton, MS, PT, OCS, FAAOMPT

One of our Faculty, Jim Meadows, BSC, PT, COMP, was involved in the Post-Conference Course entitled:

**Current Topics in Manual Therapy for Physical Therapy Educators.**

The other speakers at the course were Michael Rogers, PT, OCS, FAAOMPT; Bjorn Svendsen, DSC, FAAOMPT and Richard Erhard, PT, DC, FAAOMPT.

This was an overall excellent conference. It was not only enlightening to see how far we have come in the treatment of Low Back Pain, but inspirational to keep searching for the best treatment approach in the next millennium.

The 7<sup>th</sup> Annual American Academy Orthopaedic Manual Physical Therapists Conference is scheduled for October 19-21, 2001 in San Antonio, Texas. It would be a worth while experience to get more involved and attend this conference to keep striving for "Excellence in the New Millennium" For more information, contact :

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*Kathy Stupansky*  
PT, OCS, OMT, FAAOMPT

# Book Review

Robert Gunzburg, Marek Szpalski. *Whiplash Injuries. Current Concepts in Prevention, Diagnosis, and Treatment of the Cervical Whiplash Syndrome*. Lippincott Williams & Wilkins; 1998:333 pp., illus.

\$110-\$120

Gunzburg and Szpalski (Belgium) address the controversial topic of cervical whiplash syndrome or more recently referred to as whiplash associated disorders (WAD). The purpose of the book is to summarize current knowledge on WAD and provide valuable information to all professionals who may have to deal with any aspect of a person who has suffered a whiplash injury. The authors aim to take a global view in presenting current literature and research as it relates to anatomy, mechanics of an MVA, epidemiology, and diagnostic tools, pitfalls, and advances. The authors attempt to present efficient treatment modalities. In addition, the authors try to give accounts of the costs involved, legislative issues, impairment ratings and even preventative strategies in car design. The book strives to present information that a practitioner may use to inform patients objectively about all the potential consequences of their condition. This book aspires to uncover “state-of-the-art knowledge about a common and difficult condition that many practitioners are likely to encounter” (Gunzburg and Szpalski).

Gunzburg and Szpalski have tackled a huge project with this book. To date, the medical community has suffered from an incomplete knowledge base on WAD. This book sheds light on the ignorance and misconceptions that have impaired practitioners for years. For the most part, Gunzburg and Szpalski have accomplished what they set out to do.

The book includes 35 chapters by 68 contributing authors ranging from Physicians, Anatomists, Psychiatrists, Manual Medicine practitioners to epidemiologists and more. Panjabi presents cadaver studies and kinematics of the cervical spine. Rauschnig gives evidence from postmortem studies to suggest many injuries have been missed with plain x-rays and MRI. Meyer, Weber and colleagues suggest biomechanical thresholds for mechanical injuries. Benoist recounts the natural history of injuries from motor vehicle accidents. Freeman and Croft dispel errone-

ous conclusions of the Schrader study and Bogduk does the same of the Quebec Task Force study. Greenough attributes chronicity to an iatrogenic disorder stemming from the lack of recognition that these patients receive. Sullivan describes the adversarial legal system patients must negotiate. Radanov states that personality factors do not predict chronicity. Chronicity has more to do with lack of recognition, poor diagnosis and ineffective treatment. Grob, Dvorak and Donner suggest the need for special investigation such as zygapophysial joint blocks and disc stimulation in order to pinpoint the source of pain. In treatment, Nording advocates early mobilization, and Mainge recommends spinal manipulation. Both admit little data to support the efficacy of their treatments. van Akkerveeken and Veddrig indicate cognitive behavior therapy as the treatment of choice but also lack conclusive data to support such claims. Szpalski and Gunzburg discuss the lack of medication efficacy. Crock, Klara and Luitjes describe a variety of surgical options. They suggest that successful treatment lie not in the treatment of spinal cord injuries but in the treatment of neck pain. Bogduk demonstrates that zygapophysial joint blocks may be used as diagnostic tools and predicate complete relief of pain with percutaneous radio frequency neurotomy. Donner uses cervical fusion based on discography and Crock is successful at using provocation discography.

Stepping past treatment, Jakobsson and Wiklund introduce prevention in car and headrest design.

The overall flavor of this book suggests that patients with chronic pain may not be malingering. In this book, we begin to see evidence that the medical profession can and must dramatically improve the handling of patients with WAD. The book does a fantastic job of presenting an inclusive look at many aspects of WAD and seems to have used the authorities responsible for current day advances in this topic. From a Physical Therapist’s view, it would have been even more valuable to see some work presented on cervical stabilization exercise.

In summary, the book stands solid on the ground of anatomy, epidemiology and biomechanics. It challenges our notion and ability to diagnose using

traditional imaging. As many of us have suspected all along, there are reasons for the pain complaints we have been hearing from our patients for years. Authors such as Rauschnig are now giving us proof that current diagnostic procedures are falling short of discovering true pathology.

The weakness of this book lies in the treatments offered. One may question if this is a fair criticism as it is reflective of this industry more than it is the author's efforts. The fact is we as profession are a long way from "knowing" treatment. Although the book does not come out and say this, it is evident. Most all of the authors presenting information on treatment concluded that there was not enough data to conclusively implicate their treatment as effective and efficient. It is interesting to note the contradictions in the utilization of information obtained from the Quebec Task Force study in Bogduk's chapter Cervical Zygapophysial Joint Pain and Percutaneous Neurotomy: An Update of the Quebec Task Force Report on Whiplash-Associated Disorders and the utilization of Quebec Task Force study information in Van Akkerveeken's chapter on Chronic Symptoms after Whiplash: A Cognitive Behavioral Approach. Essentially Bogduk discounts the information on the grounds of a flawed research model and van Akkerveeken uses the information to assist him in drawing conclusions.

Although there are several contradictions in this book, the book is evidence that great effort is being placed on the topic of WAD. We can all expect (and hope) that the truth will emerge. In the mean time, this book should inspire us all to listen carefully to our patients and more importantly, educate ourselves on the many aspects of whiplash injuries. At a minimum, every physical therapist should read Rauschnig's chapter: Injuries of the Cervical Spine in Automobile Accidents. Rauschnig gives evidence that we cannot trust a negative x-ray or a negative MRI. Next, we should look at the treatment's we can offer in light of emerging evidence of pathology. Stabilization?? There is no doubt that the practitioner who is comfortable with the information contained in this book will have less anxiety over treating people with WAD. And although you will not have all of the answers you will undoubtedly have more to offer referral sources, insurance companies, the legal system and most importantly, your patients.

If you are treating patients with whiplash associated disorders get your hands on this book, keep it close and open it frequently.

*David Deppeler, PT, OCS, COMT,  
FAAOMPT  
NAIOMT Faculty  
12/2000*

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Our apologies to these  
2000 Certified Therapists  
not listed in our last newsletter:

Successful Completion of  
Level III Certification

Brian Macks	<u>State</u> MI
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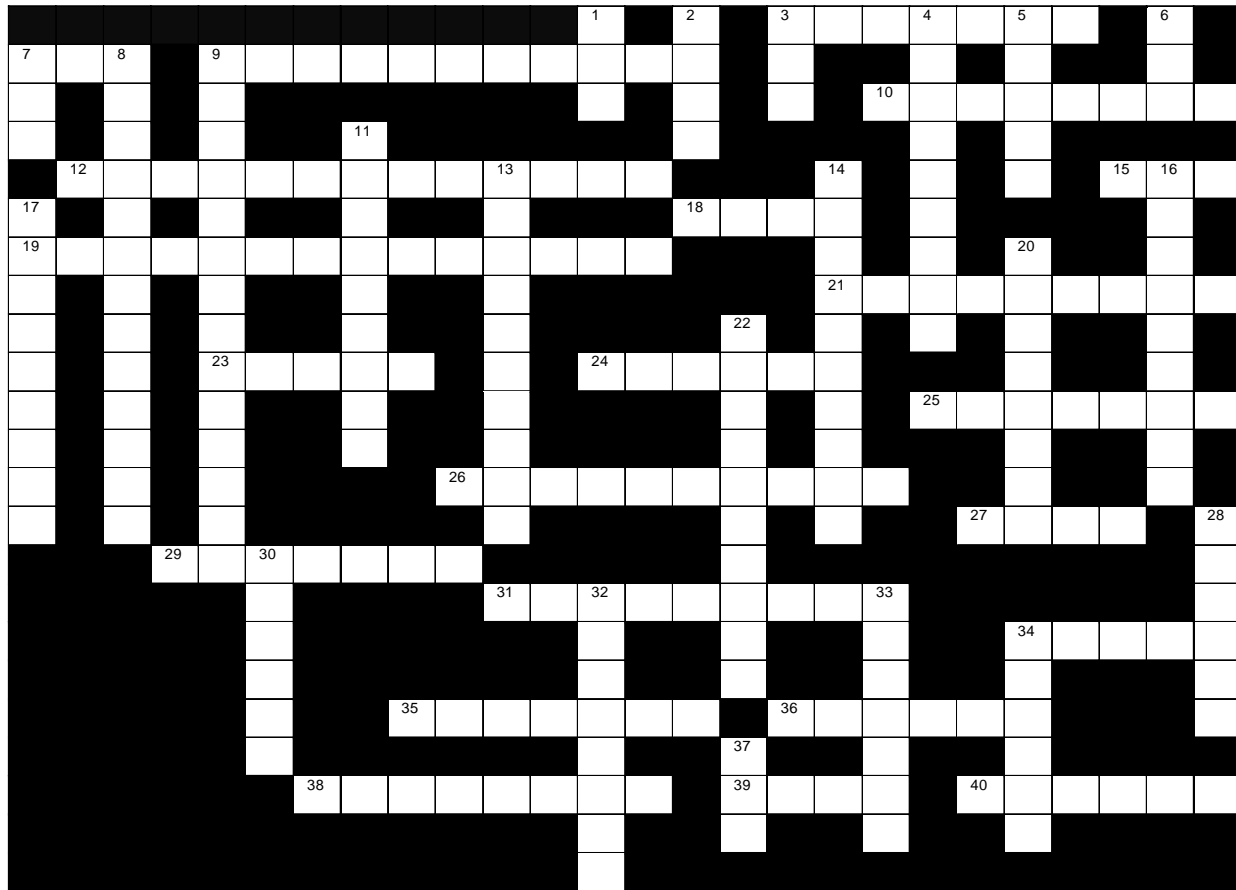
Successful Completion of  
Level II Exams

Todd Berger	OR
Jim Halfpenny	ID

Congratulations

# Crossword for Manual Therapists

by Jim Meadows, PT, MCPA, CAMT



## ACROSS

3. Nothing to do with an authors complaint
7. Number 6 takes this out
9. Facing the wrong way in the saddle gives you a view of this
10. Bone of time
12. Something has to take the heat
15. About half the time the moon does this
18. A genuine joint
19. Therapy that sets up a beat
21. Spur belonging to a famous Greek
23. A titanic bone
24. The bone used for horse riding
25. A sword in the chest
26. This blows
27. There are hundreds of these in a thousand
29. Don't do this to figures on your tax return
31. This is in part sympathetic
34. Lost eagles in Germany
35. Almost a cop but this hitches
36. An area with a partial ocean view
38. Part of the stem above the bridge
39. Required amount
40. This joint has a measurement preceding me

*clues on page 9*

## DOWN

1. Half of a balancing act
2. These are found in trees but usually under a different name
3. Found in your PT records and in your computer
4. Those going nowhere fast had best trudge on this
5. Abdominal stitches cause this
6. Found confused between heaven and hell
7. A long muscle shortened
8. Corner Jack would know about this
9. This may happen to bones partly in Sesame Street
11. A brief salute
13. This bone connected the foot to the leg in the old days
14. A good pounding
16. A kidnapping
17. This sucks
20. The other half of the balancing act
22. Don't cut this one
28. Has finish connotations
30. A holy bone
32. A good stretch
33. There are two of these in this would be lover's syndrome
34. Logically should have found eagles in Germany
37. Meniscus injury for example

*answers on page 11*

# Welcome to new Clinical Residency Instructors

## **PHIL PLANTE PT, MA, OCS, MTC, COMT, FAAOMPT**

Phil is an owner/partner of Action Potential, an outpatient orthopaedic manual therapy clinic in Colorado Springs, Colorado. He has been in PT practice for 9 years. After graduating from Rockhurst College, he earned certification in Manual Therapy through the Institute of Physical Therapy in 1995, and also with NAIOMT in 1996 and 1999. In 1997, Phil passed the American Board of PT Specialist, Orthopaedic Clinical Specialist Certification. He was accepted as a Fellow of AAOMPT in 1999.

## **KARL TURNER PT, OCS, COMT, FAAOMPT**

Phil is the manager of the Smokey Point Clinic of Cascade Rehabilitation Associates, in Arlington, Washington. He graduated from University of Vermont in 1981 with a BSC in Physical therapy. He earned certification in Manual Therapy with NAIOMT in 1994 and 1997. Karl passed the American Board of PT Specialist, Orthopaedic Clinical Specialist Certification and was accepted as a Fellow of AAOMPT in 2000.

### Hints & Clues for Crossword

#### ACROSS

3. This condition causes inflammation of the eye and joints
7. The movements of this are controlled by Cranial Nerves 3,4 and 6
9. Horse tail
10. Cranial bone
12. A sensory tract
15. Form of heat therapy
18. Large joint
19. An electrotherapy
21. Bone in the foot
23. Spinal bone
24. One of the smallest bones in the body
25. A process in the chest
26. Muscle of facial expression
27. Another electrotherapy
29. One of the oldest forms of manual therapy
31. Part of the nervous system
34. Positional deformity
35. A digit
36. Pertaining to the thorax
38. Part of the brain stem
39. A unit of treatment
40. Elbow

#### DOWN

1. Last part of a balance test
2. Branches
3. A measured observation
4. A walking aid
5. Part of the transverse abdominal muscle
6. A spiral structure
7. The long extensor for short
8. A component of Horner's syndrome
9. A disease of sesamoid bones
11. A method of heating tissues
13. Old name for talus
14. Manual technique used in chest PT
16. Move away from the midline
17. Muscle that divides the trunk
20. The first part of a balance test
22. Part of the central nervous system
28. Not ventral
30. Bone near the bottom of the spine
32. Mechanical or manual
33. Compresses, squeezes or crunches
34. Position that stress the medial collateral ligament
37. Knee problem for short



SUBJECT TO CHANGE 03/01/01

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Kathy Stupansky, PT, OCS, COMT, FAAOMPT

**2001 SCHEDULE**

**LEVEL I DIFFERENTIAL DIAGNOSIS--42 hrs**

Fremont, CA	Jan 19-21 & Mar 9-11	'01	Keyser/Temes
Madison, WI	Mar 2-4 & Mar 16-18	'01	Meadows
Warren, MI	Mar 30-Apr 1 & Apr 4-6	'01	Meadows
Puyallup, WA	Mar 16-18 & Apr 27-29	'01	Temes
Portland, OR	Apr 20-22 & May 18-20	'01	Hoke
Berrien Springs, MI	May 20-25	'01	Pettman
Berrien Springs, MI	Oct 21-26	'01	Pettman
Seattle, WA	Sep 22-24 & Nov 30-Dec 2	'01	Pettman
Portland, OR	Nov 2-4 & Dec 7-9	'01	Temes
Denver, CO	Fall	'01	Stupansky

**LEVEL II - INTERMEDIATE UPPER QUADRANT--42 hrs**

Seattle, WA	Mar 2-4 & Apr 6-8	'01	Hoke/Dobbs
Fremont, CA	May 4-6 & June 8-10	'01	Temes/Keyser
Portland, OR	Sept 7-9 & Oct 5-7	'01	Keyser
Berrien Springs, MI	Oct 14-19	'01	Pettman
Denver, CO	Nov 1-6	'01	Molloy

**LEVEL II - INTERMEDIATE LOWER QUADRANT--42 hrs**

Portland, OR	Mar 30-Apr 1 & June 8-10	'01	Temes
Denver, CO	Apr 5-10	'01	Stupansky
Berrien Springs, MI	May 13-18	'01	Pettman
Fremont, CA	Aug 17-19 & Sep 14-16	'01	Keyser/Temes
Eugene, OR	Sep 28-30 & Oct 26-28	'01	Hoke/Temes
Seattle, WA	Oct 12-14 & Nov 16-18	'01	Hoke/Dobbs
Warren, MI	Nov 2-4 & Nov 9-11	'01	Meadows

**LEVEL III -ADVANCED UPPER QUADRANT--42 hrs**

New York, NY	Mar 8-10 & May 18-20	'01	Roy
Portland, OR	Mar 2-4 & Apr 6-8	'01	Fowler
Berrien Springs, MI	Apr 1-6	'01	Pettman
Louisville, KY	Nov 9-11 & Dec 7-9	'01	Fowler
Seattle, WA	Oct 5-7 & Nov 2-4	'01	Fowler

**LEVEL III - ADVANCED LOWER QUADRANT--42 hrs**

Seattle, WA	Mar 23-25 & Apr 27-29	'01	Fowler
Salt Lake City, UT	Apr 20-22 & Jun 1-3	'01	Meadows
Denver, CO	Apr 19-24	'01	Stoot/Molloy
Portland, OR	Sep 21-23 & Oct 19-21	'01	Fowler
Fremont, CA	Sep 7-9 & Nov 9-11	'01	Hoke
Berrien Springs, MI	Sep 9-14	'01	Pettman

**LEVEL IV- ADVANCED TECHNIQUES\*\***

Berrien Springs, MI	Sept 16-21	'01	Pettman
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**\*\*Prerequisite: NAIOMT CMPT (or equivalent)**

**SPECIALTY COURSES**

Portland, OR	Manipulation Review	Jun 02-03	'01	Lee
Warren, MI	Spinal Instability	Oct 27-28	'01	Hoke/O'Grady
Salt Lake City, UT	Level I Review	Nov 30-Dec 1	'01	Hoke

**EXAM SCHEDULE**

LEVEL II & III WRITTEN & CASE STUDIES	LEVEL III & IV PRACTICAL
Mar 3 '01	Apr 2 '01 Warren, MI
Oct 6 '01	Jun 22 '01 Denver, CO

Application deadline 1 mo prior      Application deadline 2 mo prior

**FOR INFORMATION**  
**CALL EXAM COORDINATOR AT (541) 344-4777**

**FOR GENERAL INFORMATION CALL:**  
**800/706-5550      www.naiomt.com**

**For registration & specific course information call the  
course coordinator for the specific location**

LOCATION	COURSE COORDINATOR		
Albertain, NY	Jeff Ellis	631/758-5749	CTILPI@aol.com
Albuquerque, NM	Valerie Gove	505/296-9521	vg2ski@aol.com
Berrien Springs MI & Dayton OH	Kathy Berglund	800/827-2878	kaberglund@surfpure.com
Dallas, TX & Denver, CO	Polly Davis	303/757-1554	DenverPTIS@aol.com
Eugene, OR	Mary Chavin	541/349-1172	mschavin@home.com
Fremont, CA	Rod Silveira	510/792-3555	
Ithaca, NY	Tim Ainslie	607/257-5009	timainslie@aol.com
Knoxville, TN	Jocelyn Aikens	865/687-3807	jaikens@thetherapycenter.net
Lake Charles, LA & Lebanon, NH	Sharon Saltzman	318/494-7546	imn2pt@gateway.net
Waterboro, ME	Ann Marie Schmidt	603/863-7800	cs@turbont.net
Louisville, KY	Gwen Parrott	502/493-0088	gwen@worksense.com
Madison, WI	Ed Maher	608/831-2070	emaher@meriter.com
Mukwonago, WI	Joann Jessen	262/363-1916	
New York, NY	Liz Henry	212/541-8450	
Phoenix, A	Jeff Abernathy	602/375-1155	jeffnstef@msn.com
Portland, OR	Anna Bond	503/844-8769	kbond97124@aol.com
Puyallup, WA	Todd Bate	253/848-6661x2065	batetod@goodsamhealth.org
Salt Lake City, UT	Barbara Fink	801/581-7505	barbara.fink@hsc.utah.edu
Seattle, WA	Kristen Ballenger	206/623-4570	kristenb@taiweb.com
Spokane, WA	Gale Anderson	509/926-5367	ptgale@aol.com
Springfield, MO	Mark Huslig	417/888-7981	
Warren, MI	Brian Macks	810/726-6400	brianmacks@hotmail.com

**Supervised Clinical Placements**

Available from most faculty by request

Please contact NAIOMT directly

Warren, MI	Aug 6-31, 2001	Dallas, TX	Nov 26-30, 2001; Meadows
	Days and times negotiable	Contact Michael Lucido	214 526-2690
Contact Brian Macks	810 726-6400	mlucido@matrix-rehab.com	

\*Upper and Lower Quadrant courses are non-sequential in Levels II & III

Videos available for sale for most Levels  
Contact Video Coordinator at  
541 344-4777



*Email Addresses still needed!*

*Please send us your email address  
so that we can  
add it to our student database.*

[www.naiomt.com](http://www.naiomt.com)

*Thanks to all those who have sent theirs!*

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