

clinical conduit

by Ed Mulligan, PT, DPT, OCS, SCS, ATC

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Upcoming Courses for 2014

Advanced Manual Therapy Series
Clinical Orthopedic Rehab Education

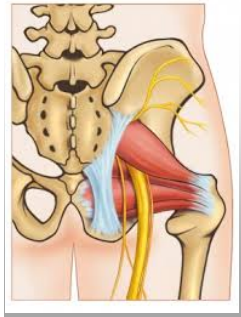
2014 Dates - Plano, TX

- Part 1: Cervicothoracic/TMD- Apr 12-13
- Part 2: The Upper Quarter - May 31-Jun1
- Part 3: Lumbopelvic Spine-Jul 12-13
- Part 4: Hip/Knee-Aug 16-17
- Part 5: The Lower Quarter-Oct 11-12
(Leg, Ankle, and Foot)

A detailed description of the course content and learning objectives is available at our web site — www.continuing-ed.cc

Single course attendance is allowed on a space-available basis

Diagnostic Tests for Sciatic Nerve Entrapment



Pain in the posterolateral area of the hip that radiates down the back of the thigh is a common complaint encountered in orthopedic physical therapy. The origin of this pain can emanate from multiple regions (lumbosacral spine, sacroiliac joint, or intra or extra-articular hip area) and represent a variety of patho-anatomical sources. One of the most common reasons given for this pain complaint is entrapment or compression of the sciatic nerve around the deep hip rota-

tors (and piriformis in particular).

A variety of clinical maneuvers were evaluated in a recent study to identify their accuracy in isolating sciatic nerve entrapment in the deep gluteal area as the cause of the complaint. The reference standard for comparison was the presence of the nerve's entrapment under direct visualization during endoscopic surgery.

This retrospective study used 33 subjects (76% female) with a mean age of 43 years old. All the subjects had failed conservative management strategies to reduce their symptomatic complaint and had complete relief of symptoms with surgical decompression of the nerve (if, in fact, the nerve was bound by musculotendinous or fibrous scar tissue deep in the hip).

Consequently, we knew post-operatively that 23 of the 33 hips actually had sciatica secondary to

nerve entrapment. The artificially high prevalence (70%) of the condition unique to this study has dramatic implications in how I'll use the calculated likelihood ratio's ability to rule the source of sciatica in or out. Because of the high prevalence the study suggests (selection bias) the combination of two tests will erroneously rule out the condition about 20% of the time and incorrectly rule it in 10% of the time. In reality, (based on an actual prevalence of around 15%) these tests probably have many more false positives than false negatives.



The next page describes the three tests used in this study and their individual and combined diagnostic accuracies.

- continued on page 2

The Value of Arthroscopic Meniscectomy in Patients with Degenerative Tears with Minimal Osteoarthritis

For the third issue in a row I'm devoting space in the newsletter to discussing new research on arthroscopic knee surgery. I'm not fixated on this issue but there has definitely been some groundbreaking (and controversial) recent news regarding this "tried and true" staple of surgical management for knee pathologies. Some of you may have seen the recent article published ahead of print in the *New England Journal of Medicine* at the end of 2013. The title of the article is "Arthroscopic Partial Meniscectomy versus Sham Surgery for a Degenerative Meniscal Tear" and was provided by a Finnish research cohort that goes by the acronym of FIDELITY. The lead author was Raine Sihvonen, MD. This article has gained a lot of public notoriety because of its high profile and strong methodological design.

This study was conducted over a 6 year period with 146 patients from five clinics. Only patients who actually had meniscal tears at the time of the surgery were included. These subjects had agreed prior to surgery to the possibility of being randomized to the group in which nothing would actually be done to the identified meniscal pathology - i.e. - a "sham" intervention in which only saline lavage was conducted. Surprisingly, only 12% of those eligible for inclusion declined participation. The unique perspective ...



- continued on page 3

Sciatic Nerve Entrapment Testing continued ...

REFERENCE

Martin HD, et al. Diagnostic accuracy of clinical test for sciatic nerve entrapment in the gluteal region. *Knee Surg Sports Traumatol Arthrosc.* 2013 Nov 12. [Epub ahead of print.

	Straight Leg Raise Test	Active Piriformis Stretch (sidelying clam shell)	Passive Piriformis Stretch (sciatic nerve tension in sitting)	Combined Piriformis Tests
Sensitivity	15	78	52	91
Specificity	95	80	90	80
+ LR	3.2	3.9	5.2	4.6
- LR	0.9	0.27	0.53	0.11
Diagnostic Odds Ratio	3.6	14.4	9.8	42
Number Needed to Diagnose	10	2.6	1.9	1.4

Definitions:

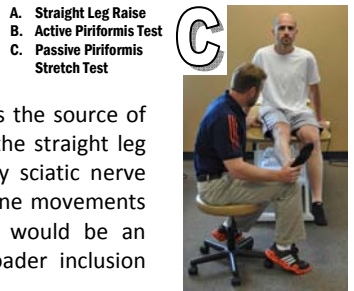
Sensitivity: % of true positives (rule out); **Specificity:** % of true negatives (rule in)

Likelihood Ratio: the affirmative or dissentive probability shift

Diagnostic Odds: ratio of the odds being positive in those that do and don't have the problem

Number Needed to Diagnose: the number of subjects tested in order to be "right"

The results of this study seem to implicate the piriformis muscle as the source of sciatic nerve pain in this population. The sagittal plane stress of the straight leg raise could not rule out the adverse neural function produced by sciatic nerve entrapment; however; when introducing frontal and transverse plane movements the value of recognizing this entrapment was enhanced. This would be an interesting study to repeat in a prospective manner with a broader inclusion criteria for all types of posteriorly mediated neural pain complaints.



A. Straight Leg Raise
B. Active Piriformis Test
C. Passive Piriformis Stretch Test



Question of the Month

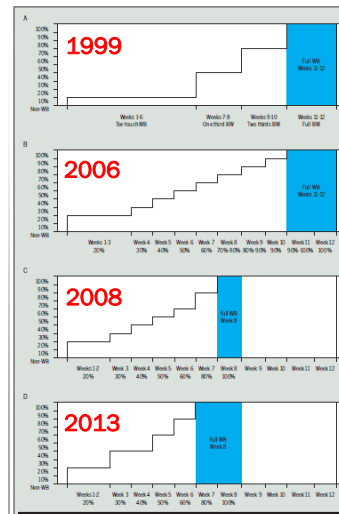
Autologous Chondrocyte Implant Weight-Bearing Protocols

How soon do you allow weight-bearing following an ACI?

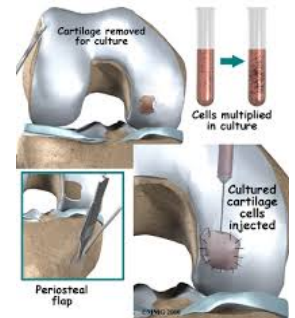


Like many perspectives in rehabilitation it seems that the answer to this question has been changing over the last decade based on clinical experience and new information from the literature. It has always been hard to limit weight-bearing in these patients because they don't "hurt" that badly. Human nature is to experiment with increased stress in the absence of pain-limiting discomfort. The rationale behind a very conservative weight bearing progression has been rooted in concerns about cellular maturation and remodeling. We know that cyclic compressive loading can enhance chondrogenesis and matrix synthesis but unsure of the appropriate duration and frequency of this stress to produce this effect.

Look at the chart below. Over the past 15 years we've seen a gradual acceleration in the weight-bearing progression following this surgical procedure without any negative impact on graft healing or clinical outcomes.



from: Edwards PK, et al. *J Orthop Sports Phys Ther.* 2014. 44:102-119.



Notice that the evidence-based protocols are now allowing full weight-bearing at 8 weeks (one month earlier than 15 years ago) with a much more aggressive progression during the first 6 weeks. This is good news for our patients as we may be able to accelerate the post-op rehabilitation to normalize gait and return them to low-impact ADLs much sooner than previously thought. Further long-term studies will help verify this perspective

Questions you would like addressed in a future issue can be sent to mulliganpt@tx.rr.com

References

Sihvonen R, et al Arthroscopic partial meniscectomy versus sham surgery for a degenerative meniscal tear. ; Finnish Degenerative Meniscal Lesion Study (FIDELITY) Group. *N Engl J Med.* 2013 Dec 26;369(26):2515-24



"Featured Internet Link"

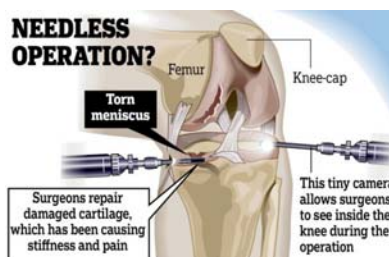


www.nextwavept.com

I don't remember how I ran across this web site but it has some valuable content. It is actually the blog and reflections of three DPT students from the University of Wisconsin. In addition to reflecting on their learning experiences they provide a number of resources and links that would be helpful to any licensed clinician. One tab has a weekly video and explanation of a unique therapeutic exercise technique and another tab has a number of files available for download. These include evaluation forms, clinical practice guidelines, and "cheat" sheets on topics such as radiology, lab values, and medications.

IMO - worth checking out.

"Fake" Knee Surgery continued -



to this study is that all subjects had either no or minimal degenerative changes in their knee.

Previous studies have told us that arthroscopy is of limited value for the arthritic knee but indicated for symptomatic meniscal tears. This study challenged this conventional wisdom to see if "degenerative" (as opposed to acute, traumatic tear) would do better than a surgical placebo group.

The subjects were divided into two groups based on age (35-50 and 50-65), sex, and arthritic status (none or minimal). Crossover to the other group was allowed but not until 6 months after the first surgery and only 7% of the subjects chose this option. The inclusion and exclusion criteria were detailed in the article but sufficient and appropriate to answer the clinical question. Post-op management was the same in both groups with limited medications and simple post-op rehabilitation exercises.

The primary outcome variables were pain and self-report of function. The authors also surveyed a variety of perspectives from the subjects at 12 months. These questions included whether or not their knee was better?, were they satisfied with their status? would they undergo the same procedure again? and, did they think they knew whether or not they had the "real" surgery? Surprisingly, there was no difference in opinion between the two groups and both groups had less than a 50% chance of guessing the group to which they were assigned.

Ultimately, (at 12 months), there were no differences in pain or function between groups - though both groups improved. It will be interesting to see how these results are interpreted by the arthroscopist community. Will clinical practice remain the same because it is hard to persuade surgeons from familiar, albeit misguided procedures? - that old idea of confusing what we believe with what we know. Will the surgeons (rightfully) point out that degenerative menisci tears in a non-arthritic knee are essentially non-existent (as evidenced by the fact it took five clinic six years to populate this study)? At the very least this study continues to support the notion that rehabilitation must fail prior to considering surgical intervention.

It is important to note that this study does not say putting in a scope does not help. It did. I just didn't matter if the actual meniscal pathology was trimmed back to a stable rim. I'm wondering if there is any debridement procedure that will help these patients or should physical therapy and activity modification be the primary mode of management? Stay tuned.

Sports Physical Therapy Residency



The Department of Physical at UT Southwestern's School of Health Professions is offering a 15-month residency-based training program that will begin this August. This new program will augment our existing orthopedic and neurological residency programs. A residency is defined as a planned program of post entry-level clinical and didactic education designed to advance a clinician's skill and knowledge in the delivery of unique aspect of physical therapy. The resident will provide patient care in our faculty's sports medicine practice while working with a designated mentor and assigned to event coverage with professional, collegiate, and high school athletes. The curriculum is taught by clinical experts with advanced credentials and residency experience.

During the program the resident will have experienced the following opportunities:

- Field and Venue coverage for a variety of athletic competitions including professional, collegiate, and high school settings
- Flex time to participate in research activities suitable for platform presentations or peer-reviewed publications
- Participation in monthly sports medicine Imaging and musculoskeletal examination conferences provided by the University's orthopedic surgery department
- Attendance at weekly Brown Bag journal clubs and distinguished lectureship presentations
- Assist with teaching sports physical therapy elective in accredited DPT program
- Participation in certified strength and conditioning specialist examination prep course
- Opportunity to regularly participate in orthopedic surgery department grand rounds
- Surgical observations with sports fellowship trained surgeons and clinical shadowing with primary care sports medicine physicians

The program consist of 200 hours of educational content (approximately 50% of which will be through directed independent learning), over 200 hours of field or venue coverage, a minimum of 150 hours of direct collaborative learning with a supervising mentor, and at least 1400 hours of direct patient care. The program is seeking accreditation by the American Board of Physical Therapy Board's Committee on Residency and Fellowship. UT Southwestern is already a credentialed site for both orthopedic and neurological residencies.

The selected residents will be offered a 15-month employment contract with the University as a Clinical Affiliate. The Resident maintains a 70% patient load inclusive of time reserved for collaborative care with their mentor. At the completion of the residency the resident will be fully prepared and qualified to sit for the American Board of Physical Therapy Specialty's Sports Clinical Specialist certification (SCS) examination. Applicants should have experience in an ortho/sports setting, licensure and board eligibility to practice physical therapy in the state of Texas, and emergency responder or ATC certification. The salary for this position will be commensurate with the applicant's qualifications and experience. For more information please contact Ed Mulligan at 214-648- 1553 or email at ed.mulligan@utsouthwestern.edu.

Application deadline for sports residency is March 17, 2014



Previous issues are archived at
www.continuing-ed.cc/newsletter.htm



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2014

Clinical Orthopedic Residency Education Series: An Advanced Manual Therapy Education Track



These courses are designed to provide a comprehensive overview of orthopedic physical therapy (from head to toe) based on the APTA's definition of advanced specialty practice. We've had a number of clinicians from the community take the series over the past 4 years and received excellent feedback on the content and format. In fact, we've had over 20 clinicians from our first three classes pass the orthopedic specialty (OCS) exam. We anticipate another 10-12 from the 2013 class to be sitting for the exam in March. If you'd like a mechanism by which to prepare for the exam or would simply benefit from advanced coursework with expert colleagues, we hope you'll consider joining us this year. These courses are taught by the orthopedic faculty at UT Southwestern. The 2014 series will begin again in April. The course content includes examination and intervention strategies for the cervicothoracic spine, upper quadrant (shoulder, elbow, hand), lumbopelvic spine, and lower quarter (hip, knee, ankle/foot). All of the material is based on current evidence with over 50% of the on-site course work devoted to lab demonstration and practice. For more information on the 2014 advanced clinical orthopedic education series please visit our web site at www.continuing-ed.cc/residencycourse.htm. Let us know if you'd like us to send you a brochure. The courses are designed as a series but attendance at singular courses is allowed on a space available basis.



Value of Soft Tissue Mobilization in Managing Ankle Sprains



I have always admitted my bias as a musculoskeletal physical therapist in that I pay more attention to "joint" than "soft-tissue" dysfunction. I suspect this perspective is rooted in my aversion to providing soft tissue mobilizations. Heaven forbid my services would be confused with that of a masseuse ☺. That said, common sense suggests that most injuries have multiple sources of involvement and the best of therapists will look for all joint, connective tissue, and neural contributions to the problem. A good example of this perspective was illustrated in an article last fall regarding the management of acute inversion ankle sprains. This was a randomized controlled trial that evaluated the additive value of "myofascial therapy" to a program of manual therapy and exercise. This was a strong study design with no drop-outs. It shouldn't surprise me

that outcomes were enhanced (pain, tenderness, mobility, and self-report function) by the addition of simple, non-instrumented soft tissue techniques to the fibularis and triceps surae muscle groups. These simple interventions included pressure-release techniques to the gastroc, static stroking over the fibularis, and cross-hand effleurage to the entire calf.

The article does not suggest that other intervention strategies are not needed; in fact, joint mobilization, manipulation, and therapeutic exercise were all implemented and supervised over a 4-week period. The study simply reminded me that the trauma of an ankle sprain could certainly cause dysfunction in the muscles that are designed to provide dynamic support and that a little attention to these tissues not only helps with outcomes but are often perceived as "enjoyable" by the patient.

If you'd like a good review on management strategies for lateral ankle instability you may enjoy our TPTA approved written home study that covers this topic. This self-study is approved by the TPTA and can be accessed free of charge. A post-test for CEU credit is available at <http://www.continuing-ed.cc/homestudy.htm> for a reasonable fee.



Home Studies Now Available

Study and learn at your own pace at home!

Medical Screening for the PT	.3 CEUs
Knee Osteoarthritis	.2 CEUs
Pharmacology for the PT	.2 CEUs
Radiology for the PT	.3 CEUs
Goniometry 101	.2 CEUs
Foot-Ankle Anatomy	.3 CEUs
Achilles Tendinopathy	.2 CEUs
Lateral Ankle Instability	.2 CEUs
Plantar Fasciitis	.2 CEUs
Knee Meniscal Injuries	.2 CEUs
Orthopedic Hip Injuries	.2 CEUs
Principles of Joint Mobilization	.2 CEUs
Functional Anatomy of the Shoulder	.3 CEUs
Scapular Significance: Ortho Perspective	.2 CEUs
Proximal Humerus Fracture Rehab	.2 CEUs
Subacromial Impingement Syndrome	.2 CEUs
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