2007 Vol. 16 No 1

SCIENTIFIC

PHYSICAL THERAPY

The Use of Taping to Facilitate Stability or to Change Dysfunctional Mechanics about a Joint: An Intensive Review of the Literature

By
Karen Dubrow, DPT

Abstract

Purpose

The primary purpose of this study was to determine the extent to which existing research is sufficiently sound methodologically to validate the treatment effectiveness of selected joint taping techniques. A secondary but related purpose was to determine the extent to which the conclusions validly represent the findings proving the mechanisms by which taping is effective.

Methodology

The research design employed in this study was an inductive analysis in which the researcher reviewed the methodologies of selected empirical studies that addressed joint taping, but which reported either inconclusive or contradictory findings. Contents of instrument used as the basis of the review was derived primarily an article on the elements of research in physical therapy.

Sources of data were articles from four professional journals, identified through a computerized literature search of the Medline data base, among others. Reports of experimental and quasi-experimental studies were the kinds of data reviewed.

The data analysis technique involved two parts: (1) asking each question contained in the review instrument of each study selected for inclusion; noting if information pertaining to the question appeared in each article, noting that the presence/absence of the information; if the information was present in the articles, then determining if it met the criterion contained in the question; and (2) determining which of the studies, if any, met the criteria set forth in the instrument.

Findings

Of the seven research reports chosen for this intensive literature review, three were found to be stronger methodologically than the other four. Those studies which were deemed to be stronger had several commonalities. They possessed well defined purposes, inferred (if not directly stated) hypotheses, solid research designs, excellent instrumentation and objective data gathering procedures, and appropriate statistical analyses.

Conclusions

While none of the research reports reviewed was perfect, still it was clear from the analysis that some were stronger than others and thus their findings were more worthy of confidence. Recommendations for further research focused on incorporating the strengths of each of the studies into future research efforts, plus larger sample sizes, true blinding, true randomization, and true control groups, measurements that achieve standard reproducible movements, and matching treatment conditions to activities of daily living for each subject, among others.

Static Stretching versus Active Range of Motion of the Triceps Surae: Effect on Ankle Dorsiflexion Range of Motion

By

Catherine M. Doll, DPT

Abstract

Purpose

The purpose of this study was to determine whether static stretching or active range of motion exercise of the triceps surae was more effective in improving ankle dorsiflexion range of motion in normal subjects.

Methodology

Two research designs were employed in this study: (1) a single blind one factor, one sample experimental design with repeated measures, and (2) a single blind one factor, two sample experimental design with repeated measures. The repeated measure was the dorsiflexion range of motion.

Subjects were selected for inclusion on the basis of their general health, the absence of any current pathological or dysfunctional condition of the ankle joint and surrounding tissue, and the absence of recent injury to the ankle.

Two data analysis techniques were chosen: (1) the paired differences t-test was employed to determine whether observed differences in pre- and post-treatment dorsiflexion range of motion measures were statistically significant; and (2) the two sample independent t-test was used to determine whether differences in mean changes in dorsiflexion range of motion between the two groups was statistically significant.

Findings

Both the static stretching and active range of motion treatment groups showed statistically significant improvement between pre- and post- treatment measurements. The static stretching group improved to a statistically significant extent over the active range of motion group.

www.primalpictures.com

Interactive Foot and Ankle 2 © 2000 Primal Pictures Ltd.

Improve your treatment outcome

- ✓ Do any of your patients complain of stiffness in the morning?
- ✓ Do you have patients with degenerative joint disease?
- ✓ Would your patients like to prevent joint degeneration?
- ✓ Do you have patients who complain of muscle cramps?
- ✓ Do you have patients with decreased bone density?
- ✓ Do you treat patients who are recovering from a fracture?
- ✓ Would your patients like to prevent osteoporosis?
- ✓ Would you like to support collagen formation in your patients?

If you answered yes to any of these questions, introduce your patients to the BMJ formula. Both you and your patients will be glad you did.

The BMJ is a unique formula based on scientific studies providing important support for the tissue you treat:

bone, cartilage, disk, ligaments and tendons, as well as, neuromuscular function.

The BMJ contains calcium, magnesium, zinc, copper and manganese, vitamin D, vitamin B_6 and glucoseamine sulfate.

The minerals are supplied as patented amino acid chelates for greater absorption.

We will provide you brochures with a list of scientific references. **BMJ, the ultimate tissue support for orthopedic patients.** Small effort, big benefits, supporting your treatments.

You can order for your patients [or for yourself] or have your patients order directly by calling 800-883-1252.
Visit our web site at www.TissueRecovery.com.

Conclusions

The current study determined that both static stretching and active range of motion were effective in improving ankle dorsiflexion range of motion, and, although the statistical differences between the two groups were significant, they were also marginal. In light of these results, the questionable physiological effects of static stretching, and the theoretical benefits of active range of motion, one may surmise that active range of motion is the technique of choice in the long term.

The Immediate Effects of Passive Stretching versus Concentric/Eccentric Exercise in the Outer Range of Motion for Increasing Range of Motion and Improving Coordination

By

Eric E. Douglass, DPT

Abstract

Purpose

The purpose of the study was to determine whether passive stretching or concentric/eccentric exercise in the outer range of motion would be more effective in increasing range of motion and improving coordination.

Changes in active knee extension were used as the criterion for measuring relative changes in range of motion, while relative changes in coordination were measured by changes in single limb standing.

Methodology

The research design utilized in this study was a randomized, single-blinded, multigroup (with control group) experimental design with repeated measures.

Subjects were sixty healthy volunteers, 22 males and 38 females, who exhibited at least twenty degrees less than full knee extension and who had no impediments to range of motion or coordination that might become confounding variables

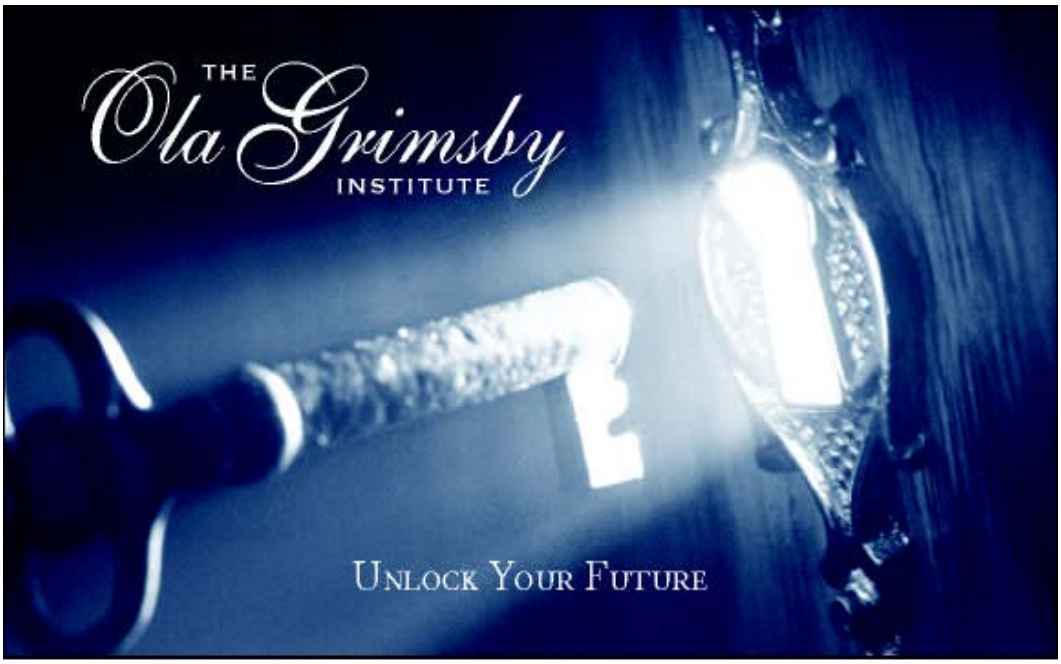
The data analysis technique employed to test both of the range of motion and coordination hypotheses was a two way analysis of variance (ANOVA) that utilized a 3 X 2 table (three groups and two treatments). T-tests for independent groups were computed to determine which of the treatments produced statistically significant for the three groups when compared with each other.

Findings

It was found that the mean changes in range of motion scores on the active knee extension test were statistically significant for concentric/eccentric exercise group when compared with the control group. It was also found that changes in coordination scores on the single limb standing test were not statistically significant for the three groups when compared with each other.

Conclusions

Conclusions involving comparisons between the findings of this study and those of other studies were not possible because of the lack of literature related to the hypotheses tested in this study, thus recommendations for further research pertain to replications of the current study to establish an evidence baseline, and extending this study both in terms of length of treatment and in terms of alternative measures for improving range of motion and coordination.



The Ola Grimsby Institute proudly introduces the world's first Ph.D. Program in Orthopedic Manual Therapy!

- Transitional Ph.D. degrees for current and past OGI students at all levels of study
- 3-year Ph.D. program for new students
- Ph.D. programs to begin January 2008

For full details, come join us at The 15th Annual Ola Grimsby Institute Competency Forum in San Diego, CA on August 18-19, 2007

WWW.OLAGRIMSBY.COM OR 800.646.6128

Inter-Reliability in Correct Tissue Differential Diagnosis after Viewing a Videotape of the Ola Grimsby Institute Evaluation Procedures for a Patient with Shoulder Pathology

By

Julie A. Danielson, DPT

Abstract

Purpose

The purpose of this study was to determine the ability of three groups of physical therapists who had been or were being trained in an Ola Grimsby Institute manual therapy residency program to correctly diagnose a shoulder pathology following the OGI evaluation procedures for conducting tissue differential diagnosis, after viewing a videotape evaluation.

Methodology

For the purpose of this study a descriptive research design was employed to test the hypotheses. Subjects viewed a videotape of an OGI manual therapist performing a shoulder evaluation of a real patient with a supraspinatus tendonitis pathology. The therapist followed OGI evaluation procedures and announced the findings of each test that he performed but not his diagnosis. Subjects then attempted to select the correct diagnosis as portrayed in the videotape from eight available choices.

Subjects selected for inclusion in the study were volunteers who were either second year students in the Part I residency program, graduates of the Part I residency program, or graduates of the Part II residency program.

A one-tailed Z test was used to determine the degree of agreement between the presenting diagnosis and the therapists' selection of diagnostic category within each of the groups.

Findings

In order for the degree of agreement within groups to be considered statistically significant, it needed to exceed predetermined percentages that could be expected by chance. None of the three groups exceeded the predetermined percentages.

In order to determine if the tissue differential diagnosis portrayed in the videotape was a valid representation of the process that should lead an OGI trained manual therapist to the diagnosis of supraspinatus tendonitis, the researcher obtained diagnoses from a large portion of the OGI Board of Examiners and Part I instructors. Although the degree of agreement between these subjects was higher, it did not achieve statistically significance.

Conclusions

Because there were not articles in the literature that addressed the purpose of this study specially, a comparison of current and previous findings could not be made. However, the validity of the videotaped differential tissue diagnosis may have created the following two points of confusion: (1) whether a supraspinatus tendonitis pathology can exist without the resisted abduction tests provoking pain in all three positions; and (2) whether sufficient information was provided so subjects could distinguish between the diagnoses of supraspinatus tendonitis and chronic subdeltoid bursitis.

Recommendations for further research included clarifying the difference in diagnoses between supraspinatus tendonitis and chronic subdeltoid bursitis, selecting a patient who presents the clinical features of the desired diagnosis only, and validate the presentation prior to distribution of the videotape, among others.

Interactive Shoulder © 2000 Primal Pictures Ltd.

www.primalpictures.com

Chiropractic Board questions "NASA medical breakthrough" advertising claims

By

Didrik Sopler, Ph.D., L.Ac.

A press release was issued by the Oregon Board of Chiropractic Examiners on November 17, 2006 questioning advertising claims promoting the use of spinal decompression devices stating that it solves 86 percent of back pain. The advertising material stated that the claims was based upon information that NASA found the anti-gravity state of space travel to relieve the back pain of astronauts.

The Oregon Board of Chiropractic Examiners stated that information obtained by the board casts doubt on the validity of these advertising claims. They refer to several papers. One is a study published in Psychosomatic Medicine in 2001 were if it is stated that "Back Pain is one of the most frequently occurring medical problems during space flight. It has been reported by 68 percent of astronauts." Another article in the same journal also from 2001 states that "astronauts grow taller in space, and stretching of the spinal nerve roots can lead to back pain."

An article in Aviation Space Environmental Medicine from 2004 states, "Lengthening of the vertebral column and associated lumbar back pain experienced by astronauts is common in microgravity."

"Back pain is common upon return to gravity and may confound physical examination of a possible spine injury." This was stated in an article titled Advanced Trauma Life Support for the injured Astronaut.

According to the executive director Dave McTeage of the Oregon Board of Chiropractic Examiners, "The Board is concerned about high pressure marketing to potential patients using questionable claims."

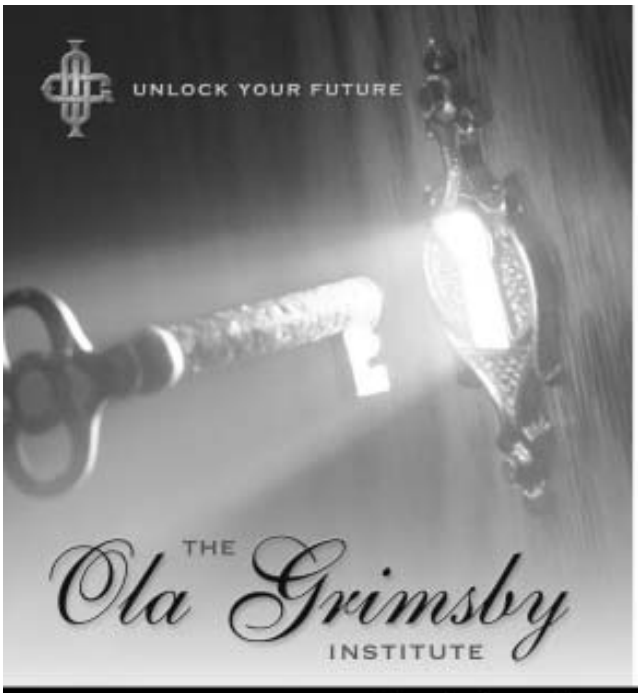
Case Study for a Women with Lateral Hip Pain

By

Ryan Perry, PT, DPT, OCS, CSCS, FAAOMPT

Background

The purpose of this case study is to describe a 60 year-old female patient presenting with an insidious onset of right hip pain. The patient walked into the clinic with a very pleasant attitude, utilizing a mild antalgic gait due to pain in her right hip. She reported a 4-month history of pain in right buttock/hip with insidious onset. Patient saw her PCP, then she received X-rays and her pain was diagnosed as osteoarthritis. She tried both OTC NSAIDs and Celebrex without relief. Patient had a recent MRI, but she does not have the results yet. Patient received a cortisone injection into her right hip 2 months ago, and she noted partial relief for a 2-week period. She participates in an aquatic arthritis class 3 times/week, which helps relieve the pain for the rest of the day. Patient notices that in the past week, her pain had also been present in the left groin. Pain is worse with stair negotiation, prolonged walking, mornings, rolling onto right hip when sleeping, and getting in and out of her car. The pain typically wakes the patient when rolling onto her right side in the middle of the night, which happens 1-2x/night. Pain on examination day was 2/10 and was 6/10 at worst. Heat helped partially relieve her pain. The medical history includes diabetes and hypercholesterolemia, which the patient takes medicine for both. The patient is retired and happily married. Her goals are the following: 1. Decrease pain, 2. Improve ability to negotiate stairs, and 3. Sleep a full night without waking due to pain.



AT THE OLA GRIMSBY INSTITUTE, WE WILL PUSH YOU TO YOUR LIMITS, BECAUSE WE KNOW YOU ARE NOT AFRAID TO GO THERE, JUST AS YOU PUSH YOUR PATIENTS TO THEIR LIMITS AND BEYOND WHAT THEY THINK THEY CAN DO. OUR CURRICULUM IS INTENSE, BUT THE PAYOFFS ARE PROFOUND.

FOR MORE INFORMATION
CALL TODAY 800.298.4116 OR VISIT US AT WWW.OLAGRIMSBY.COM

- EARN YOUR ADVANCED DMT, FELLOWSHIP OR PHD DEGREE WHILE MAINTAINING YOUR PRACTICE
- SHORT TERM CLINICAL COURSES & CERTIFICATIONS
- CREDENTIALED RESIDENCY EDUCATION
- HELP YOUR PATIENTS ACHIEVE FASTER RECOVERY WITH FEWER TREATMENTS
- EARN THE CREDENTIALS THAT OPEN DOORS
- ECLECTIC TREATMENT APPROACHES

Programs are scheduled on evenings and weekends, so you can continue your practice while you earn an advanced degree in manual physical therapy. Our combined curriculum of Evidence-Based Medicine and clinical expertise allow you to achieve advanced skills for assessment and intervention. We challenge you to open new doors.

The OGI's advanced, post-professional degree programs provide you, the practicing physical therapist, the keys to unlock your future. Our programs have helped thousands of practicing physical therapists perform with the skills of a Master Clinician and provide patients with outstanding results.

UNLOCK YOUR FUTURE WITH THE OLA GRIMSBY INSTITUTE STARTING JULY 2007.

APPLICATION DEADLINE IS JUNE 1, 2007

APPLY NOW!

Interactive Hip © 2000 Primal Pictures Ltd.
www.primalpictures.com

During her objective examination, her posture was first noted. With habitual standing, the patient stood with both hips externally rotated. Her left knee was hyperextended and her right knee mildly flexed. The right iliac crest and greater trochanter were elevated, and her lumbar spine sidebent left and thoracic spine sidebent right (mild left convexity scoliosis), with the thoracic spine left rotated. When asking the patient to stand with corrected posture, she stood with symmetrical iliac crests and similar amounts of extension at the knee, implicating her habitual stance is likely due to increased weight-bearing on the left to avoid right hip pain. In her local postural exam, nothing new was observed. With the gait analysis, the patient demonstrated a Trendelenburg gait with mild antalgic gait due to pain with weight bearing on the right lower extremity. With balance testing on a single leg, she was able to maintain the position for five seconds, but had pain doing so on the right side; this was maintained for ten seconds without pain on the left side. During sit-to-stand, the patient experienced right buttock pain. Also, with standing hip flexion, she experienced pain in the anterolateral hip.

At the hip joint, there were no active range of motion (ROM) restrictions, however there was pain in the lateral hip with end-range right hip internal rotation, flexion, and adduction. Groin pain was present with end-range right hip external rotation. Rotation was tested in sitting and extension in prone, while flexion, abduction, and adduction were tested in supine. Left hip ROM was pain-free. Her lumbar spine ROM was within functional limits (WFL). She had mild increased pain with left sidebending at end-range. The passive ROM for bilateral hips was WFL. Lateral hip pain was noted with hip external rotation and adduction at end-range with the patient supine in a 90-90 position . Lumbar spine ROM was WFL without pain.

During resisted testing, pain with resistance was appreciated with resistance to right hip abduction in three positions. Pain with resistance was also present when resisting right hip flexion in the inner and mid-ranges. The patient had pain with right hip external rotation resistance in the groin region, and resisted right hip internal rotation was painful upon resistance also in the right groin. Resisted extension of the right hip noted moderate weakness, but this was painless. Right hip adduction strength showed strong and painless. Left hip manual muscle testing showed to be strong and painless. Lumbar spine strength testing was normal for strength and pain-free.

With palpation, the patient had pain at the right proximal iliotibial band (IT Band), posterior superior iliac spine, gluteus medius/tensor fascia lata (TFL) from iliac crest to greater trochanter, psoas, and adductor tubercle. Also, the patient had mild pain to palpation at the adductors, along with increased muscle tone in the right proximal quadriceps.

The neurology testing was WFL for sensation, myotomal testing, and deep tendon reflexes. Hip special testing was performed next. The Scour test was positive on the right hip and negative for the left hip. FABER testing was positive on the right for groin pain, along with a mild mobility deficit; the left side was negative. In sidelying, the trochanteric bursitis test on the right was positive due to pain

laterally, while the left was negative. Her Ely's test showed decreased flexibility in the right rectus femoris compared to left, but negative for nerve signs bilaterally. The sacro-iliac joint compression and distraction tests were negative. The SLR test was negative bilaterally, and the supine to long sitting test was normal. Patient demonstrated a positive Trendelburg sign for the right, as her left hip dropped during single leg stance on the right leg.

For her hip mobility testing, 2/6 hypomobility was found in the right hip's inferior glide and lateral distraction accessory motions. All other motions were normal, or 3/6. Compression increased the pain, while long-axis distraction relieved the pain, both for right hip. Left hip compression or distraction provided no effect. Shear testing was negative for all lumbar levels.

Diagnosis

The patient's primary tissue in lesion is the right gluteus medius muscle, while the secondary tissue in lesion is the joint cartilage of the right hip. MRI findings were not available to the patient at the time of the evaluation, but the patient received them before the second visit, which showed a partial right gluteus medius tear. Based on the evaluation, the MRI correlated with the tissue in lesion, although I suspected weakness/tendinopathy rather than a partial tear. Treatment will be to emphasize strengthening of surrounding hip musculature, soft tissue & joint mobilization, and trunk stabilization.

I initiated treatment to the patient on the day of examination, which consisted of soft tissue mobilization (STM), joint articulation, and Scientific Therapeutic Exercise Progressions (STEP). STM was performed without joint motion to the piriformis, TFL/gluteus medius, and proximal quadriceps; this was not progressed further due to time considerations. Joint articulation was performed using long-axis distraction with 10-second holds. STEP consisted of suspended sling hip abduction; standing hip external rotation with knee on stool to rotate; standing hip extension from a flexed position (assisted hip flexion on return); and bridging. All exercises were performed at 60-70% 1RM at 3 sets of 24-30 reps.

After four treatment sessions, including the brief session with the evaluation, the patient noted her pain felt better for the rest of the day with each session, and she noted 'some improvement' overall. Pain was less intense with resisted abduction, but other objective signs did not change significantly in the first two sessions. Despite the early signs of progress, the patient did not pursue further therapy for unknown reasons. The primary therapist was present for only the first two sessions, which may have been a factor.

Discussion

The patient had a subjective presentation similar to greater trochanteric bursitis, however the key difference was that the pain at the greater trochanter was not exquisite. Also, the pain with resisted abduction in all ranges of testing implicates the gluteus medius, among others. Physical therapists and doctors alike are likely to quickly, and possibly incorrectly, assume lateral hip pain is due to the greater trochanteric bursa. It is very possible that it may have a lumbar component or an actual lesion in the surrounding musculature. Thus, the examining PT should look at all nearby structures, including the lumbar spine, sacro-iliac joint, and other hip structures before concluding symptoms are due to the bursa.

Unfortunately, treatment for this patient was limited. Also limited is available research for physical therapy treatment for this type of patient. Treatment was initiated, however unfortunately, it was limited to only a few sessions. Further research is recommended to assist the PT in proper treatment for this patient and for proper clinical diagnosis for this patient.

Research

1. Bird PA, Oakley SP, Shnier R, Kirkham BW. Prospective evaluation of magnetic resonance imaging and physical examination findings in patients with greater trochanteric pain syndrome. *Arthritis Rheum*. 2001; 44(9): 2138-45.

Summary: The results support the hypothesis that gluteus medius tendon pathology is important in defining greater trochanteric pain syndrome. In this series, trochanteric bursal distension was uncommon and did not occur in the absence of gluteus medius pathology. The physical findings suggest that Trendelenburg's sign is the most sensitive and specific physical sign for the detection of gluteus medius tears, with an acceptable intraobserver reliability. Further delineation with MRI, especially in patients with a positive Trendelenburg's sign, is recommended prior to any consideration of surgery in this group of patients.

2. Bewyer DC, Bewyer KJ. Rationale for treatment of hip abductor pain syndrome. *Iowa Orthop J*. 2003;23:57-60.

If you, by making a simple recommendation, could improve treatment outcome, would you be interested?

The website www.tissuerecovery.com was set up to make it easy for your patients to get access to nutritional information and supplements supporting the treatment you do.

E-books with just the important facts, quick and easy to read, can be downloaded immediately. We can also print and mail these books to people who prefer that.

The e-books based on the latest research and sound physiology, are:

Facts You Need to Know About Carbohydrates, but No One Told You

Facts You Need to Know About Fat, but No One Told You

Facts You Need to Know About Protein, but No One Told You

We also have an **anti-inflammatory formula,** giving quick and effective pain relief, without the side effects of anti-inflammatory drugs.

As a physical therapist we have a special offer for you. Give us a call at 1-800-883-1252 or 1-619-299-8346 and we will explain it to you. You will not find this offer on the website.

Your patients are of course also welcome to call us if they are more comfortable with the phone than the computer.

The easiest way to incorporate nutrition is for patients to start taking the BMJ Formula. The BMJ supplies specific nutrients in an easy absorbable form targeted to support bone and joint cartilage as well as other connective tissue.

BioPro
TissueRecovery.com

Log on to www.tissuerecovery.com and read what some of the latest research reveals about inflammation. Check out our website and call us at 1-800-883-1252 or 619-299-8346

Summary: Patients with lower back or buttock pain that radiates into the posterior or lateral leg are often referred to physical therapy with a diagnosis of sciatica. Often the physical exam does not reveal neurologic findings indicative of radiculopathy. Instead, there is hip abductor muscle pain and weakness. This syndrome involves muscle imbalances that result in overuse strain of the gluteus medius and gluteus minimus muscles, myofascial trigger points, and trochanteric bursitis.

3. Bunker TD, Esler CN, Leach WJ. Rotator cuff tear of the hip. *J Bone Joint Surg Br*. 1998; 80(1): 182-3.

Summary: This article describes an apparently unreported finding during hip operations: a tear at the insertion of gluteus medius and gluteus minimus. This defect may well be known to many surgeons with experience of hip replacement and hemiarthroplasty for fractures of the neck of the femur, but a Medline search has failed to find a previous description. It makes a prospective study of 50 consecutive patients with fractures of the neck of the femur to quantify the incidence of this condition: 11 (22%) had such a tear.

4. Kagan A. Rotator cuff tears of the hip. *Clin Orthop Relat Res*. 1999; 368:135-40.

Summary: Pain over the lateral aspect of the hip commonly is attributed to trochanteric bursitis. Typical findings include local tenderness and weakness of hip abduction. When conservative measures fail to relieve symptoms, surgical release of the iliotibial band over the greater trochanter has been recommended. In the management of seven such patients, an unusual finding was encountered: partial tear of the gluteus medius tendon at its attachment to the greater trochanter. Each patient presented with increasing hip pain of duration of months to years.

5. Kingzett-Taylor A, et al. Tendinosis and tears of gluteus medius and minimus muscles as a cause of hip pain: MR imaging studies. Am J Roentgenol. 1999; 173(4): 1123-6.

Summary: Tendinopathy of the hip abductors and gluteus medius and minimus muscles was a common finding on MR imaging in our patients with buttock, lateral hip, or groin pain. Tendinopathy is probably a frequent cause of the greater trochanteric pain syndrome, a common regional pain syndrome that can mimic other important conditions causing hip pain including avascular necrosis and stress fracture. Moreover, it is likely that trochanteric bursitis is associated with tendinopathy.

6. Pfirrmann CW, Notzli HP, Dora C, Hodler J, Zanetti M. Abductor tendons and muscles assessed at MR impaging after total hip arthroplasty in asymptomatic and symptomatic patients. Radiology. 2005; 235(5): 969-76.

Summary: Tendon defects were uncommon in asymptomatic patients and significantly more frequent in symptomatic patients: Two asymptomatic versus 22 symptomatic patients had gluteus minimus defects ($P < .001$); four asymptomatic versus 24 symptomatic patients, lateral gluteus medius defects ($P < .001$); and no asymptomatic versus seven symptomatic patients, posterior gluteus medius defects ($P = .025$)

7. Shbeeb MI, Matteson EL. Trochanteric bursitis (greater trochanter pain syndrome). Mayo Clin Proc. 1996; 71(6): 565-9.

Summary: Trochanteric bursitis, a common regional pain syndrome, is characterized by chronic, intermittent aching pain over the lateral aspect of the hip. The incidence of trochanteric bursitis peaks between the fourth and sixth decades of life, but cases have been reported in all age-groups. The diagnosis may be elusive, especially if symptoms are atypical. This condition can be associated with pain and limitation of function. Treatment includes physical therapy measures, analgesics, and local glucocorticoid injection.

8. Walsh G, Archibald CG. MRI in greater trochanter pain syndrome. *Australas Radiol*. 2003; 47(1): 85-7.

Summary: The greater trochanter pain syndrome refers to pain on the lateral aspect of the hip joint. This is frequently attributed to trochanteric bursitis and distension of the subgluteal bursae. Associated tears of the tendons of gluteus medius and minimus have been described and may result from repetitive frictional trauma to these tendons and their associated bursae secondary to impingement beneath the tensor fascia latae.

Scientific Physical Therapy

a peer-reviewed publication on the internet

- Scientific Physical Therapy is a peer reviewed journal published on the internet four times yearly

- Please visit our web site: www.scientificphysicaltherapy.com

For a free subscription, contact us at scientificpt@sbcglobal.net
Scientific Physical Therapy
4420 Hotel Circle Court Suite 210
San Diego, CA 92108-3423 USA

Material to be considered for publication can be submitted as articles, case studies, research reviews or clinical pearls related to the practice of manual therapy. The material can be e-mailed to scientificpt@sbcglobal.net or mailed on a PC formatted disk or cd to Scientific Physical Therapy 4420 Hotel Circle Court Suite 210 San Diego, CA 92108-3423 USA