

SPORTS MEDICINE UPDATE

A Professional Courtesy of
SPORTSMEDICINE OF
ATLANTA



"Georgia's Only Manual Therapy Fellowship"



Dr Robert DuVall, PT, ATC, CSCS
SportsMedicine of Atlanta (Across from Staples)
2138 Scenic Hwy Snellville, GA 30078
770-979-1400 SportsMedicineofAtlanta.com

JUNE 2006

VOLUME 1, ISSUE 1

HELPING PATIENTS WITH NECK PAIN WITH MANUAL PHYSICAL THERAPY AND CONTINUED CARE

A recent study was published in the *Annals of Internal Medicine* comparing the efficacy of manual physical therapy, exercise-based physical therapy, and continued care by a general practitioner for treatment of patients with neck pain (Hoving JL et al. Manual Therapy, Physical Therapy, or Continued Care by a General Practitioner for Patients with Neck Pain; A Randomized, Controlled Trial. *Ann Intern Med*, 2003;136:713-722). Following a six-week intervention period, 68.3% of patients in the manual therapy group reported a successful outcome, compared to 50.8% for exercise-based physical therapy and 35.9% for continued care with a general practitioner. Manual therapy sessions included hands-on passive joint mobilization techniques and stability exercises specific to the cervical spine. Physical therapy was characterized by active exercise to improve posture, strength, ROM, and function, as well as modalities, massage, stretching, and cervical traction. General practitioner care included medication and advice on prognosis, self-care, ergonomics, (Continued on page 4)

INSIDE THIS ISSUE:

What is a Fellow?.....	2
Baby Boomers Demand Changes in Care Pro-	2
Stretching Found Effective and safe in	3
Treating Patel- lofemoral Pain	3
Exercise for the Tra- pezius and Serratus Anterior Mus-	3
Precision Sports Or-	4

MANUAL THERAPY AND EXERCISE THERAPY IN OSTEOARTHRITIS OF THE HIP

In a randomized clinical trial performed in the Netherlands at Levenburg Hospital, the objective was to determine the effectiveness of a manual therapy program compared with an exercise therapy program in patients with osteoarthritis (OA) of the hip. A single-blind, randomized clinical trial of 109 hip OA patients was carried out in the outpatient clinic for physical therapy of a large hospital. The manual therapy program focused on specific manipulations and mobilization of the hip joint. The exercise therapy program focused on active exercises to improve muscle function and joint motion. The treatment period was 5 weeks (9 sessions). The primary outcome was general perceived improvement after treatment. Secondary outcomes included pain, hip function, walking speed, range of motion, and quality of life. Findings were such that of 109 patients included in the study, 56 were allocated to manual therapy and 53 to exercise therapy. No major differences were found on baseline characteristics between groups. Success rates (primary outcome) after 5 weeks were 81% in the (Continued on page 4)

WHAT IS A FELLOW?

The AAOMPT status of "Fellow" is both a membership classification and a professional credential. Professional credentialing as a "Fellow" in AAOMPT is an international recognition of competence and expertise in the practice of orthopaedic manual physical therapy by a physical therapist licensed in the USA. A physical therapist must complete a credentialed fellowship program

in orthopaedic manual physical therapy or demonstrate the equivalent level of competence by successfully passing a portfolio review process and oral/practical examination in order to achieve the Fellow credential. The "Fellow" is a physical therapist who has demonstrated advanced clinical, analytical, and hands-on skills in the treatment of musculoskeletal (orthopaedic) disorders. They serve their patients and the public by demonstrating excellence in clinical

practice, education, and research.

Maintenance of the professional credential of Fellow requires a physical therapist be a member in good standing in the AAOMPT. Fellow membership classification affords the member special privileges to vote on issues related to

Fellowship: A post-professional, funded, and planned learning experience in a focused area of physical therapist clinical practice, education, or research (not infrequently post-doctoral, post-residency prepared, or board-certified physical therapists).

practice standards, international affairs, and bylaw changes. Only Fellows are allowed to serve on the executive committee as President, Vice-President, Secretary, or Treasurer (any member in good standing may serve on the executive committee as Member-at-Large). These requirements are in place to comply with the constitution and bylaws of the International Federation of Manipulative Therapist (IFOMT) of which the AAOMPT is the representative organization from the

USA.

The American Physical Therapy Association (APTA) and the American Academy of Orthopedic Manual Physical Therapists (AAOMPT) have merged their credentialing of postprofessional clinical fellowship

programs under A P T A ' s Committee on Residency and Fellowship Program Credentialing. All orthopedic manual

therapy physical therapy programs must meet the "Requirements for Post-professional Clinical Residency or Fellowship Programs for Physical Therapists" and the following additional requirements developed through AAOMPT.

American Academy of Orthopaedic Manual Physical Therapist.

http://www.aaompt.org/aaompt_consumer1.htm; "What is a Fellow"; September 28, 2005

EXERCISE FOR THE TRAPEZIUS AND SERRATUS ANTERIOR MUSCLES

Findings from one recent study which attempted to identify high-intensity exercises that elicit the greatest level of the electromyographic (EMG) activity in the trapezius and serratus anterior muscles was recently successfully completed. These two muscles are considered to be the only upward rotators of the scapula and are important for normal shoulder function. EMG studies performed for these muscles during active and low-intensity exercises have been conducted, but have not analyzed high intensity exercises. In this study, surface electrodes recorded EMG activity of the upper, middle and lower trapezius and

serratus muscles during ten exercises in thirty healthy subjects.

The results were helpful. The unilateral shoulder shrug exercise was found to produce the greatest EMG activity in the upper trapezius. The greatest EMG amplitudes for the middle trapezius were generated with two exercises: shoulder horizontal extension with external rotation and the overhead arm raise in line with the lower trapezius muscle in the prone position. The arm raise overhead exercise in the prone position produced maximum EMG activity in the lower trapezius. Exercises requiring a great amount of upward rotation of the scapula produced

maximum EMG activity for the serratus anterior. The exercises were shoulder abduction in the plane of the scapula above 120° and a diagonal exercise with a combination of shoulder flexion, horizontal flexion, and external rotation.

In developing exercise programs for these muscles, such information is most useful to maximally activate the portion of the trapezius muscle which is necessary for best benefit and results.

Ekstrom, et al. Surface EMG Analysis of Exercises for the Trapezius and Serratus Anterior Muscles. J Orthop Sports Phy Ther, Vol. 33, No. 5, May 2003: 247-258.

*Do you or your staff have any questions or comments about SportsMedicine Update?
Please call or write our office. We would be happy to hear from you.*

TREATING PATELLOFEMORAL PAIN SYNDROME

There seems to be an increased incidence of adolescent and young adult patellofemoral pain syndrome (PFPS) within communities where levels of adolescent athletic participation are high. Parents and their physicians continue to seek interventions that allow safe participation in physical activities while minimizing the symptoms associated with PFPS. Dutch researchers recently found evidence that exercise therapy is more effective than no exercise in reducing pain from PFPS in adolescents and young adults. The analysis also found, however, that the effect of exercise therapy on functional

improvement in patients suffering with PFPS is inconclusive.

As reported in the most recent issue of the *Cochrane Database of Systematic Reviews*, (Heintjes E, Bierma-Zeinstra S, Bernsen R, Verhaar J, Koes B: Exercise Therapy for Patellofemoral Pain Syndrome, *Cochrane Database Syst Rev.* 2003;4:CD003472), the study analysis found significantly greater pain reduction among exercise groups in one high-quality and one low-quality study (though at different time points). Only one low-quality study, researchers said, found significantly greater functional improvement with exercise. Further data

are needed to substantiate the efficacy of exercise therapy for patients with PFPS, researchers concluded.

Dr. Duvall's clinical experiences with exercise intervention for the management of PFPS have been very favorable. He believes the key to effective outcomes results from the specificity of our exercise prescriptions that are movement impairment based, i.e. a lower quarter examination which identifies the patho-kinesiological variables that cause the abnormal movements which differ between patients. DuVall's experiences have

(Continued on page 4)

STRETCHING FOUND EFFECTIVE AND SAFE IN TREATING CMT

Annual stretching has been found to be an effective and safe treatment for Congenital Muscular Torticollis (CMT). These researchers found that 95% of patients first seen before the age of one year had favorable outcomes from manual therapy. I wanted to share this

Journal of Bone and Joint Surgery 2001 article with you.

In this recent study, it appears that the key to effective management of CMT is early detection and early intervention. I have experienced similar outcomes on CMT patients seen on our Snellville

clinic. As a Physical Therapy graduate of Emory University School of Medicine's program (Master of Medical Science) and a Board Certified Manual Orthopaedic PT, I desire to let you know that these services are locally available for your CMT patients.

BABY BOOMERS DEMAND CHANGES IN CARE PROVIDED

The number of patients seeking orthopedic solutions is growing. In addition to a larger population pool needing care, patients with active lifestyles who demand quicker and better treatment are driving a change in orthopedic care.

How will we see this influence?

Patients today are more active, demanding, impatient, educated and determined. They want pain-free surgery and a quick recovery so they can get

back to their lifestyles as quickly as possible. They want to be strong and healthy, but if something goes awry, they want to be fixed so they are as good as new. Who makes up the patient pool? With a baby boomer (age 45 to 64) turning 50 every seven seconds, they make up 34% of the US population. The majority of those in the 50+ age group being women. In the

65+ age group, three of every five Americans are women. This population now enjoys a life expectancy of about 77 years. A desire for an independent and active lifestyles are not the only encouragements for a healthier body. While the baby boomer generation

smokes less and exercises more than other recent generations, they are more obese and have spent more years beating up their bones and joints.

With 74.4% of patients aged 55 to 64 and 71.9% of patients 65 and older performing some type of exercise (walking, gardening, aerobic exercise or swimming), increased activity has led to orthopedic problems. According to a

study by the American Association of Retired People, most of the U.S. population is living with at least one chronic condition. In many cases, it is osteoarthritis (OA). The Department of Health and Human Services Centers for Disease Control and Prevention

reported in 2001 that by 2020, almost 20% of the overall U.S. population will be affected by OA, making it the most frequent cause of disability in the

country. Fewer and fewer people are willing to simply deal with their pain in silence and thus has resulted the increased volume of patients.

Kober, S. Tomorrow's Patients: Baby Boomers Will Expect More. Orthopedics Today. Nov. 2002. Online article.

**Dr Robert DuVall, PT, ATC, DHSc, MMSc,
OCS, FAAOMPT, MTC, PCC, CSCS**
SportsMedicine of Atlanta, Inc
2138 Scenic Hwy., Ste. B
Snellville, GA 30078
770-979-1400
SportsMedicineofAtlanta, .com
reduvall@bellsouth.net



HELPING PATIENTS WITH NECK PAIN (CONT.)

(Continued from page 1)

and psychosocial issues.

This study confirms the results of an earlier study (Koes BW, et al. The Effectiveness of Manual Therapy, Physiotherapy, and Treatment by the General Practitioner for Nonspecific Back and Neck Complaints. A Randomized Clinical Trial. *Spine*, 1992;17:28-35) and provides strong evidence for the efficacy of manual therapy for the treatment of neck pain. My clinical experiences have demonstrated that an accurate

assessment of intra-articular spinal mobility and neuromuscular stability in the cervical spine are paramount to a successful outcome. Patients who present with intra-articular restrictions require gentle passive mobilization and interventions to rectify causative factors acquired from faulty ergonomics. The more difficult clinical presentations include signs of hypermobile joints and compensatory muscle guarding which results in myofascial pain. Patients with ligamentous injury due to trauma or whiplash usually fall into this category.

These patients are not appropriate for manipulation, but require myofascial techniques to eliminate guarding and myofascial restrictions, as well as a tailored stability and postural exercise program to reinstitute neuromuscular control to the cervical region and eliminate reflexive muscle guarding.

Hoving JL et al. Manual Therapy, Physical Therapy, or Continued Care by a General Practitioner for Patients with Neck Pain; A Randomized, Controlled Trial. Ann Intern Med, 2003;136:713-722.

OSTEOARTHRITIS OF THE HIP (CONT.)

(Continued from page 1)

manual therapy group and 50% in the exercise

group (odds ratio 1.92, 95% confidence interval 1.30,

The manual therapy program focused on specific manipulations and mobilization of the hip joint. Patients in the manual therapy group had significantly better outcomes on pain, stiffness, hip function, and range of motion.

2.60). Furthermore, patients in the manual therapy group had significantly better outcomes on pain, stiffness, hip function, and range of motion. Effects

of manual therapy on the improvement of pain, hip function, and range of

motion endured after 29 weeks. The trial concluded that the effect of the manual therapy program on hip function is superior to the exercise

therapy program in patients with OA of the hip.

Hoeksma HL, Dekker J, Ronday HK, et al. Comparison of manual therapy and

exercise therapy in osteoarthritis of the hip: A randomized clinical trial. PubMed Oct. 15, 2004: 51(5):722-9.

PATELLOFEMORAL PAIN SYNDROME (CONT.)

(Continued from page 3)

found that repetitive, abnormal movements can cause impairments that eventually lead to patho-mechanical abnormalities. Based on similarities between mechanical and biomechanical systems, the premise for ensuring the efficacy and longevity of the human movement system is optimizing

movement of rotating segments by minimizing abnormal stresses. Interventions are utilized at SportsMedicine of Atlanta that will directly affect the variables causing the abnormal stresses to produce desirable increases in intra-articular flexibility, muscle length, and muscle strength, as well as to train the neuro-motor control

of optimal movement patterns. It seems that the patho-kinesiological variables are readily rectifiable in adolescents and young adults. It is my thesis that left uncorrected, these movement impairments insidiously develop into severe disorders that require may eventually surgical intervention or result in disability.