


Evaluating a complementary therapies clinic: outcomes and relationships. Harris P, Atkins RC, Alwyn T

Complementary therapies in clinical practice [Add to My Journals List](#) 

201002 16(1):31-5 Language: eng Country: England Centre for Complementary Therapies, Cardiff School of Health Sciences, University of Wales Institute Cardiff, Western Avenue, Cardiff, Wales, UK. peharris@uwic.ac.uk BACKGROUND: There are few published examples of research examining the effect of massage, aromatherapy, and reflexology in clinic settings. In addition to measuring treatment outcomes, it may also be important to measure the quality of the relationship between the client and therapist and assess its contribution to outcomes. AIMS: To evaluate perceived changes in client quality of life following treatment; to determine whether the relationship between the client and therapist predicts the outcome of treatment; to assess the usefulness of the measures used. METHOD: The Measure Yourself Medical Outcome Profile (MYMOP2) and the Working Alliance Inventory (WAI) were used to collect data from 66 clients and 13 therapists in a complementary therapies clinic in South Wales. RESULTS: The MYMOP2 data showed significant improvements for client symptoms and activity but not for well-being. A low correlation was found between MYMOP2 profile scores and WAI scores suggesting that symptoms, activity and well-being were associated with a positive working alliance but this narrowly failed to achieve statistical significance. CONCLUSION: Further research is necessary to confirm improvements in client quality of life and to establish causes. More research is needed to examine the client-therapist relationship and treatment outcome. PMID: 20129407

Management of chronic low back pain in active individuals. Mayer JM, Haldeman S, Tricco AC, Dagenais S

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2010 Jan-Feb 9(1):60-6 Language: eng Country: United States College of Medicine and School of Physical Therapy and Rehabilitation Sciences, University of South Florida, Tampa, FL 33612, USA. jmayer2@health.usf.edu Chronic low back pain (LBP) is a common and potentially disabling condition in all adults, including those who are physically active. It currently is challenging for clinicians and patients to choose among the numerous treatment options. This review summarizes recommendations from recent clinical practice guidelines and systematic reviews about common primary care and secondary care approaches to the management of chronic LBP. The best available evidence currently suggests that in the absence of serious spinal pathology, nonspinal causes, or progressive or severe neurologic deficits, the management of chronic LBP should focus on patient education, self-care, common analgesics, and back exercises. Short-term pain relief may be obtained from spinal manipulative therapy or acupuncture. For patients with psychological comorbidities, adjunctive analgesics, behavioral therapy, or multidisciplinary rehabilitation also may be appropriate. Given the importance of active participation in recovery, patient preference should be sought to help select from among the recommended treatment options. PMID: 20071924

Thigh muscles' responses caused by a single combined aerobic and resistance training session in healthy young men. Zory R, Weist R, Malakieh J, Grenier S

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201005 31(5):311-8 Language: eng Country: Germany Laurentian University, Human Kinetic, School of Human Kinetics, Sudbury, Canada. rzory@laurentian.ca The aim of this study was to understand the amplitude and localization of neuromuscular response induced by a training session combining an aerobic and a resistance component. Ten healthy men completed a single session of combined (aerobic and resistance) and aerobic only training, in a randomized order. Surface electromyographic activity and torque obtained during maximal voluntary and electrically evoked contractions of the knee extensor muscles were analyzed to distinguish peripheral from central adaptations. The isometric torque developed by the knee extensor muscles during maximal voluntary contraction decreased significantly following a single session of both combined (-9.2%, $p=0.043$) and aerobic (-9.6%, $p=0.005$) training. This was accompanied by a decrease in central activation of the knee extensor muscles after each training session (respectively 2.9, $p=0.005$ and 1.8% $p=0.040$) as indicated by twitch interpolation technique. After the combined training protocol, the peak torque of the twitch significantly increased by 6.8% ($p=0.046$), whereas it decreased by 17.3% ($p=0.016$) after the aerobic training protocol. The present study demonstrates that the decrease in torque production is similar after a single combined training session or after an aerobic training session of the same duration. Both central and peripheral mechanisms could explain the decrease of torque. PMID: 20200801

A randomized clinical trial comparing pelvic floor muscle training to a Pilates exercise program for improving pelvic muscle strength. Culligan PJ, Scherer J, Dyer K, Priestley JL, Guingon-White G, Delvecchio D, Vangeli M

International urogynecology journal and pelvic floor dysfunction [Add to My Journals List](#) 

201004 21(4):401-8 Language: eng Country: England Atlantic Health Division of Urogynecology, 95 Madison Ave Suite 204, Morristown, NJ 07960, USA.

patrick.culligan@atlanticehealth.org INTRODUCTION AND HYPOTHESIS: The purpose of this study is to determine whether a Pilates exercise program and a pelvic floor muscle-training (PFMT) program could provide similar improvements in pelvic muscle strength. METHODS: Sixty-two women with little or no pelvic floor dysfunction were randomized to Pilates or PFMT. Each group had 24 biweekly 1-h sessions with either a physical therapist or Pilates instructor. Strength was measured via perineometry (cmH₂O). Two questionnaires--pelvic floor distress inventory (PFDI-20) and pelvic floor impact questionnaire (PFIQ-7)--were also collected. RESULTS: At baseline, the Pilates and PFMT groups measured 14.9 +/- 12.5 and 12.5 +/- 10.4 cmH₂O, respectively (p = 0.41). Both the Pilates and PFMT groups got stronger (6.2 +/- 7.5 cmH₂O, p = 0.0002 and 6.6 +/- 7.4 cmH₂O, p = 0.0002, respectively), with no difference between groups p = 0.85. PFIQ and PFDI scores improved from baseline but not between groups. CONCLUSIONS: Further study is required to determine if Pilates can actually treat pelvic floor dysfunction. PMID: 20094704

Molecular attributes of human skeletal muscle at rest and after unaccustomed exercise: an age comparison. Roberts MD, Kerksick CM, Dalbo VJ, Hassell SE, Tucker PS, Brown R

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201005 24(5):1161-8 Language: eng Country: United States Applied Biochemistry and Molecular Physiology Laboratory, Health and Exercise Science Department, University of Oklahoma, Norman, Oklahoma, USA. The current study examined muscle DNA and protein concentrations ([]) and the [RNA] (assumed to represent translational capacity), [RNA]:[DNA] (assumed to represent transcriptional efficiency) and [protein]:[RNA] (assumed to represent translational efficiency) in younger vs. older participants during a resting state. Further, changes in muscle [DNA], translational capacity, and transcriptional efficiency were analyzed 24 hours after an unaccustomed resistance exercise bout. Younger (20.9 +/- 0.5 years, 84.0 +/- 5.2 kg, 26.6 +/- 1.8 kg x m(-2); n = 13) and older men (67.6 +/- 1.3 years, 88.7 +/- 4.8 kg, 28.6 +/- 1.4 kg x m(-2); n = 13) reported to the laboratory and completed an unaccustomed bout of lower-body resistance training (i.e., 3 sets of 10 repetitions at 80% 1 repetition maximum for Smith squat, leg press, and leg extensions). Muscle biopsies from the vastus lateralis were obtained before and 24 hours after exercise. Baseline [RNA], [DNA], [protein], and [RNA]:[DNA] were not different between age groups (p > 0.05). Baseline [protein]:[RNA] was greater in younger vs. older men (p = 0.045), whereas 24-hour postexercise [RNA]:[DNA] tended to be greater in older men (p = 0.087). These findings suggest that a decrease in the efficiency of translational processes occurs in older human skeletal muscle, whereas global transcriptional processes appear to be unaltered when compared with those in younger men. In lieu of these data, it remains apparent that muscle-protein synthesis is impaired in aging skeletal muscle and effective countermeasures such as resistance exercise and nutritional adequacy must be undertaken by older populations to offset this phenomenon. PMID: 20440120

The effect of closed-kinetic chain exercises and open-kinetic chain exercise on the muscle activity of vastus medialis oblique and vastus lateralis. Irish SE, Millward AJ, Wride J, Haas BM, Shum GL

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201005 24(5):1256-62 Language: eng Country: United States School of Health Professions, University of Plymouth, Plymouth, Devon, England, United Kingdom. Patellofemoral pain syndrome (PFPS) is one of the most prevalent musculoskeletal conditions of the lower limb. The muscle imbalance between the vastus medialis oblique (VMO) and vastus lateralis (VL) muscles is one of the main factors leading to the development of PFPS. The disparity in research and the necessity to add to the existing literature base led to the development of this study. The aim of this study was to investigate the effect of 2 closed kinetic chain exercises and 1 open kinetic chain exercise on VMO and VL muscle activity. Twenty-two healthy asymptomatic individuals participated in this study. The surface electromyography (EMG) of VMO and VL was measured and used to calculate the VMO:VL ratio during 3 different quadriceps-strengthening exercises (a double leg squat with isometric hip adduction exercise, an open kinetic chain knee extension exercise, and a lunge exercise). The double leg squat with isometric hip adduction exercise was shown to produce a significantly greater VMO:VL ratio (1.14:1) than the other 2 exercises ($p = 0.015$ and $p = 0.005$). The open kinetic chain knee extension exercises produced significantly greater activation of VL than the lunge exercise ($p = 0.001$ and $p = 0.036$). The lunge exercise produced the VMO:VL ratio (1.18:1) closest to the idealized ratio of 1:1. Potential clinical recommendations can be made proposing the lunge exercise as a key tool in early rehabilitation when restoring preferential VMO:VL ratio is essential. The double leg squat with isometric hip adduction exercise would be useful in maintaining correct patella tracking and selectively strengthening VMO. PMID: 20386128

The effects of precompetition massage on the kinematic parameters of 20-m sprint performance. Fletcher IM

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201005 24(5):1179-83 Language: eng Country: United States Exercise Physiology Laboratory, School of Physical Education and Sports Sciences, University of Bedfordshire, Bedfordshire, United Kingdom. iain.fletcher@beds.ac.uk The purpose of this study was to investigate what effect precompetition massage has on short-term sprint performance. Twenty male collegiate games players, with a minimum training/playing background of 3 sessions per week, were assigned to a randomized, counter-balanced, repeated-measures designed experiment used to analyze 20-m sprints performance. Three discrete warm-up modalities, consisting of precompetition massage, a traditional warm-up, and a precompetition massage combined with a traditional warm-up were used. Massage consisted of fast, superficial techniques designed to stimulate the main muscle groups associated with sprint running. Twenty-meter sprint performance and core temperature were assessed post warm-up interventions. Kinematic differences between sprints were assessed through a 2-dimensional computerized motion analysis system (alpha level $p < 0.05$). Results indicated that precompetition massage alone improved sprint performance compared to traditional warm-up. The combination of precompetition massage and traditional warm-up resulted in the greatest improvement in sprint performance. No significant differences were found in knee mean rate step velocity, knee angle, or knee angle velocity. Also, faster times were indicated for the 20-m sprint when precompetition massage was used compared to traditional warm-up. Therefore, precompetition massage alone appears to benefit sprint performance more than traditional warm-up. However, the combination of precompetition massage and traditional warm-up seems to provide the greatest benefit to sprint performance. This suggests that precompetition massage may be a useful strategy for improving sprint performance. $p < 0.05$.>PMID: 20386129

**Temporal coactivation of abdominal muscles during dynamic stability exercises.
Hubley-Kozey CL, Hatfield GL, Davidson KC**

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201005 24(5):1246-55 Language: eng Country: United States School of Physiotherapy, Dalhousie University, Halifax, Canada. Clk@dal.ca The purpose of this study was to determine abdominal muscle temporal responses to a leg-loading exercise protocol and if differences exist between those able and unable to minimize lumbar-pelvic motion during this protocol. The focus was a supine bilateral leg-loading task that incorporated a slide (level 4) or no slide (level 5). Thirty-three healthy subjects (mean age 24 years) completed the task while surface electromyograms (EMG) from 5 abdominal muscle sites were recorded. Subjects were assigned to stable or unstable groups based on their ability to minimize lumbar-pelvic motion. After time and amplitude normalization, electromyography waveforms were entered into a pattern recognition procedure and scores for each principal pattern were calculated. Four principal patterns explained 90% of variance in the waveform data, with these principal patterns capturing the mean pattern, the relative amplitude change during the leg-extension phase, and subtle changes in shape throughout the exercise. Significant interactions ($p < 0.05$) were found for principal patterns; 1, 2, and 4 scores; and significant main ($p < 0.05$) effects for principal pattern 3 scores. These results illustrate temporal synchrony among the abdominal wall muscle activation during the bilateral leg-loading tasks; however, there was less variability in the activation patterns during the leg-lift and leg extension-phases for those who were able to minimize lumbar-pelvic motion compared to those who were unable to perform the task correctly. These results illustrate the need to focus on coordinated recruiting of the abdominal wall muscles in an organized manner and not simply increasing the intensity of activation for stabilization training. PMID: 20386130

Effects of vastus medialis oblique retraining versus general quadriceps strengthening on vasti onset. Bennell K, Duncan M, Cowan S, McConnell J, Hodges P, Crossley K

Medicine and science in sports and exercise [Add to My Journals List](#) 

201005 42(5):856-64 Language: eng Country: United States Centre for Health, Exercise and Sports Medicine, School of Physiotherapy, University of Melbourne, Melbourne, Australia 3010. k.bennell@unimelb.edu.au PURPOSE: To compare the effects of vastus medialis oblique (VMO) motor control retraining (MCR) and quadriceps strengthening (QS) exercises on the onset timing of the medial (VMO) and lateral (vastus lateralis, VL) quadriceps muscle. METHODS: This single-blind randomized controlled trial involved 60 currently pain-free individuals with a history of anterior knee pain and delayed (>10 ms) onset of VMO relative to VL during stair stepping. A blinded assessor took measures at baseline, immediately after 6 wk of treatment, and after an 8-wk follow-up. Both exercise programs involved weekly individual physiotherapy sessions with home exercises. The MCR program comprised specific VMO exercises incorporating EMG biofeedback, mostly in functional weight-bearing positions. The QS program comprised progressive-resistance inner range open kinetic chain exercises. The primary outcome was the latency between the onset of VMO EMG activity relative to that of VL during stair stepping measured using surface electrodes. RESULTS: During stair ascent, there was a significant change immediately after the intervention in VMO-VL timing in the MCR group only ($P = 0.04$), but there was no significant difference in the change between groups. During stair descent, VMO-VL timing changed in both groups ($P < 0.01$), with the MCR group showing a greater change than the QS group ($P = 0.02$). At the completion of training, quadriceps strength was only improved in the QS group (all $P < 0.001$). At follow-up, VMO timing and quadriceps strength had improved in both groups compared with baseline ($P < 0.01$), but there was no difference between groups. CONCLUSIONS: Although greater changes in motor control during stair descent and strength are induced by interventions that target each of these parameters in the short term, both parameters are similarly improved after the cessation of training, regardless of the target of the intervention. PMID: 19997004

The efficacy of two modified proprioceptive neuromuscular facilitation stretching techniques in subjects with reduced hamstring muscle length. Youdas JW, Haeflinger KM, Kreun MK, Holloway AM, Kramer CM, Hollman JH

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201005 26(4):240-50 Language: eng Country: England Mayo Clinic, Rochester, Minnesota 55905, USA. youdas.james@mayo.edu Difference scores in knee extension angle and electromyographic (EMG) activity were quantified before and after modified proprioceptive neuromuscular facilitation (PNF) hold-relax (HR) and hold-relax-antagonist contraction (HR-AC) stretching procedures in 35 healthy individuals with reduced hamstring muscle length bilaterally (knee extension angle <160 degrees). Participants were randomly assigned each PNF procedure to opposite lower extremities. Knee extension values were measured by using a goniometer. EMG data were collected for 10 seconds before and immediately after each PNF stretching technique and normalized to maximum voluntary isometric contraction (% MVIC). A significant time by stretch-type interaction was detected ($F(1,34) = 21.1$; $p < 0.001$). Angles of knee extension for HR and HR-AC were not different prior to stretching ($p = 0.45$). Poststretch knee extension angle was greater in the HR-AC condition than the HR condition ($p < 0.007$). The proportion of subjects who exceeded the minimal detectable change (MDC(95)) with the HR-AC stretch (97%) did not differ ($p = 0.07$) from the proportion who exceeded the MDC(95) with the HR stretch (80%). Because EMG activation increased ($p < 0.013$) after the HR-AC procedure, it is doubtful a relationship exists between range of motion improvement after stretching and inhibition of the hamstrings. On average the 10-second modified HR procedure produced an 11 degrees gain in knee extension angle within a single stretch session. PMID: 20397858

Exercise training in patients with advanced chronic heart failure (NYHA IIIb) promotes restoration of peripheral vasomotor function, induction of endogenous regeneration, and improvement of left ventricular function. Erbs S, Höllriegel R, Linke A, Beck EB, Adams V, Gielen S, Möbius-Winkler S, Sandri M, Kränkel N, Hambrecht R, Schuler G

Circulation. Heart failure [Add to My Journals List](#) 

20100701 3(4):486-94 Language: eng Country: United States Department of Internal Medicine/Cardiology, University of Leipzig-Heart Center, Leipzig, Germany.

Sandra.Erbs@medizin.uni-leipzig.de BACKGROUND: Attenuated peripheral perfusion in patients with advanced chronic heart failure (CHF) is partially the result of endothelial dysfunction. This has been causally linked to an impaired endogenous regenerative capacity of circulating progenitor cells (CPC). The aim of this study was to elucidate whether exercise training (ET) affects exercise intolerance and left ventricular (LV) performance in patients with advanced CHF (New York Heart Association class IIIb) and whether this is associated with correction of peripheral vasomotion and induction of endogenous regeneration.

METHODS AND RESULTS: Thirty-seven patients with CHF (LV ejection fraction 24+/-2%) were randomly assigned to 12 weeks of ET or sedentary lifestyle (control). At the beginning of the study and after 12 weeks, maximal oxygen consumption (Vo(2)max) and LV ejection fraction were determined; the number of CD34(+)/KDR(+) CPCs was quantified by flow cytometry and CPC functional capacity was determined by migration assay. Flow-mediated dilation was assessed by ultrasound. Capillary density was measured in skeletal muscle tissue samples. In advanced CHF, ET improved Vo(2)max by +2.7+/-2.2 versus -0.8+/-3.1 mL/min/kg in control (P=0.009) and LV ejection fraction by +9.4+/-6.1 versus -0.8+/-5.2% in control (P<0.001). Flow-mediated dilation improved by +7.43+/-2.28 versus +0.09+/-2.18% in control (P<0.001). ET increased the number of CPC by +83+/-60 versus -6+/-109 cells/mL in control (P=0.014) and their migratory capacity by +224+/-263 versus -12+/-159 CPC/1000 plated CPC in control (P=0.03). Skeletal muscle capillary density increased by +0.22+/-0.10 versus -0.02+/-0.16 capillaries per fiber in control (P<0.001).


CONCLUSIONS: Twelve weeks of ET in patients with advanced CHF is associated with augmented regenerative capacity of CPCs, enhanced flow-mediated dilation suggestive of improvement in endothelial function, skeletal muscle neovascularization, and improved LV function. Clinical Trial Registration- <http://www.clinicaltrials.gov>. Unique Identifier: NCT00176384.

Prevention of running injuries. Fields KB, Sykes JC, Walker KM, Jackson JC

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2010 May-Jun 9(3):176-82 Language: eng Country: United States Moses Cone Family Medicine Center, Greensboro, NC 27401, USA. Bert.fields@mosescone.com Evidence for preventive strategies to lessen running injuries is needed as these occur in 40%-50% of runners on an annual basis. Many factors influence running injuries, but strong evidence for prevention only exists for training modification primarily by reducing weekly mileage. Two anatomical factors - cavus feet and leg length inequality - demonstrate a link to injury. Weak evidence suggests that orthotics may lessen risk of stress fracture, but no clear evidence proves they will reduce the risk of those athletes with leg length inequality or cavus feet. This article reviews other potential injury variables, including strength, biomechanics, stretching, warm-up, nutrition, psychological factors, and shoes. Additional research is needed to determine whether interventions to address any of these will help prevent running injury.

Treatment of atlantoaxial rotatory fixation with botulinum toxin muscle block and manipulation. Lin CH, Chen CJ, Chen CM, Liao SL, Raung SL, Tsai SW

Journal of the Chinese Medical Association : JCMA [Add to My Journals List](#) 

201004 73(4):222-4 Language: eng Country: China (Republic : 1949-) Department of Physical Medicine and Rehabilitation, Taichung Veterans General Hospital, Taiwan, ROC. Slippage after reduction of atlantoaxial rotatory fixation (AARF) is usually treated with repeated cervical traction and brace immobilization. To date, no data have been published on the management of muscle spasm during treatment. Here, we describe the case of a 7-year-old girl with AARF for 1 month who visited our hospital for treatment. During physical examination, spasm of the sternocleidomastoid muscle was noted. The patient was treated with manipulative reduction, and slippage after reduction was managed with botulinum spasticity block of the sternocleidomastoid and splenius capitis muscles, and repeated manipulation. Cervical orthosis immobilization with a rehabilitation program of isometric contract-relax exercise for the neck was conducted for 3 months. The subject had full recovery from AARF at 1-year follow-up. This report demonstrates that, in selected cases of slippage after reduction from AARF, conservative management with manipulation under anesthesia is a good method, and the muscle components may play a crucial role in AARF. PMID: 20457447

A comprehensive protocol to diagnose and treat pain of muscular origin may successfully and reliably decrease or eliminate pain in a chronic pain population.
Marcus NJ, Gracely EJ, Keefe KO

Pain medicine (Malden, Mass.) [Add to My Journals List](#) 


201001 11(1):25-34 Language: eng Country: United States NYU School of Medicine, Departments of Anesthesiology and Psychiatry, Norman Marcus Pain Institute, New York, New York 10016, USA. njm@nmpi.com OBJECTIVE: A comprehensive protocol is presented to identify muscular causes of regional pain syndromes utilizing an electrical stimulus in lieu of palpation, and combining elements of Prolotherapy with trigger point injections. METHODS: One hundred seventy-six consecutive patients were evaluated for the presence of muscle pain by utilizing an electrical stimulus produced by the Muscle Pain Detection Device. The diagnosis of "Muscle Pain Amenable to Injection" (MPAI), rather than trigger points, was made if pain was produced for the duration of the stimulation. If MPAI was found, muscle tendon injections (MTI) were offered to patients along with post-MTI physical therapy, providing neuromuscular electrical stimulation followed by a validated exercise program [1]. A control group, evaluated 1 month prior to their actual consultation/evaluation when muscle pain was identified but not yet treated, was used for comparison. RESULTS: Forty-five patients who met criteria completed treatment. Patients' scores on the Brief Pain Inventory decreased an average of 62%; median 70% ($P < 0.001$) for pain severity and 68%; median 85% ($P < 0.001$) for pain interference one month following treatment. These changes were significantly greater ($P < 0.001$) than those observed in the untreated controls. CONCLUSION: A protocol incorporating an easily reproducible electrical stimulus to diagnose a muscle causing pain in a region of the body followed by an injection technique that involves the entirety of the muscle, and post injection restoration of muscle function, can successfully eliminate or significantly reduce regional pain present for years. PMID: 20002599

Conservative management of lumbar disc herniation with associated radiculopathy: a systematic review. Hahne AJ, Ford JJ, McMeeken JM

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20100515 35(11):E488-504 Language: eng Country: United States Musculoskeletal Research Centre, School of Physiotherapy, La Trobe University, Bundoora, Victoria 3086, Australia. andrewhahne@gmail.com STUDY DESIGN: A systematic review of randomized controlled trials. OBJECTIVE: To determine the efficacy and adverse effects of conservative treatments for people who have lumbar disc herniation with associated radiculopathy (LDHR). SUMMARY OF BACKGROUND DATA: Although conservative management is commonly used for people who have LDHR, the efficacy and adverse effects of conservative treatments for this condition are unclear. METHODS: We searched 10 computer databases for trials published in English between 1971 and 2008. Trials focusing on people with referred leg symptoms and radiologic confirmation of a lumbar disc herniation were included if at least 1 group received a conservative and noninjection treatment. RESULTS: Eighteen trials involving 1671 participants were included. Seven (39%) trials were considered of high quality. Meta-analysis on 2 high-quality trials revealed that advice is less effective than microdiscectomy surgery at short-term follow-up, but equally effective at long-term follow-up. Individual high-quality trials provided moderate evidence that stabilization exercises are more effective than no treatment, that manipulation is more effective than sham manipulation for people with acute symptoms and an intact annulus, and that no difference exists among traction, laser, and ultrasound. One trial showed some additional benefit from adding mechanical traction to medication and electrotherapy methods. Adverse events were associated with traction (pain, anxiety, lower limb weakness, and fainting) and ibuprofen (gastrointestinal events). CONCLUSION: Advice is less effective than microdiscectomy in the short term but equally effective in the long term for people who have LDHR. Moderate evidence favors stabilization exercises over no treatment, manipulation over sham manipulation, and the addition of mechanical traction to medication and electrotherapy. There was no difference among traction, laser, and ultrasound. Adverse events were associated with traction and ibuprofen. Additional high-quality trials would allow firmer conclusions regarding adverse effects and efficacy.

Long term Tai Chi exercise improves physical performance among people with peripheral neuropathy. Li L, Manor B

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2010 38(3):449-59 Language: eng Country: Singapore Department of Kinesiology, Louisiana State University, Baton Rouge, Louisiana, USA. lli3@lsu.edu This study examined the effects of a 24-week Tai Chi intervention on physical function in individuals with peripheral neuropathy. Twenty-five women and men with peripheral neuropathy were recruited. Plantar pressure detection threshold was assessed with a 5.07 gauge monofilament. Functional gait was assessed by the 6-min walk and timed up-and-go tests. Isokinetic leg strength and standing balance was also assessed. Twenty-four consecutive weeks of modified, group-based Tai Chi practice was completed, with testing repeated every six weeks throughout. No adverse events were observed and attendance was 17 +/- 4 sessions per 6 weeks. After 6 weeks of Tai Chi, participants increased 6-min walk ($P < 0.0001$), timed up-and-go ($P < 0.0001$), and leg strength ($P < 0.01$) performance. Continued improvement was observed in the timed up-and-go. Plantar sensation improved ($P = 0.003$) following the Tai Chi intervention. Group-based Tai Chi is a safe, plausible, and effective intervention for those with PN. PMID: 20503464

Can pelvic floor muscle training reverse pelvic organ prolapse and reduce prolapse symptoms? An assessor-blinded, randomized, controlled trial. Braekken IH, Majida M, Engh ME, Bø K

American journal of obstetrics and gynecology [Add to My Journals List](#) 

201008 203(2):170.e1-7 Language: eng Country: United States Department of Sports Medicine, Norwegian School of Sport Sciences, Oslo, Norway. ingeborg.brekken@nih.no
OBJECTIVE: The aim of this study was to investigate the effectiveness of pelvic floor muscle training in reversing pelvic organ prolapse and alleviating symptoms. STUDY DESIGN: This assessor-blinded, parallel group, randomized, controlled trial conducted at a university hospital and a physical therapy clinic randomly assigned 109 women with prolapse stages I, II, and III to pelvic floor muscle training (n = 59) or control (n = 50). Both groups received lifestyle advices and learned "the Knack." In addition, pelvic floor muscle training comprised individual physical therapy sessions and home exercise. Student t test, Mann-Whitney U test, odds ratio, and effect size were used to compare groups. RESULTS: Eleven (19%) women in the pelvic floor muscle training group improved 1 Pelvic Organ Prolapse Quantification System stage vs 4 (8%) controls (P = .035). Compared with controls, the pelvic floor muscle training group elevated the bladder (difference: 3.0 mm; 95% confidence interval, 1.5-4.4; P < .001) and rectum (5.5 mm; 95% confidence interval, 1.4-7.3; P = .022) and reduced frequency and bother of symptoms compared with controls. CONCLUSION: Pelvic floor muscle training is without adverse effects and can be used as treatment for prolapse.

Teaching Chilean mothers to massage their full-term infants: effects on maternal breast-feeding and infant weight gain at age 2 and 4 months. Serrano MS, Doren FM, Wilson L

The Journal of perinatal & neonatal nursing [Add to My Journals List](#) 

2010 Apr-Jun 24(2):172-81 Language: eng Country: United States Universidad Católica de Chile Escuela de Enfermería, Pontificia Universidad Católica de Chile, Santiago de Chile, Vicuña Mackenna, Chile. mcampose@uc.cl The purpose of this study was to evaluate the effects of massage on infant weight gain and exclusive maternal breast-feeding of an intervention that involved teaching mothers to massage their full-term infants. The sample included 100 healthy newborn infants who were receiving primary healthcare at 3 health centers in a low-income neighborhood of Santiago, Chile. The control group included 65 infants and the massage group included 35 infants. During their second well-child clinic visit, clinic nurses provided instruction to massage-group mothers about how to massage their infants, based on the methods of the Baby's First Massage program (<http://www.babysfirstmassage.com/Scripts/default.asp>). Mothers were encouraged to massage their infants for 10 to 15 minutes at least once a day, starting when their infants were 15 days old. There was no difference in the mean weights of the infants between the massage and control groups at baseline, but at age 2 months, massage group infants weighed significantly more than control-group infants. There were no weight differences between the 2 groups at age 4 months. There were no differences between the 2 groups on the incidence of exclusive maternal breast-feeding at age 2 or 4 months. The findings suggest that teaching mothers to massage their newborn infants may have a beneficial effect on the infant's early weight gain. There is a need for additional studies to evaluate the effect of maternal massage on other health and welfare outcomes for both mothers and infants. PMID: 20442614

Manipulation under local anesthesia in idiopathic frozen shoulder--a new effective and simple technique. Khan JA, Devkota P, Acharya BM, Pradhan NM, Shreshtha SK, Singh M, Mainali L

Nepal Med Coll J

200912 11(4):247-53 Language: eng Country: Nepal Department of Orthopedics, Patan Hospital, Lagankhel, Nepal. drjaved123@yahoo.com Manipulation under anesthesia has been used to speed up the recovery of frozen shoulder (FS), which is said to be a self-limiting disease. This is a randomized prospective clinical trial performed in a tertiary care hospital. Thirty-one patients with idiopathic unilateral frozen shoulder underwent suprascapular nerve block and intraarticular local anesthesia with Methyl prednisolone acetate followed by manipulation of the glenohumeral joint. Differences in range of motion and pain were assessed before manipulation and at 7 days 6 weeks and 12 weeks. Passive range of motion increased significantly for abduction, external rotation, and internal rotation. Significant decrease in visual analogue pain (VAS) scores between initial and follow-up assessments was observed. Our results revealed that manipulation under suprascapular nerve block and intra-articular local anesthesia is a very simple, safe, cost effective and minimally invasive procedure for shortening the course of an apparently self-limiting disease and can improve shoulder function and symptoms quickly. PMID: 20635603


Responsiveness of 2 procedures for measurement of temporal and spatial gait parameters in older adults. Youdas JW, Childs KB, McNeil ML, Mueller AC, Quilter CM, Hollman JH

PM & R : the journal of injury, function, and rehabilitation [Add to My Journals List](#) 

201006 2(6):537-43 Language: eng Country: United States Physical Therapy, Mayo Clinic, 200 1st St. SW, Rochester, MN, 55905, USA. youdas.james@mayo.edu OBJECTIVE: To determine the responsiveness of the GAITRite system and a stopwatch-footfall count technique for measurement of walking speed, cadence, and stride length during comfortable and fast-paced walking. DESIGN: Criterion standard. SETTING: Research laboratory in a physical therapy education program. PARTICIPANTS: Twenty-four healthy volunteers (13 men, 11 women; mean age 74.5 years) without lower extremity injury or history of falls. INTERVENTIONS: Participants walked across a GAITRite mat with embedded pressure sensors at their self-selected comfortable and fast walking speeds. Simultaneously, an examiner, using a stopwatch, recorded the elapsed time necessary to cross the mat and


counted the number of complete footfalls. MAIN OUTCOME MEASURE(S): Walking speed, cadence, and stride length were compared between the GAITRite system and the stopwatch-footfall count technique for both comfortable and fast walking speeds. Responsiveness values for each procedure were described by the 95% minimal detectable change (MDC). RESULTS: During comfortable self-paced walking, MDC values for the stopwatch-footfall count technique ranged from 10% to 65% greater than those obtained for the GAITRite system. During fast self-paced walking MDC values for the stopwatch-footfall count technique ranged from 26% to 65% larger than those measured by the GAITRite system for the temporal and spatial gait performance parameters. CONCLUSIONS: When measured by the GAITRite system, the 95% MDC values for temporal and spatial gait parameters of older community-dwelling adults were more responsive to change than those obtained by the stopwatch-footfall technique. Clinicians should recognize that self-selected walking speed, cadence, and stride length when obtained by an instrumented walkway must be equal to or exceed 12.6 cm/s, 8.4 steps/min, or 7 cm, respectively, for the change to be considered real change and not from measurement error.

Vitamin and mineral supplementation effect on muscular activity and cycling efficiency in master athletes. Louis J, Hauswirth C, Bieuzen F, Brisswalter J

Applied physiology, nutrition, and metabolism = Physiologie appliquée, nutrition et métabolisme [Add to My Journals List](#) 


201006 35(3):251-60 Language: eng Country: Canada University of Nice Sophia Antipolis, Nice, France. The influence of vitamin and mineral complex supplementation on muscular activity and cycling efficiency was examined in elderly endurance-trained master athletes during a heavy cycling trial. Master athletes were randomly assigned in a double-blind process to 1 of 2 treatment groups: antioxidant supplementation (n = 8: As group) or placebo (n = 8: Pl group) for 21 days. After that time, each subject had to perform a 10-min session of cycling on a cycloergometer at a heavy constant intensity. Twenty-four to 48 h after this session, subjects performed an isometric maximal voluntary contraction before and immediately after a fatiguing strength training (leg press exercise) and the same 10-min cycling test after fatigue. Isometric maximal voluntary force (MVF) of knee extensors was assessed before and after fatigue. Electromyographic (EMG) activity of the vastus medialis, the vastus lateralis (VL), and the biceps femoris was recorded with surface EMG. The knee-extensors MVF after the fatiguing exercise was reduced in similar proportions for both groups (As, -10.9%; Pl, -11.3%, $p < 0.05$). This MVF loss was associated with a significant reduction in EMG frequency parameters for both groups, with a lower decrease for the As group. Muscular activity and cycling efficiency during the cycling bouts were affected by the treatment. Cycling efficiency decreased significantly and the oxygen uptake slow component was higher after the fatiguing exercise for both groups. Furthermore, a decrease in cycling efficiency was associated with an increase in VL activity. However, these changes were significantly lower for the As group. The results of the present study indicate an overall positive effect of vitamin and mineral complex supplementation on cycling efficiency after fatigue, in the endurance-trained elderly. PMID: 20555368

Effect of massage therapy on pain, anxiety, and tension after cardiac surgery: a randomized study. Bauer BA, Cutshall SM, Wentworth LJ, Engen D, Messner PK, Wood CM, Brekke KM, Kelly RF, Sundt TM

Complementary therapies in clinical practice [Add to My Journals List](#) 

201005 16(2):70-5 Language: eng Country: England Division of General Internal Medicine, Mayo Clinic, 200 First Street SW, Rochester, MN 55905, USA. bauer.brent@mayo.edu Integrative therapies such as massage have gained support as interventions that improve the overall patient experience during hospitalization. Cardiac surgery patients undergo long procedures and commonly have postoperative back and shoulder pain, anxiety, and tension. Given the promising effects of massage therapy for alleviation of pain, tension, and anxiety, we studied the efficacy and feasibility of massage therapy delivered in the postoperative cardiovascular surgery setting. Patients were randomized to receive a massage or to have quiet relaxation time (control). In total, 113 patients completed the study (massage, n=62; control, n=51). Patients receiving massage therapy had significantly decreased pain, anxiety, and tension. Patients were highly satisfied with the intervention, and no major barriers to implementing massage therapy were identified. Massage therapy may be an important component of the healing experience for patients after cardiovascular surgery. PMID: 20347836


The influence of muscle length on the fatigue-related reduction in joint range of motion of the human dorsiflexors. Cheng AJ, Davidson AW, Rice CL

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201006 109(3):405-15 Language: eng Country: Germany Faculty of Health Sciences, Canadian Centre for Activity and Aging, School of Kinesiology, The University of Western Ontario, Arthur and Sonia Labatt Health Sciences Building, London, ON, Canada.

acheng24@uwo.ca The fatigue-related reduction in joint range of motion (ROM) during dynamic contraction tasks may be related to muscle length-dependent alterations in torque and contractile kinetics, but this has not been systematically explored previously. Twelve young men performed a repetitive voluntary muscle shortening contraction task of the dorsiflexors at a contraction load of 30% of maximum voluntary isometric contraction (MVC) torque, until total 40 degrees ROM had decreased by 50% at task failure (POST) to 20 degrees ROM. At both a short (5 degrees dorsiflexion) and long muscle length (35 degrees plantar flexion joint angle relative to a 0 degrees neutral ankle joint position), voluntary activation, MVC torque, and evoked tibialis anterior contractile properties of a 52.8 Hz high-frequency isometric tetanus [peak evoked torque, maximum rate of torque development (MRTD), maximum rate of relaxation (MRR)] were evaluated at baseline (PRE), at POST, and up to 10 min of recovery. At POST, we measured similar fatigue-related reductions in torque (voluntary and evoked) and slowing of contractile kinetics (MRTD and MRR) at both the short and long muscle lengths. Thus, the fatigue-related reduction in ROM could not be explained by length-dependent fatigue. Although torque (voluntary and evoked) at both muscle lengths was depressed and remained blunted throughout the recovery period, this was not related to the rapid recovery of ROM at 0.5 min after task failure. The reduction in ROM, however, was strongly related to the reduction in joint angular velocity ($R(2) = 0.80$) during the fatiguing task, although additional factors cannot yet be overlooked. PMID: 20131063


The effect of different dynamic stretch velocities on jump performance. Fletcher IM

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201006 109(3):491-8 Language: eng Country: Germany Department of Sport and Exercise Science, University of Bedfordshire, Polhill Avenue, Bedford, UK. iain.fletcher@beds.ac.uk

Dynamic stretching has gained popularity, due to a number of studies showing an increase in high intensity performance compared to static stretch modalities. Twenty-four males (age mean 21 +/- 0.3 years) performed a standardised 10 min jogging warm-up followed by either; no stretching (NS), slow dynamic stretching at 50 b/min (SDS) or fast dynamic stretching at 100 b/min (FDS). Post-warm-up, squat, countermovement and depth jumps were performed. Heart rate, tympanic temperature, electromyography (EMG) and kinematic data (100 Hz) were collected during each jump. Results indicated that the FDS condition showed significantly greater jump height in all tests compared to the SDS and NS conditions. Further, the SDS trial resulted in significantly greater performance in the drop and squat jump compared to the NS condition. The reasons behind these performance changes are multi-faceted, but appear to be related to increases in heart rate and core temperature with slow dynamic stretches, while the greater increase in performance for the fast dynamic stretch intervention is linked to greater nervous system activation, shown by significant increases in EMG. In conclusion, a faster dynamic stretch component appears to prepare an athlete for a more optimum performance. PMID: 20162300

Suppression of pain-related thoughts and feelings during pain-induction: sex differences in delayed pain responses. Burns JW, Elfant E, Quartana PJ

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201006 33(3):200-8 Language: eng Country: United States Department of Behavioral Sciences, Rush University, 1653 W. Congress Parkway, 310 Rawson, Chicago, IL 60612, USA. john.burns@rosalindfranklin.edu Women tend to report greater acute and chronic pain intensity than men, and various mechanisms have been proposed to account for these sex differences. Suppression has been related to amplified pain intensity, and thus we examined whether sex differences in the use of suppression partly explained the discrepancy between men and women on pain report. Participants (N = 222; women: 55%) underwent a cold pressor, during which half the sample was randomly assigned to suppress pain-related thoughts and feelings and the other half was not. A 2-min recovery period followed the cold pressor. Ten min later, all participants were exposed to another physical stimulus (a massage device). Significant condition x Sex interactions were found for pain intensity, sensory ratings from the McGill Pain Questionnaire and unpleasantness ratings for the massage device, such that: (a) men in the No Suppression condition reported lower pain and unpleasantness than women in the same condition; (b) men in Suppression condition reported greater pain and unpleasantness than men in No Suppression condition, but equivalent pain and unpleasantness to women in No Suppression condition; (c) differences between men and women on pain in No Suppression condition were partly mediated by women's report of greater spontaneous use of avoidance/suppression during the cold pressor. Results using an "addition" paradigm (i.e., manipulating use of suppression) and a "take away" (i.e., mediation) paradigm converge to suggest that women spontaneously use suppression to regulate pain more than men, and that the differential use of suppression partly explains the tendency for women to report greater pain intensity than men. PMID: 20131090

The physiological and psychological effects of slow-stroke back massage and hand massage on relaxation in older people. Harris M, Richards KC

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201004 19(7-8):917-26 Language: eng Country: England College of Nursing, University of Arkansas for Medical Sciences, Little Rock, AR 72205, USA. harrismelodee@uams.edu
BACKGROUND AND AIMS: In recent years, the nursing profession used technology and pharmacology to relieve conditions such as pain, anxiety and insomnia that were once treated with massage. However, interest in massage has grown with the move to more holistic nursing. This review examines the physiological and psychological effects of slow-stroke back massage and hand massage on relaxation in older people and identifies effective protocols for massage in older people. DESIGN: Review. METHODS: Cooper's five-stage model was used in the review process. The search strategy included all studies without limiters for dates through June 2009 in the following databases: Ovid Medline, Cochrane databases, PubMed, EBSCO, CINAHL, Health Resource, PsychINFO and EMB Reviews 1991-June 2009. The quality of the research was evaluated using the Research Appraisal Checklist. Twenty-one studies met the inclusion criteria for massage, relevance to older people and rigorous research. RESULTS: All studies using slow-stroke back massage and hand massage showed statistically significant improvements on physiological or psychological indicators of relaxation. The most common protocols were three-minute slow-stroke back massage and 10-minute hand massage. CONCLUSION: Physiological and psychological indicators suggest the effectiveness of slow-stroke back massage and hand massage in promoting relaxation in older people across all settings. RELEVANCE TO CLINICAL PRACTICE: Studies are needed to analyse the feasibility and cost effectiveness of massage to develop best practices for massage interventions in older people. PMID: 20492036

Soft tissue massage: early intervention for relatives whose family members died in palliative cancer care. Cronfalk BS, Ternstedt BM, Strang P

Journal of clinical nursing [Add to My Journals List](#) 

201004 19(7-8):1040-8 Language: eng Country: England Department of Oncology-Pathology, Karolinska Institutet and The Vårdal Institute, The Swedish Institute for Health Sciences and Research and Development Department, Stockholms Sjukhem Foundation, Stockholm, Sweden. berit.cronfalk@ki.se AIM AND OBJECTIVES: This paper explores how bereaved relatives experienced soft tissue massage during the first four months after the death of a family member who was in palliative cancer care. BACKGROUND: Death of a close family member or friend is recognised as being an emotional and existential turning point in life. Previous studies emphasise need for various support strategies to assist relatives while they are grieving. DESIGN: Qualitative design. METHOD: Eighteen bereaved relatives (11 women and seven men) received soft tissue massage (25 minutes, hand or foot) once a week for eight weeks. In-depth interviews were conducted after the end of the eight-week periods. Interviews were analysed using a qualitative descriptive content analysis method. RESULTS: Soft tissue massage proved to be helpful and to generate feelings of consolation in the first four months of grieving. The main findings were organised into four categories: (1) a helping hand at the right time, (2) something to rely on, (3) moments of rest and (4) moments of retaining energy. The categories were then conceptualised into this theme: feelings of consolation and help in learning to restructure everyday life. CONCLUSIONS: Soft tissue massage was experienced as a commendable source of consolation support during the grieving process. An assumption is that massage facilitates a transition toward rebuilding identity, but more studies in this area are needed. RELEVANCE TO CLINICAL PRACTICE: Soft tissue massage appears to be a worthy, early, grieving-process support option for bereaved family members whose relatives are in palliative care. PMID: 20492048

Use of complementary and alternative medicine by patients with arthritis. Unsal A, Gözüm S

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201004 19(7-8):1129-38 Language: eng Country: England Ahi Evran University School of Health, Ahi Evran Universitesi Saglik Yüksekokulu, Turkey. AIMS AND OBJECTIVES: The aims of this study were to determine the prevalence of complementary and alternative medicine use in patients with arthritis, the types of complementary and alternative medicine used, pertinent socio-demographic factors associated with complementary and alternative medicine use and its perceived efficacy. BACKGROUND: Arthritis is a major health issue, and the use of complementary and alternative medicine among patients with arthritis is common. DESIGN: This is a descriptive cross-sectional study. METHODS: Data were obtained from 250 patients with arthritis at the physiotherapy and immunology clinics Atatürk University Hospital in eastern Turkey between May-July 2005 using a questionnaire developed specifically for this study. The instrument included questions on socio-demographic information, disease specifics and complementary and alternative medicine usage. RESULTS: Seventy-six per cent of participants reported use of at least one form of complementary and alternative medicine in the previous year. Complementary and alternative medicine users and non-users were not significantly different in most socio-demographic characteristics including age, gender, marital status and education level with the exception of economic status. We categorised treatment into six complementary and alternative medicine categories: 62.6% of patients used thermal therapies; 41.5% used oral herbal therapies; 40.5% used hot therapies; 32.6% used externally applied (skin) therapies; 28.4% used massage and 12.6% used cold therapies. All forms of complementary and alternative medicine except thermal and oral herbal therapies were perceived as very effective by more than half of study participants. CONCLUSIONS: Complementary and alternative medicine therapy is widely used by patients with arthritis and has perceived beneficial effects. RELEVANCE TO CLINICAL PRACTICE: It is important for nurses and other health care professionals to be knowledgeable about the use of complementary and alternative medicine therapies when providing care to patients with arthritis because of possible interactions with other treatments, delays in seeking care and the potential for poor quality products. It is also essential for health professionals to discuss treatment options with patients and to monitor treatment efficacy. PMID: 20492058

The biomechanical effects of focused muscle training on medial knee loads in OA of the knee: a pilot, proof of concept study. Thorp LE, Wimmer MA, Foucher KC, Sumner DR, Shakoor N, Block JA

Journal of musculoskeletal & neuronal interactions [Add to My Journals List](#) 


201006 10(2):166-73 Language: eng Country: Greece Department of Orthopaedic Surgery, Rush University Medical Center, Chicago, IL, USA. Laura_Thorp@rush.edu BACKGROUND: High dynamic loads of the medial knee are associated with tibiofemoral osteoarthritis (OA) severity and progression. The lower extremity acts as an integrated kinetic unit, thus treatments targeting adjacent segments may promote reductions in the loading of a symptomatic knee. This study examined the biomechanical effects of a lower extremity exercise regimen, emphasizing training of hip abductor musculature, on dynamic knee loads in individuals with knee OA. METHODS: Six subjects with medial compartment knee OA participated in a proof of concept study of a four-week exercise program specifically targeting the hip abductor musculature in combination with traditional quadriceps and hamstring training. Assessments included gait analyses to measure the external knee adduction moment, a surrogate marker of medial knee joint loading as well as WOMAC questionnaires and strength evaluations. RESULTS: All subjects demonstrated a decrease in their external knee adduction moment, with an average decrease of 9% ($p < 0.05$) following the exercise intervention. There was a 78% ($p < 0.05$) decrease in WOMAC knee pain scores. CONCLUSIONS: These results suggest that targeting hip, rather than only knee musculature, may represent an effective biomechanically-based treatment option for medial knee OA. PMID: 20516634

Effects of one-month continuous passive motion after arthroscopic rotator cuff repair: results at 1-year follow-up of a prospective randomized study. Garofalo R, Conti M, Notarnicola A, Maradei L, Giardella A, Castagna A

Musculoskeletal surgery [Add to My Journals List](#) 

201005 94 Suppl 1:S79-83 Language: eng Country: Italy Orthopaedic and Traumatologic Unit, Regional Hospital F. Miulli, Bari, Italy. raffaelegarofalo@gmail.com The study included 100 patients who underwent an arthroscopic rotator cuff repair. All patients suffered about a rotator cuff tear that was repaired arthroscopically with a suture anchor technique. Immediately postoperatively, patients were randomly allocated to one of two different postoperative physiotherapy regimens: passive self-assisted range of motion exercise (controls: 46 patients) versus passive self-assisted range of motion exercise associated with use of continuous passive motion (CPM) for a total of 2 h per day (experimental group: 54 patients), for 4 weeks. After this time, all the patients of both groups underwent the same physical therapy protocol. An independent examiner assessed the patients at 2.5, 6 and 12 months particularly about pain with the VAS scale (0-10) and the range of motion (ROM). Our findings show that postoperative treatment of an arthroscopic rotator cuff repair with passive self-assisted exercises associated with 2-h CPM a day provides a significant advantage in terms of ROM improvement and pain relief when compared to passive self-assisted exercise alone, at the short-term follow-up. No significant differences between the two groups were observed at 1 year postoperatively. PMID: 20383685

Validity of the fingertip-to-floor test and straight leg raising test in patients with acute and subacute low back pain: a comparison by sex and radicular pain.
Ekedahl KH, Jönsson B, Frobell RB

Archives of physical medicine and rehabilitation [Add to My Journals List](#) 

201008 91(8):1243-7 Language: eng Country: United States Department of Health Science, Lund University, Lund, Sweden. harald.ekedahl@comhem.se OBJECTIVE: To use self-reported disability (Roland-Morris Disability Questionnaire [RMDQ]) to assess the criterion validity of straight leg raising (SLR) test and flexion range of motion (ROM) (fingertip-to-floor test) before and after stratification by sex and presence/absence of radicular pain. DESIGN: Cross-sectional study. SETTING: Outpatient physical therapy clinic. PARTICIPANTS: Subjects with acute/subacute low back pain with (n=40) and without (n=35) radicular pain. INTERVENTIONS: Not applicable. MAIN OUTCOME MEASURES: We examined the relationship between RMDQ (reference variable) and SLR test and fingertip-to-floor test. The sample was stratified by presence/absence of radicular pain (categorized by the dichotomous slump test). RESULTS: In the entire sample, fair correlations were found between both physical impairment tests (ie, SLR test and flexion ROM) and self-reported disability (.27.44). After stratification by sex, the correlation between RMDQ and flexion ROM and between RMDQ and nonside-specific SLR test increased in women but decreased in men. In those with radicular pain, good correlations were found between RMDQ and flexion ROM ($r=.68$ for men and $r=.70$ for women), and moderate correlation was found between the RMDQ and SLR tests of the affected side in women ($r=.60$), but only fair correlation was found between the RMDQ and SLR tests of the affected side in men ($r=.28$). CONCLUSIONS: After stratification by sex and presence/absence of radicular pain, the present study supports a good validity of the fingertip-to-floor test for both men and women with radicular pain. The SLR test, however, was of less value as an indicator of self-reported disability after stratification, especially for men. PMID: 20684905

