

SportsMedUpdate

EFFECTIVENESS OF EXTRACORPOREAL SHOCK WAVE THERAPY IN THE TREATMENT OF PREVIOUSLY UNTREATED LATERAL EPICONDYLITIS

Chung B, Wiley JP. *Am J Sports Med* 2004;32:1660-7

Background:

Extracorporeal shock wave therapy (ECSWT) has been proposed as a treatment modality for chronic tendon-related pain, but few randomised controlled trials have been performed to evaluate its efficacy.

Research question/s:

Does ECSWT result in a higher rate of treatment success than placebo in patients suffering from lateral epicondylitis?

Methodology:

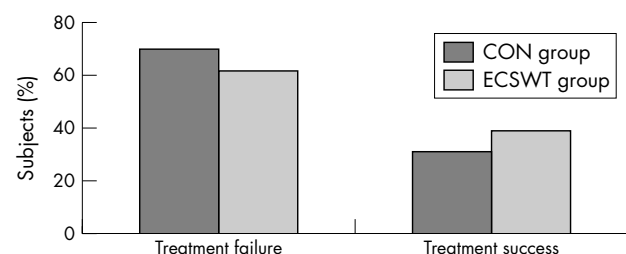
Subjects: 60 subjects (23 female, 37 male) with untreated lateral epicondylitis (<1 year, >3 weeks).

Experimental procedure: Subjects were randomly allocated to receive one session per week for 3 weeks of either sham (CON=29) or active treatment (ECSWT=31). Subjects in the ECSWT group received 2000 pulses (energy flux density, 0.03 to 0.17 mJ/mm²) once per week for 3 weeks, while all subjects performed regular forearm stretching. Follow up was conducted after 8 weeks of therapy. Visual analogue scale scores (0-10) for pain at rest, during sleep, during activity, at its worst, and at its least, as well as for quality of life (using the EuroQoL questionnaire) and grip strength were collected.

Measures of outcome: Treatment successes (%) according to fulfilment of three criteria: (1) ≥50% reduction in the overall pain (VAS score); (2) a maximum overall pain score of 4.0 cm (VAS); and (3) no use of pain medication for elbow pain for 2 weeks before the 8 week assessment.

Results:

- There was a mean increase in quality of life of 1.3 and 3.3 for the CON and the ECSWT groups, respectively
- There was a mean increase in grip strength of 7.4 kg and 6.8 kg for the CON and the ECSWT group, respectively



Conclusion/s:

Extracorporeal shock wave therapy combined with forearm stretching programme does not increase treatment success over 8 weeks in patients suffering from lateral epicondylitis, despite some improvement in pain scores and pain-free maximum grip strength.

Evidence based rating: 8/10 **Clinical interest rating:** 8/10

Type of study: Randomised, double blind, placebo controlled clinical trial

Methodological considerations: Long term outcome measures not included, sample size possibly too small to detect differences

Keywords: tennis elbow, lateral epicondylitis, treatment, extracorporeal shock wave therapy (ESWT)

EFFECTIVENESS OF GLUCOSAMINE FOR SYMPTOMS OF KNEE OSTEOARTHRITIS: RESULTS FROM AN INTERNET-BASED RANDOMISED DOUBLE BLIND CONTROLLED TRIAL

McAlindon T, Formica M, LaValley M, et al. *Am J Med* 2004;117:643-9

Background:

The possible beneficial effects of oral glucosamine in reducing the symptoms of osteoarthritis of the knee are still controversial.

Research question/s:

What is the safety and effectiveness of 12 weeks oral glucosamine among subjects with knee osteoarthritis who were recruited and followed entirely over the Internet?

Methodology:

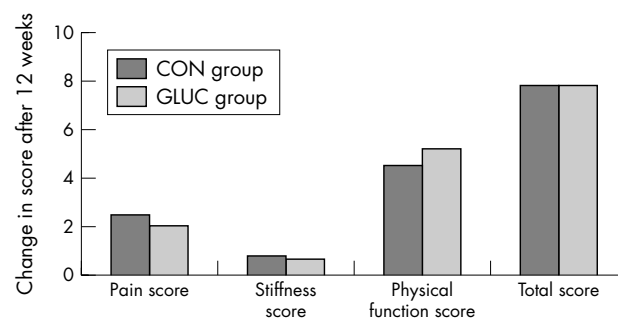
Subjects: 205 subjects (≥45 years) with symptomatic knee osteoarthritis.

Experimental procedure: Subjects were recruited over the Internet and authenticated through review of their medical records. All subjects were randomly assigned to 1.5 g/d of glucosamine (GLUC=101) or placebo (CON=104), of whom 108 completed the intervention (93 in each arm).

Measures of outcome: Pain, physical function, and stiffness subscales of the Western Ontario and McMaster Universities Osteoarthritis Index (Likert version), overall score of the questionnaire, and analgesic use.

Results:

- The change in analgesic use between the two groups was similar, and the number and type of adverse events reported was similar between the groups
- Stratification by osteoarthritis severity, glucosamine product, and use of a non-steroidal anti-inflammatory drug, as well as exclusion of opiate users, did not alter the results



Conclusion/s:

12 week oral glucosamine appears to be safe, but is not more effective than placebo in treating the symptoms (pain, stiffness, physical function, analgesic use) of knee osteoarthritis.

Evidence based rating: 8/10 **Clinical interest rating:** 8/10

Type of study: Internet-based, randomised, double blind, placebo controlled clinical trial

Methodological considerations: Internet based study, short term follow up

Keywords: knee, osteoarthritis, glucosamine, symptoms

PREVALENT USE OF DIETARY SUPPLEMENTS AMONG PEOPLE WHO EXERCISE AT A COMMERCIAL GYM

Morrison LJ, Gizis, Shorter B. *Int J Sport Nutrition & Exerc Metabol* 2004;14:481-92

Background:

There is anecdotal evidence that nutritional supplement use is very prevalent in people who exercise regularly at commercial gymnasiums.

Research question/s:

What is the prevalence of nutritional supplement use in people who regularly train at a gymnasium?

Methodology:

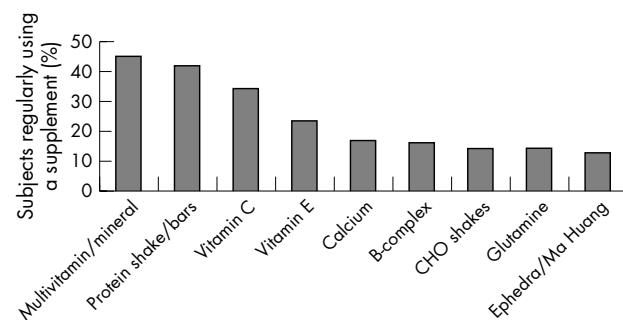
Subjects: 222 persons who exercised regularly (≥ 1 hour, four times per week) at a gymnasium.

Experimental procedure: All of the subjects completed an anonymous questionnaire. Subjects' reasons for exercising were: bodybuilding (29.7%), health reasons (19.6%), endurance cardiovascular (8.7%), weight loss (8.2%), and improved sports performance (7.3%).

Measures of outcome: Supplement use (including categories), reasons for use, comparison by age groups.

Main finding/s:

- Prevalence of supplement use: 84.7% of the subjects took supplements
- Choices and reasons for dietary supplement use varied with age of the participant
- Younger subjects consumed creatine more frequently, while oldest participants took supplements to prevent future illness, and others to build muscle
- Bodybuilders more frequently consumed protein, creatine, and ephedra compared with those exercising for health reasons



Conclusion/s:

The use of nutritional supplements is very common (overall prevalence of use 85%) among people exercising at a gymnasium. Age and reasons for exercising influence the choice of supplements.

Evidence based rating: 7/10 **Clinical interest rating:** 7.5/10

Type of study: Case series with cross sectional component

Methodological considerations: Descriptive study

Keywords: gymnasiums, athletic training, ephedra, supplements, vitamins, ergogenic aids, nutrient supplementation

A SHORT COURSE OF CARDIAC REHABILITATION IS HIGHLY COST EFFECTIVE IN IMPROVING LONG TERM QUALITY OF LIFE IN PATIENTS WITH RECENT MYOCARDIAL INFARCTION OR PERCUTANEOUS CORONARY INTERVENTION

Yu C-M, Lau C-P, Chau J, et al. *Arch Phys Med Rehabil* 2004;85:1915-22

Background:

The cost effectiveness of a short course (6 months) of cardiac rehabilitation is not well known.

Research question/s:

What is the long term effect of a cardiac rehabilitation and prevention programme (CRPP) on quality of life (QoL) and what is its cost effectiveness?

Methodology:

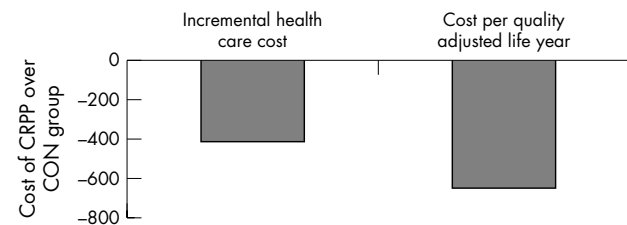
Subjects: 269 patients (76% male; age 64 ± 11 years) with recent acute myocardial infarction (AMI; $n = 193$) or after elective percutaneous coronary intervention (PCI; $n = 76$).

Experimental procedure: Subjects were randomised in a ratio of 2 to 1 to either a CRPP group (8 weeks exercise and education class in phase 2) or conventional therapy without exercise programme (CON) group. Subjects were followed at the end of each of the four phases for 2 years.

Measures of outcome: (1) Quality of life assessments: 36-Item Short-Form Health Survey (SF-36), Symptoms Questionnaire; and (2) Costs: direct health care cost was calculated and cost utility was estimated as money spent (in US\$) per quality-adjusted life-year (QALY) gained.

Main finding/s:

- QoL improved significantly after phase 2 only in the CRPP group (6/8 SF-36 dimensions improved) and were maintained throughout the 2 year study period. Patients in the CRPP group were less anxious and depressed, and felt more relaxed and contented
- Mean total costs/patient in the CRPP and CON groups were US\$ 15 291, and 1507 USD US\$
- The cost utility of the CRPP over the CON group was \$640 saved/QALY gained, and this was attributable to the lower rate (13% vs 26% of patients, $p < 0.05$) and cost of angioplasty in the CRPP group ($p = 0.01$)



Conclusion/s:

A short course (6 months) of a cardiac rehabilitation and prevention programme was highly cost effective in providing better QoL (for up to 2 years) to patients with recent AMI or after elective PCI.

Evidence based rating: 7/10 **Clinical interest rating:** 8/10

Type of study: Prospective, randomised controlled clinical trial

Methodological considerations: Small sample, short follow up, not very accurate estimation of costs

Keywords: cardiac rehabilitation, cost analysis, exercise, myocardial ischaemia, quality of life