

## Acupuncture Research

1. Osteoarthritis
2. Dysmenorrhea
4. Neck Pain
5. Substance Abuse
6. Headache and Migraine
7. Allergies
8. Fertility Support

The list below provides a snapshot of some of the research available regarding acupuncture's clinical efficacy. The selection here is by no means exhaustive. Additionally, new research projects are being regularly initiated examining the role of acupuncture and Chinese herbal medicine for all manner of conditions. Consult the links below if you are interested to learn more.

<http://acupuncture.com/research/>

<http://www.avicenna.co.uk/research-lifestyle/>

<http://www.internethealthlibrary.com/Therapies/AcupunctureResearch.htm>

<http://nccam.nih.gov/health/acupuncture/>

[http://nccam.nih.gov/news/newsletter/2008\\_april/acupuncturecon.htm](http://nccam.nih.gov/news/newsletter/2008_april/acupuncturecon.htm)

### Acupuncture and Osteoarthritis

1. Berman BM, Lao L, Langenberg P, Lee WL, Gilpin AM, Hochberg MC. **Effectiveness of acupuncture as adjunctive therapy in osteoarthritis of the knee: a randomized, controlled trial.** Ann Intern Med. 2004 Dec 21;141(12):901-10.

**Objective of Study:** To determine whether acupuncture provides greater pain relief and improved function compared with sham acupuncture or education in patients with osteoarthritis of the knee.

**Design:** Randomized, controlled trial. Two outpatient clinics (an integrative medicine facility and a rheumatology facility) located in academic teaching hospitals and 1 clinical trials facility. 570 patients with osteoarthritis of the knee (mean age [ $\pm$ SD], 65.5  $\pm$  8.4 years) participated.

**Intervention:** 23 true acupuncture sessions over 26 weeks. Controls received 6 two-hour sessions over 12 weeks or 23 sham acupuncture sessions over 26 weeks.

**Results:** Participants in the true acupuncture group experienced greater improvement in WOMAC function scores than the sham acupuncture group at 8 weeks. At 26 weeks, the true acupuncture group experienced significantly greater improvement than the sham group in the WOMAC function score (mean difference, -2.5 [CI, -4.7 to -0.4];  $P = 0.01$ ), WOMAC pain score (mean difference, -0.87 [CI, -1.58 to -0.16];  $P = 0.003$ ), and patient global assessment (mean difference, 0.26 [CI, 0.07 to 0.45];  $P = 0.02$ ).

**Conclusions:** Acupuncture seems to provide improvement in function and pain relief as an adjunctive therapy for osteoarthritis of the knee when compared with credible sham acupuncture and education control groups.

2. Vas J, Mendez C, Perea-Milla E, Vega E, Panadero MD, Leon JM, Borge MA, Gaspar O, Sanchez-Rodriguez F, Aguilar I, Jurado R. **Acupuncture as a complementary therapy to the pharmacological treatment of osteoarthritis of the knee: randomized controlled trial.** British Medical Journal. 2004 Nov 20;329(7476):1216.

**Objective of Study:** To analyze the efficacy of acupuncture as a complementary therapy to the pharmacological treatment of osteoarthritis of the knee, with respect to pain relief, reduction of stiffness, and increased physical function during treatment; modifications in the consumption of diclofenac during treatment; and changes in the patient's quality of life.

**Design:** Randomized, controlled, single blind trial, with blinded evaluation and statistical analysis of results. The study was conducted at a Pain management unit in a public primary care center in southern Spain, over a period of two years. The study included 97 outpatients presenting with osteoarthritis of the knee. 3

**Intervention:** Patients were randomly separated into two groups, one receiving acupuncture plus diclofenac (n = 48) and the other placebo acupuncture plus diclofenac (n = 49).

**Results:** 88 patients completed the trial. In the intention to treat analysis, the WOMAC index presented a greater reduction in the intervention group than in the control group. The reduction was greater for functional activity. Results indicate that acupuncture treatment produces significant changes in physical capability (P = 0.021) and psychological functioning (P = 0.046).

**Conclusion:** Acupuncture plus diclofenac is more effective than placebo acupuncture plus diclofenac for the symptomatic treatment of osteoarthritis of the knee.

3. Usichenko TI, Hermsen M, Witstruck T, Hofer A, Pavlovic D, Lehmann C, Feyerherd F. **Auricular Acupuncture for Pain Relief after Ambulatory Knee Arthroscopy-A Pilot Study.** Evid Based Complement Alternat Med. 2005 Jun;2(2):185-189. **Objective of the Study:** To assess the range of analgesia of Auricular Acupuncture after ambulatory knee arthroscopy. **Design:** Twenty patients randomly received a true Auricular Acupuncture procedure (Lung, Shenmen and Knee points) or sham procedure (three non-acupuncture points on the auricular helix) before ambulatory knee arthroscopy. Permanent press AA needles were retained in situ for one day after surgery. Post-operative pain was treated with non-steroidal anti-inflammatory ibuprofen, and weak oral opioid tramadol was used for rescue analgesic medication.

**Results:** Ibuprofen consumption after surgery in the Auricular Acupuncture group was lower than in the control group: median 500 versus 800 mg, P = 0.043. Pain intensity on a 100 mm visual analogue scale for pain measurement and other parameters were similar in both groups. **Conclusions:** Auricular Acupuncture might be useful in reducing the post-operative analgesic requirement after ambulatory knee arthroscopy.

4. Berman BM, Singh BB, Lao L, Langenberg P, Li H, Hadhazy V, Bareta J, Hochberg M. **A randomized trial of acupuncture as an adjunctive therapy in osteoarthritis of the knee.** Rheumatology (Oxford). 1999 Apr;38(4):346-54.

**Objective:** The purpose of this study was to investigate the efficacy of acupuncture as an adjunctive therapy to standard care for the relief of pain and dysfunction in elderly patients with osteoarthritis (OA) of the knee.

**Design:** Seventy-three patients with symptomatic OA of the knee were randomly assigned to treatment (acupuncture) or standard care (control).

**Results:** Patients randomized to acupuncture improved on both WOMAC and Lequesne indices compared to those who received standard treatment alone.

**Conclusion:** These data suggest that acupuncture is an effective and safe adjunctive therapy to conventional care for patients with OA of the knee.

## **Dysmenorrhea**

1. Chen HM, Chen CH. **Effects of acupressure at the Sanyinjiao point on primary dysmenorrhea.** J Adv Nurs. 2004 Nov; 48(4):380-7.

**Objective of Study:** This paper presents the findings of a study that assessed the effects of acupressure at the Sanyinjiao point on symptoms of primary dysmenorrhea among adolescent girls.

**Design:** The experimental group (n = 35) received acupressure at Sanyinjiao, Sp-6, (above the ankle) while the control group (n = 34) rested for 20 min, while the control group underwent rest in the school health center for 20 min without receiving acupressure. Fifty participants (30 experimental, 20 control) completed the 4-6-week follow-up session.

**Results:** Acupressure at Sanyinjiao during the initial session reduced the pain and anxiety typical of dysmenorrhea. In the self-treatment follow-up session, acupressure at Sanyinjiao significantly reduced menstrual pain but not anxiety. Thirty-one (87%) of the 35 experimental participants reported that acupressure was helpful, and 33 (94%) were satisfied with acupressure in terms of its providing pain relief and psychological support during dysmenorrhea.

**Conclusion:** The findings suggest that acupressure at Sanyinjiao can be an effective, intervention for reducing pain and anxiety during dysmenorrhea.

2. Habek D, Cerkez Habek J, Bobic-Vukovic M, Vujic B. **Efficacy of Acupuncture for the Treatment of Primary Dysmenorrhea.** Gynakol Geburtshilfliche Rundsch. 2003 Oct;43(4):250-3.

**Objective of Study:** The aim of this study was to evaluate the effect of acupuncture (AP) in the treatment of primary dysmenorrhea (PD).

**Design:** A clinical prospective, placebo-controlled trial included 57 women with PD. Of these, 30 were treated with manual AP points: Du 20 (Baihui), bilateral Li 4 (Hegu), Ren 3 (Zhongji), Ren 4 (Guanyuan), Ren 6 (Qihai), bilateral Gb 34 (Yanglingquan), bilateral Ub 23 (Shenshu), bilateral Lp 6 (Sanyinjiao) and auriculoacupuncture points (Shenmen). 27 women were treated with placebo AP.

**Results:** The occurrence of PD in nulliparae was statistically relevant ( $p < 0.001$ ). Statistically relevant was also the decrease in medication in women to whom AP had been applied ( $p < 0.0001$ ), which was not the case in the placebo group ( $p > 0.5$ ).

**Conclusions:** The success rate of AP for the treatment of PD symptoms within 1 year after the AP treatment is 93.3% in the first group and 3.7% in the placebo group.

3. Lewers D, Clelland JA, Jackson JR, Varner RE, Bergman J. **Transcutaneous electrical nerve stimulation in the relief of primary dysmenorrhea.** Phys Ther. 1989 Jan;69(1):3-9.

**Objectives of Study:** The purpose of this study was to determine the effectiveness of acupuncture transcutaneous electrical nerve stimulation in treating primary dysmenorrhea.

**Design:** Twenty-one women with dysmenorrhea received a placebo pill or 30 minutes of electro-acupuncture. All subjects completed two pain questionnaires before treatment; immediately post-treatment; 30, 60, 120, and 180 minutes post-treatment; and the next morning upon awakening.

**Results and Conclusions:** Results revealed an average pain relief of at least 50% immediately post treatment, indicating that electro acupuncture may be useful for dysmenorrhea pain. This study also suggests that auriculotherapy via acupressure may relieve the pain of primary dysmenorrhea.

## Low Back Pain

1. Ceccherelli F, Gagliardi G, Barbagli P, Caravello M. **Correlation between the number of sessions and therapeutic effect in patients suffering from low back pain treated with acupuncture: a randomized controlled blind study.** Minerva Med. 2003 Aug;94(4 Suppl 1):39-44.

**Objective of the Study:** The aim of this study is to verify the therapeutic effect of acupuncture in low back pain treatment and to test if the number of sessions could influence the results at the end of therapy.

**Design:** Thirty-one patients, suffering from low back pain, were randomly divided into 2 groups: the first group (16 patients, 5 males and 11 females, mean age 57.17 +/- 13.06 years) received 5 weekly somatic acupuncture sessions; the second group (15 patients, 4 males and 11 females, mean age 49.36 +/- 11.98 years) underwent 10 weekly somatic acupuncture sessions. The acupoints used were the same in both groups. Pain was monitored by a daily self rating chart. Pain was recorded using a card filled in by the patient, every day. At the end of therapy, a

remaining pain scored between 0% and 50% of original pain was considered a good result; unsatisfactory result was a pain between 51% and 80%; poor result a score of 81% or more of original pain.

**Results:** In the first group, 11 patients (68.75%) obtained a good result, 1 patient (6.25%) an unsatisfactory result and 4 patients (25%) a poor result. The remaining pain was 65.5% of the original pain (unsatisfactory result). In the second second group, 13 patients (86.66%) obtained a good result and 2 patients (13.33%) a poor result. The remaining pain was 43.9% of the original pain.

**Conclusions:** Ten sessions of acupuncture seem to gain a better therapeutic effect than 5 in the treatment of chronic low back pain.

2. Kvorning N, Holmberg C, Grennert L, Aberg A, Akeson J. **Acupuncture relieves pelvic and low-back pain in late pregnancy.** Acta Obstet Gynecol Scand. 2004 Mar;83(3):246-50.

**Objective of the Study:** The study was designed to evaluate the analgesic effect and possible adverse effects of acupuncture for pelvic and low-back pain during the last trimester of pregnancy.

**Design:** Following individual informed consent, 72 pregnant women reporting pelvic or low-back pain were randomized during pregnancy weeks 24-37 to an acupuncture group (n = 37) or to a control group (n = 35) at three maternity wards in southern Sweden. Traditional acupuncture points and local tender points (TP) were chosen according to individual pain patterns and stimulated once or twice a week until delivery or complete recovery in acupuncture patients.

**Results:** During the study period, VAS scorings of pain intensity decreased over time in 60% of patients in the acupuncture group and in 14% of those in the control group (p < 0.01). At the end of the study period, 43% of the acupuncture patients were less bothered than initially by pain during activity compared with 9% of control patients (p < 0.01). No serious adverse effects of acupuncture were found in the patients, and there were no adverse effects at all in the infants.

**Conclusions:** Acupuncture relieves low-back and pelvic pain without serious adverse effects in late pregnancy.

3. Meng CF, Wang D, Ngeow J, Lao L, Peterson M, Paget S. **Acupuncture for chronic low back pain in older patients: a randomized, controlled trial.** Rheumatology (Oxford). 2003 Dec;42(12):1508-17.

**Objective of Study:** To determine if acupuncture is an effective, safe adjunctive treatment to standard therapy for chronic low back pain (LBP) in older patients.

**Design:** The subjects were randomized to two groups. The control group of subjects continued their usual care as directed by their physicians, i.e. NSAIDs, muscle relaxants, paracetamol and back exercises. Subjects in the acupuncture group in addition received biweekly acupuncture with electrical stimulation for 5 weeks. Fifty-five patients were enrolled, with eight drop-outs. Twenty-four subjects were randomized to the acupuncture group and 23 were randomized to the control group.

**Results:** Acupuncture subjects had a significant decrease in RDQ (Roland Disability Questionnaire) score of 4.1 +/- 3.9 at week 6, compared with a mean decrease of 0.7 +/- 2.8 in the control group (P = 0.001). This effect was maintained for up to 4 weeks after treatment at week 9, with a decrease in RDQ of 3.5 +/- 4.4 from baseline, compared with 0.43 +/- 2.7 in the control group (P = 0.007). The mean global transition score was higher in the acupuncture group, 3.7 +/- 1.2, **indicating greater improvement**, compared with the score in the control group, 2.5 +/- 0.9 (P < 0.001). **Fewer acupuncture subjects had medication-related side-effects compared with the control group.**

**Conclusions:** Acupuncture is an effective, safe adjunctive treatment for chronic LBP in older patients.

4. Molsberger AF, Mau J, Pawelec DB, Winkler J. **Does acupuncture improve the orthopedic management of chronic low back pain--a randomized, blinded, controlled trial with 3 months follow up.** Pain. 2002 Oct;99(3):579-87.

**Objective of the Study:** To determine if the combination of acupuncture and conservative orthopedic treatment improve conservative orthopedic treatment in chronic low back pain (LBP). Conservative orthopedic treatment (COT) was defined as a standardized application of physiotherapy, physical therapy, mudpacks and infrared therapy. No cortisone was used. The NSAID diclofenac was used (50mg 3 times a day) as needed.

**Design:** 174 patients were assorted into 4 strata: chronic LBP, or=5 years. Analysis was by intention to treat. Group 1 (Acupuncture+COT) received 12 treatments of acupuncture and conservative orthopedic treatment (COT). Group 2 (Sham+COT) received 12 treatments of non-specific needling and COT. Group 3 (nil+COT) received COT alone.

**Results:** In the whole sample a pain relief of >or=50% on VAS was reported directly after the end of treatment protocol: Acupuncture+COT 65% (95%CI 51-77%), Sham+COT 34% (95%ci 22-49%), and nil+COT 43% (95%ci 29-58%) -

results are significant for Acupuncture+COT over Sham+COT ( $P < 0.001$ ). No difference was found in the mobility of the patients or in the intake of NSAID diclofenac.

**Conclusion:** Acupuncture can be an important supplement of conservative orthopedic treatment in the management of chronic LBP.

5. Carlsson CP, Sjolund BH. **Acupuncture for chronic low back pain: a randomized placebo-controlled study with long-term follow-up.** Clin J Pain. 2001 Dec;17(4):296-305. **Objective of Study:** The study was designed to determine whether a series of needle acupuncture treatments produced long-term relief of chronic low back pain.

**Design:** The patients were randomized to receive manual acupuncture, electroacupuncture, or active placebo (mock transcutaneous electrical nerve stimulation). Subjects were examined and monitored by an investigator who was blinded to the treatment given. Fifty consecutive patients (33 women, 17 men; mean age, 49.8 years) with chronic low back pain (mean pain duration, 9.5 years) and without rhizopathy or history of acupuncture treatment were included in the study. The independent observer made a global assessment of the patients 1, 3, and 6 months after treatment.

**Results:** At the 1-month independent assessment, 16 of 34 patients in the acupuncture groups and 2 of 16 patients in the placebo group showed improvement ( $p < 0.05$ ). At the 6-month follow-up assessment, 14 of 34 patients in the acupuncture groups and 2 of 16 patients in the placebo group showed improvement ( $p < 0.05$ ). A significant decrease in pain intensities occurred at 1 and 3 months in the acupuncture groups compared with the placebo group. **There was a significant improvement in return to work, quality of sleep, and analgesic intake in subjects treated with acupuncture.**

**Conclusions:** The authors found a long-term pain-relieving effect of needle acupuncture compared with true placebo in some patients with chronic nociceptive low back pain.

## Neck Pain

1. White P, Lewith G, Prescott P, Conway J. **Acupuncture versus placebo for the treatment of chronic mechanical neck pain: a randomized, controlled trial.** Ann Intern Med. 2004 Dec 21;141(12):911-9.

**Objective of Study:** To compare acupuncture and placebo for neck pain.

**Design:** A randomized, single blind, placebo-controlled, parallel-arm trial with 1-year follow-up. 135 patients 18 to 80 years of age who had chronic mechanical neck pain. The primary outcome was pain 1 week after treatment, according to a visual analogue scale. Secondary outcomes were pain at other time points, score on the Neck Disability Index and the Short Form-36, and use of analgesic medications. Patients were randomly assigned to receive, over 4 weeks, 8 treatments with acupuncture or with mock transcutaneous electrical stimulation of acupuncture points using a decommissioned electroacupuncture stimulation unit.

**Results:** For the primary outcome (weeks 1 to 5), a statistically significant difference in visual analogue scale score in favor of acupuncture (6.3 mm [95% CI, 1.4 to 11.3 mm];  $P = 0.01$ ) was observed between the 2 study groups.

**Conclusion:** Acupuncture reduced neck pain and produced a statistically significant effect compared with placebo.

2. He D, Veiersted KB, Hostmark AT, Medbo JI. **Effect of acupuncture treatment on chronic neck and shoulder pain in sedentary female workers: a 6-month and 3-year follow-up study.** Pain. 2004 Jun;109(3):299-307.

**Objective of Study:** The study was carried out to examine whether acupuncture treatment can reduce chronic pain in the neck and shoulders and related headache, and also to examine whether possible effects are long lasting.

**Design:** Therefore, 24 female office workers (47+/-9 years old, mean+/-SD) who had had neck and shoulder pain for 12+/-9 years were randomly assigned to a test group (TG) or a control group (CG). Acupuncture was applied 10

times during 3-4 weeks either at presumed anti-pain acupoints (TG) or at placebo-points (CG). A physician measured the pain threshold (PPT) in the neck and shoulder regions with algometry before the first treatment, and after the last one and six months after the treatments. Questionnaires on muscle pain and headache were answered at the same occasions and again 3 years after the last treatment.

**Results:** The intensity and frequency of pain fell more for TG than for CG ( $P_b < \text{or} = 0.04$ ) during the treatment period. Three years after the treatments TG still reported less pain than before the treatments ( $P_w < 0.001$ ) contrary to what CG did ( $P_b < 0.04$ ). The degree of headache fell during the treatment period for both groups, but more for TG than for CG ( $P_b = 0.02$ ). **Three years after the treatments the effect still lasted for TG ( $P_w < 0.01$ ) while the degree of headache for CG was back to the pre-treatment level ( $P_b < 0.001$ ).**

**Conclusions:** Adequate acupuncture treatment may reduce chronic pain in the neck and shoulders and related headache. The effect lasted for 3 years.

3. David J, Modi S, Aluko AA, Robertshaw C, Farebrother J. **Chronic neck pain: a comparison of acupuncture treatment and physiotherapy.** Br J Rheumatol. 1998 Oct;37(10):1118-22.

**Objective of Study:** To evaluate the effectiveness of acupuncture, as compared with physiotherapy, in the management of chronic neck pain.

**Design:** Seventy adult patients with non-inflammatory neck pain of >6 weeks duration and with no abnormal neurology were randomly assigned to receive either of the treatments. Thirty-five patients were included in each group. Pain by visual analogue scale and neck pain questionnaire, improvement in range of movement of neck relative to baseline, and well being (general health questionnaire). Measurements were recorded at the start of treatment, at 6 weeks and at 6 months.

**Results:** Both treatment groups improved in all criteria. Acupuncture was slightly more effective in patients who had higher baseline pain scores.

**Conclusion:** Both acupuncture and physiotherapy are effective forms of treatment for chronic neck pain.

## Substance Abuse

1. Bullock ML, Umen AJ, Culliton PD, Olander RT. **Acupuncture treatment of alcoholic recidivism: a pilot study.** Alcohol Clin Exp Res. 1987 Jun;11(3):292-5.

**Objective of Study:** to determine if sobriety could be achieved and episodes of drinking and/or Detox Center admissions be decreased by the use of Acupuncture.

**Design:** 54 alcoholic recidivists were divided into two groups. Patients in the treatment group received acupuncture points specific for the treatment of substance abuse; control patients received nonspecific points.

**Results:** Patients in the treatment group expressed less need for alcohol ( $p$  less than 0.003), and had fewer drinking episodes ( $p$  less than 0.0076) and admissions to the Detox Center ( $p$  less than 0.03) during the study than did control patients. The majority of treated patients felt that acupuncture had a definite impact on their desire to drink, whereas only a few control patients noted this effect ( $p$  less than 0.015).

**Conclusion:** The results of this study suggest that acupuncture may be able to interdict the cycle of alcoholic recidivism.

2. Avants SK, Margolin A, Holford TR, Kosten TR. **A randomized controlled trial of auricular acupuncture for cocaine dependence.** Arch Intern Med. 2000 Aug 14;160(15):2305-12.

**Objective of Study:** To evaluate the effectiveness of auricular acupuncture for the treatment of cocaine addiction.

**Design:** 82 cocaine-dependent, methadone-maintained patients were randomly assigned to 1 of 3 conditions: auricular acupuncture, a needle-insertion control condition, or a no-needle relaxation control. Treatment sessions were provided 5 times weekly for 8 weeks. The primary outcome was cocaine use assessed by 3-times-weekly urine toxicology screens.

**Results:** Longitudinal analysis of the urine data for the intent-to-treat sample showed that patients assigned to acupuncture were significantly more likely to provide cocaine-negative urine samples relative to both the relaxation control (odds ratio, 3.41; 95% confidence interval, 1.33-8.72;  $P = .01$ ) and the needle-insertion control (odds ratio, 2.40; 95% confidence interval, 1.00-5.75;  $P = .05$ ).

**Conclusion:** Findings from the current study suggest that acupuncture shows promise for the treatment of cocaine dependence.

3. Karst M, Passie T, Friedrich S, Wiese B, Schneider U. **Acupuncture in the treatment of alcohol withdrawal symptoms: a randomized, placebo-controlled inpatient study.** *Addict Biol.* 2002 Oct;7(4):415-9.

**Objective of Study:** To determine the effectiveness of auricular acupuncture in the treatment of alcohol withdrawal symptoms in conjunction with standard medication (carbamazepine).

**Design:** Thirty-four alcoholics were treated with acupuncture to the ear and the body in a randomized single-blind placebo-controlled design over 14 days. Orthodox points and placebo needles to orthodox points were used daily for a total of 10 treatments starting on the first day of admission as add-on therapy to standard medication with carbamazepine. The primary outcome was the Clinical Institute Withdrawal Assessment (CIWA-Ar-scale) assessed on days 1-6, 9 and 14.

**Results:** Longitudinal analysis of the Clinical Institute Withdrawal Assessment (CIWA-Ar-scale) data showed that patients assigned to acupuncture had a general tendency towards better outcome results and significantly fewer withdrawal symptoms on day 14 (Wilcoxon-W=177.500,  $Z = -2.009$ ,  $p = 0.045$ ).

**Conclusion:** We conclude that acupuncture as an adjunctive treatment to carbamazepine medication shows promise for the treatment of alcohol withdrawal symptoms.

## **Headache and Migraine**

1. Melchart D, Hager S, Hager U, Liao J, Weidenhammer W, Linde K. **Treatment of patients with chronic headaches in a hospital for traditional Chinese medicine in Germany. A randomised, waiting list controlled trial.** *Complement Ther Med.* 2004 Jun-Sep;12(2-3):71-8.

**Objective of Study:** To investigate the effectiveness of a clinical treatment program with traditional Chinese medicine for migraine and tension-type headache.

**Design:** Ninety-one patients with migraine, episodic or chronic tension-type headache according to the criteria of the International Headache Society were randomised into an experimental or a waiting list control group. Patients in the experimental group were treated 4 weeks in a hospital for traditional Chinese medicine after a baseline period of one month. Patients in the waiting list group continued their previous headache treatment. Main outcome measure was the difference in the number of days with headache of at least moderate intensity during baseline (month 1) and month 7.

**Results:** The difference in the number of days with headache of at least moderate intensity was 5.6 (S.D., 6.1) days in the experimental group and 1.2 (S.D., 4.5) days in the waiting list group ( $P < 0.001$ ). A reduction of more than 50% in headache days was observed in 52% of the patients in the experimental group and 16% in the waiting list group. Patients with migraine and a combination of migraine and episodic tension-type headaches improved more than patients with other headaches.

**Conclusion:** The results of this study indicate that treatment in the hospital for traditional Chinese medicine in Kotzting is associated with lasting improvements in the majority of patients.

2. Wonderling D, Vickers AJ, Grieve R, McCarney R. **Cost effectiveness analysis of a randomized trial of acupuncture for chronic headache in primary care.** *BMJ.* 2004 Mar 27;328(7442):747. Epub 2004 Mar 15.

**Objective of Study:** To evaluate the cost effectiveness of acupuncture in the management of chronic headache.

**Design:** 401 patients with chronic headache, predominantly migraine. Interventions Patients were randomly allocated to receive up to 12 acupuncture treatments over three months from appropriately trained physiotherapists, or to usual care alone. Results were measured by incremental cost per quality adjusted life year (QALY) gained.

**Results:** Total costs during the one year period of the study were on average higher for the acupuncture group (403 pounds sterling; 768 dollars; 598 euros) than for controls (217 pounds sterling) because of the acupuncture practitioners' costs. The mean health gain from acupuncture during the one year of the trial was 0.021 quality adjusted life years (QALYs), leading to a base case estimate of 9180 pounds sterling per QALY gained. This result was robust to sensitivity analysis. Cost per QALY dropped substantially when the analysis incorporated likely QALY differences for the years after the trial.

**Conclusion:** Acupuncture for chronic headache improves health related quality of life at a small additional cost; it is relatively cost effective compared with a number of other interventions provided by the National Health Service.

3. Vickers AJ, Rees RW, Zollman CE, McCarney R, Smith CM, Ellis N, Fisher P, Van Haselen R. **Acupuncture for chronic headache in primary care: large, pragmatic, randomized trial.** *BMJ.* 2004 Mar 27;328(7442):744. Epub 2004 Mar 15.

Integrative Medicine Service, Biostatistics Service, Memorial Sloan-Kettering Cancer Center, 1275 York Avenue, NY

**Objective of Study:** To determine the effects of a policy of "use acupuncture" on headache, health status, days off sick, and use of resources in patients with chronic headache compared with a policy of "avoid acupuncture."

**Design:** 401 patients with chronic headache, predominantly migraine. Interventions Patients were randomly allocated to receive up to 12 acupuncture treatments over three months or to a control intervention offering usual care. Headache score, SF-36 health status, and use of medication were assessed at baseline, three, and 12 months.

**Results:** Headache score at 12 months, the primary end point, was lower in the acupuncture group (16.2, SD 13.7, n = 161, 34% reduction from baseline) than in controls (22.3, SD 17.0, n = 140, 16% reduction from baseline). The adjusted difference between means is 4.6 (95% confidence interval 2.2 to 7.0; P = 0.0002). This result is robust to sensitivity analysis incorporating imputation for missing data. Patients in the acupuncture group experienced the equivalent of 22 fewer days of headache per year (8 to 38). SF-36 data favoured acupuncture, although differences reached significance only for physical role functioning, energy, and change in health. Compared with controls, patients randomised to acupuncture used 15% less medication (P = 0.02), made 25% fewer visits to general practitioners (P = 0.10), and took 15% fewer days off sick (P = 0.2).

**Conclusion:** Acupuncture leads to persisting, clinically relevant benefits for primary care patients with chronic headache, particularly migraine.

## Allergies

1. Ng DK, Chow PY, Ming SP, Hong SH, et al., **A double-blind, randomized, placebo-controlled trial of acupuncture for the treatment of childhood persistent allergic rhinitis.** *Pediatrics.* 2004 Nov;114(5):1242-7.

**Objective of Study:** To compare active acupuncture with sham acupuncture for the treatment of persistent allergic rhinitis among children.

**Design:** Eighty-five patients were recruited from the pediatric outpatient clinic at Kwong Wah Hospital, in Hong Kong. Thirteen patients withdrew before randomization; 35 patients (mean age: 11.7 +/- 3.2 years) were randomized to receive active acupuncture for 8 weeks, and 37 patients (mean age: 11 +/- 3.8 years) were randomized to receive sham acupuncture for 8 weeks. Acupuncture was performed twice per week for both groups. Both the assessing pediatricians and the patients were blinded. Subjects with persistent allergic rhinitis were recruited from the pediatric outpatient clinic.

**Results:** There were significantly lower daily rhinitis scores and more symptom-free days for the group receiving active acupuncture, during both the treatment and follow-up periods. The visual analog scale scores for immediate improvement after acupuncture were also significantly better for the active acupuncture group. No severe adverse effects were encountered.

**Conclusion:** This study showed that active acupuncture was more effective than sham acupuncture in decreasing the symptom scores for persistent allergic rhinitis and increasing the symptom-free days. No serious adverse effect was identified.

2. Brinkhaus B, Hummelsberger J, Kohnen R, Seufert J, Hempen CH, Leonhardy H, Nogel R, Joos S, Hahn E, Schuppan D. **Acupuncture and Chinese herbal medicine in the treatment of patients with seasonal allergic rhinitis: a randomized-controlled clinical trial.** *Allergy.* 2004 Sep;59(9):953-60.

**Objective of Study:** The aim of this study was to determine whether traditional Chinese therapy is efficacious in patients suffering from seasonal allergic rhinitis (AR).

**Design:** Fifty-two patients between the ages of 20 and 58 who had typical symptoms of seasonal AR were assigned randomly and in a blinded fashion to (i) an active treatment group which received a semi-standardized treatment of acupuncture and Chinese herbal medicine, and (ii) a control group which received acupuncture applied to non-acupuncture points in addition to a non-specific Chinese herbal formula. All patients received acupuncture treatment once per week and the respective Chinese herbal formula as a decoction three times daily for a total of 6 weeks. Assessments were performed before, during, and 1 week after treatment. The change in severity of hay fever symptoms was the primary outcome measured on a visual analogue scale (VAS).

**Results:** Compared with patients in the control group, patients in the active treatment group showed a significant after-treatment improvement on the VAS ( $P = 0.006$ ) and Rhinitis Quality of Life Questionnaire ( $P = 0.015$ ). Improvement on the Global Assessment of Change Scale was noted in 85% of active treatment group participants vs. 40% in the control group ( $P = 0.048$ ).

**Conclusion:** The results of this study suggest that traditional Chinese therapy may be an efficacious and safe treatment option for patients with seasonal AR.

3. Joos S, Schott C, Zou H, Daniel V, Martin E. **Immunomodulatory effects of acupuncture in the treatment of allergic asthma: a randomized controlled study.** *J Altern Complement Med.* 2000 Dec;6(6):519-25.

**Objective of Study:** In a randomized, controlled study we investigated immunologic effects of Chinese acupuncture on patients with allergic asthma.

**Design:** The effects of acupuncture treatment given according to the principles of TCM (TCM group,  $n = 20$ ) were

compared with those of acupuncture treatment using points not specific for asthma (control group, n = 18). All patients were treated 12 times for 30 minutes over a time period of 4 weeks. Patients' general well-being and several peripheral blood parameters (eosinophils, lymphocyte subpopulations, cytokines, in vitro lymphocyte proliferation) were determined before and after acupuncture treatment.

**Results:** In the TCM group, significantly more patients indicated an improvement in general well-being (79% in the TCM group versus 47% in the control group;  $p = 0.049$ ) after acupuncture treatment. The following changes were found in the TCM group: within the lymphocyte subpopulations the CD3+ cells ( $p = 0.005$ ) and CD4+ cells ( $p = 0.014$ ) increased significantly. There were also significant changes in cytokine concentrations: interleukin (IL)-6 ( $p = 0.026$ ) and IL-10 ( $p = 0.001$ ) decreased whereas IL-8 ( $p = 0.050$ ) rose significantly. Additionally, the in vitro lymphocyte proliferation rate increased significantly ( $p = 0.035$ ) while the number of eosinophils decreased from 4.4% to 3.3% after acupuncture ( $p > 0.05$ ). The control group, however, showed no significant changes apart from an increase in the CD4+ cells ( $p = 0.012$ ).

**Conclusion:** The results imply that asthma patients benefit from acupuncture treatment given in addition to conventional therapy. Furthermore, acupuncture performed in accordance with the principles of TCM showed significant immune-modulating effects.

## **Fertility Support**

1. Paulus WE, Zhang M, Strehler E, El-Danasouri I, Sterzik K. **Influence of acupuncture on the pregnancy rate in patients who undergo assisted reproduction therapy.** Fertil Steril. 2002 Apr;77(4):721-4.

**Objective of Study:** To evaluate the effect of acupuncture on the pregnancy rate in assisted reproduction therapy (ART) by comparing a group of patients receiving acupuncture treatment shortly before and after embryo transfer with a control group receiving no acupuncture.

**Design:** After giving informed consent, 160 patients who were undergoing ART and who had good quality embryos were divided into the following two groups through random selection: embryo transfer with acupuncture (n = 80) and embryo transfer without acupuncture (n = 80). Acupuncture was performed in 80 patients 25 minutes before and after embryo transfer. In the control group, embryos were transferred without any supportive therapy.

**Results:** Clinical pregnancies were documented in 34 of 80 patients (42.5%) in the acupuncture group, whereas pregnancy rate was only 26.3% (21 out of 80 patients) in the control group.

**Conclusion:** Acupuncture seems to be a useful tool for improving pregnancy rate after ART.

2. Stener-Victorin E, Waldenstrom U, Wikland M, Nilsson L, Hagglund L, Lundeberg T. **Electro-acupuncture as a peroperative analgesic method and its effects on implantation rate and neuropeptide Y concentrations in follicular fluid.** Hum Reprod. 2003 Jul;18(7):1454-60.

**Objective of Study:** This study was designed to test the hypothesis that electro acupuncture (EA) as an analgesic during oocyte aspiration would result in: (i) a better IVF pregnancy rate than with alfentanil (an anesthetic); (ii) peroperative analgesia that was as good as that produced by alfentanil; (iii) less postoperative abdominal pain, nausea and stress; and (iv) a reduction in the use of additional analgesics.

**Design:** In a randomized, multicenter clinical trial, 286 women undergoing oocyte aspiration were randomly allocated to the EA group (EA plus a PCB) or to the alfentanil group (alfentanil plus a PCB). Neuropeptide Y (NPY) concentrations in follicular fluid (FF) were analyzed when possible.

**Results:** NPY concentrations in FF were significantly higher in the EA group compared with the alfentanil group. Both EA plus a PCB and alfentanil plus a PCB induced adequate preoperative analgesia during oocyte aspiration

evaluated using the visual analogue scale. After 2 hours, the EA group reported significantly less abdominal pain, other pain, nausea and stress than the alfentanil group. In addition, the EA group received significantly lower amounts of additional alfentanil than the alfentanil group.

**Conclusion:** The observation that NPY concentrations in FF were higher in the EA group may be important for human ovarian steroidogenesis. The analgesic effects produced by EA are as good as those produced by conventional analgesics, and the use of opiate analgesics with EA is lower than when conventional analgesics alone are used.

**Compiled by** Michael Spano MS, L.Ac. - [mspano2001@yahoo.com](mailto:mspano2001@yahoo.com)