

# Western, minimal acupuncture for neck pain: a cohort study

Juliette Ross, Adrian White, Edzard Ernst

## Summary

Minimal acupuncture is easily incorporated into primary care consultations, but there is no rigorous evidence of its effectiveness. In a cohort study, minimal acupuncture was given to 32 patients with acute neck pain. Neck pain scores, measured by the Northwick Park Neck Pain questionnaire, fell from an average of 12.1 ( $\pm 5.4$ ) before treatment to 4.8 ( $\pm 5.6$ ) at 3 months ( $p < 0.001$ ). Three months after acupuncture treatment 76% of patients reported themselves "much better". Out of 18 patients who had had pain lasting less than 2 weeks, 16 required only one treatment. These results suggest that minimal acupuncture may be an effective treatment for neck pain and further definitive studies are recommended.

## Key words

Cohort study, Minimal acupuncture, Neck pain.

## Introduction

Acupuncture is used by about 5% of general practitioners (GPs) within the UK health service (1). The membership of the British Medical Acupuncture Society (BMAS), which mainly comprises GPs, increases steadily. One reason for this increasing interest is undoubtedly the fact that simple acupuncture techniques can be learnt by medical practitioners in short courses of between 2 and 5 days which aim to teach knowledge and skills sufficient to treat conditions that are commonly seen in primary care.

A Westernised form of acupuncture has become popular among GPs because it can be used effectively within the context of standard consultations. This approach to treatment has arisen as a consequence of freeing acupuncture from the constraints of traditional concepts and recognising that acupuncture needles are more likely to work by stimulating nerve endings than moving hypothetical energy around meridians. Good results can apparently be achieved with very brief needling

lasting no more than a few seconds, so-called *minimal acupuncture* (2).

If minimal acupuncture is to be integrated within conventional medicine, it needs to be supported by evidence of efficacy and safety like any other therapy. Previous observational studies, mostly retrospective, of the outcomes of acupuncture treatment have shown that GPs who have learnt acupuncture on short courses can readily integrate acupuncture within primary care and soon obtain success rates of around 70% with common conditions (3-5). Rigorous evidence of the effectiveness of such an approach is crucial. Successful treatment in primary care will reduce referrals to secondary care and may lead to considerable savings in health care costs.

One condition for which acupuncture is frequently used in primary care is neck pain, a common condition with significant morbidity and no universally accepted treatment. Although various physical therapies are regularly used for neck pain, there is no good evidence for their efficacy (6). In a recent systematic review of controlled trials of acupuncture for neck pain the authors concluded that acupuncture appears to have overall benefit in the treatment of neck pain, but that there is inadequate evidence to establish whether the effect is specifically due to needling *correct* sites (7). This systematic review did not discover any studies in which minimal acupuncture was used. We therefore decided to undertake a prospective cohort study to determine the overall effectiveness of minimal acupuncture in the treatment of neck pain in primary care.

## Method

A prospective cohort study was undertaken among GPs who were recruited either by the first author at a scientific meeting, or by the Brent Educational Board who had funded a course in acupuncture for several GPs. Participating GPs undertook to keep clinical records of consecutive patients attending with acute neck pain over the next 6 months. Patients of either sex between 18 and 65 years old

were included if they had had a history of neck pain of between 24 hours and 3 months, and were not receiving any other physical treatment for neck pain. Patients were excluded if they had contraindications to acupuncture (i.e. they were unwilling or had a bleeding diathesis), if they had neurological symptoms or signs in the arm, if they had systemic arthritis affecting the neck, or if they were unable to complete the questionnaire.

Doctors were free to decide what areas or acupuncture points to treat, without any restriction in duration or number of sessions. Each patient was asked to complete the g-section Northwick Park Neck Pain questionnaire (NPNP) (8) before treatment and 3 months later. Clinical data were recorded on the standard BMAS clinical record form, modified to include assessment of fitness for normal activities on a 4-point scale (0 to 3). Since pain data were collected with the NPNP, the usual VAS for pain was omitted from the record form.

Data were entered into Microsoft Excel 7.0a spreadsheet. Where one or 2 questions of NPNP were not completed (for example in question 9 which asks about the effect of the neck pain on driving), the average of all remaining other scores was substituted for the missing data. On this basis, the minimum score for the NPNP questions 1 to 9 was 0, and the maximum was 35. Question 10 (about change in neck pain) was analysed separately. In one case, follow-up NPNP data were

missing: however, the patient reported 'no change' verbally, so baseline data were substituted as follow-up data. Statistical analysis was performed with Excel 7.0a on a per-protocol basis. Pre-treatment and 3-month NPNP values were compared by paired t-test; categorical data were analysed by chi-square test. Statistical significance was set at  $p < 0.05$ .

### Results

Thirty-two patients were included in the study, recruited by 8 GPs between November 1997 and June 1998. The average age of the patients was 46.5 years (SD 14.1). There were 22 females and 6 males; gender was not recorded in 4 cases. Mean duration of pain and mean *fitness for normal activities* score are given in Table 1. Information on duration of pain was missing for 1 patient.

**Table 1**  
PRESENTATION DATA IN MINIMAL ACUPUNCTURE FOR NECK PAIN STUDY: DURATION OF PAIN AND MEAN FITNESS TO WORK

| Pain duration | Number recruited | Fitness to work | Number followed-up |
|---------------|------------------|-----------------|--------------------|
| <4 days       | 9                | 1.7             | 9                  |
| 4-14 days     | 12               | 1.5             | 9                  |
| 2-12 weeks    | 11               | 2.0             | 11                 |

Fitness to work: Unfit = 0, Fully fit = 35.

**Table 2**

MINIMAL ACUPUNCTURE FOR NECK PAIN: RELATIONSHIP BETWEEN INITIAL PAIN DURATION AND NUMBER OF TREATMENT SESSIONS

| Pain duration | (n) | Number receiving |                |              |
|---------------|-----|------------------|----------------|--------------|
|               |     | 1 treatment      | 2-4 treatments | 6 treatments |
| <4 days       | 9   | 9 (100%)*†       | 0              | 0            |
| 4-14 days     | 12  | 8 (67%)          | 2 (17%)        | 1 (8%)       |
| 2-12 weeks    | 11  | 5 (45%)          | 5 (45%)        | 1 (9%)       |

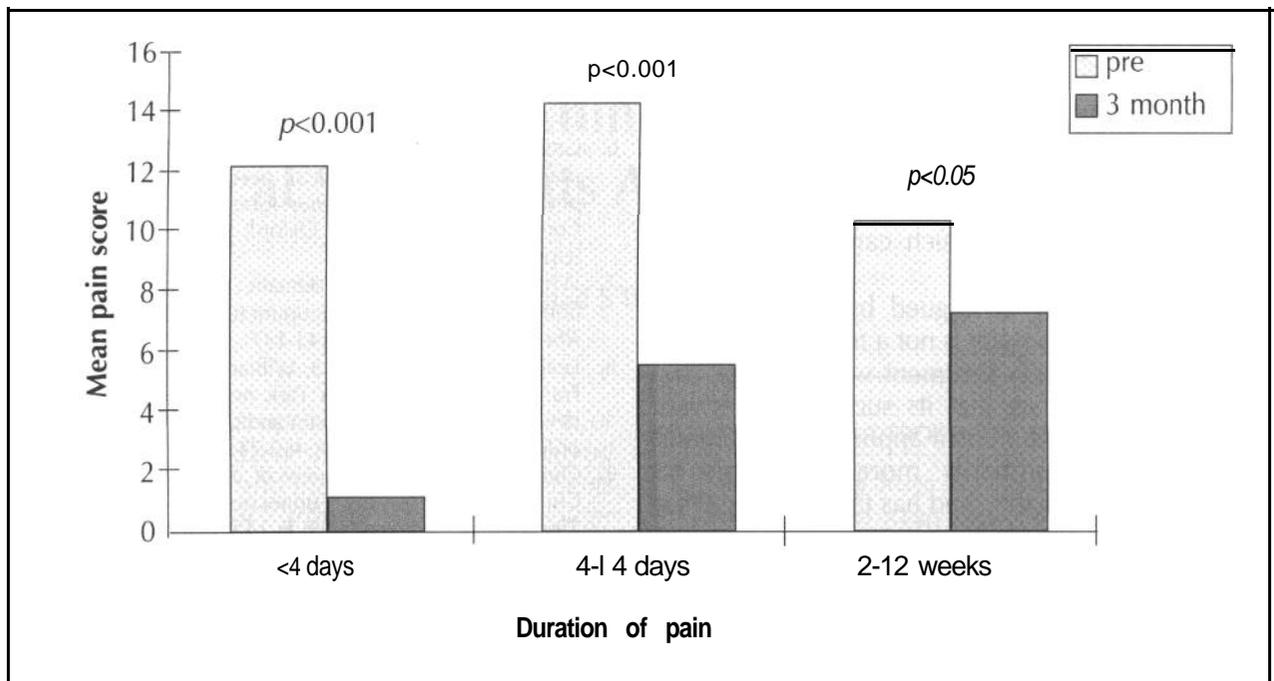
Data missing for 1 patient in 4-14 day group  
\* $p < 0.05$  compared with other 7 treatment groups

**Table 3**

MINIMAL ACUPUNCTURE FOR NECK PAIN: MEAN (SD) NECK PAIN SCORES BEFORE AND AFTER TREATMENT AND PATIENT ASSESSMENT OF CHANGE

| Pain duration | (n) | Initial Pain score | Pain score          | 3 months after treatment |                 |           |
|---------------|-----|--------------------|---------------------|--------------------------|-----------------|-----------|
|               |     |                    |                     | Much better              | Slightly better | No change |
| <4 days       | 9   | 12.3 ( $\pm 5.1$ ) | 1.1 ( $\pm 2.0$ )*† | 7                        | 1               | 1         |
| 4-14 days     | 9   | 14.1 ( $\pm 6.7$ ) | 5.6 ( $\pm 6.9$ )*† | 7                        | 2               | 0         |
| 2-12 weeks    | 11  | 10.2 ( $\pm 3.6$ ) | 7.2 ( $\pm 5.3$ )*† | 8                        | 1               | 2         |

\* $p < 0.05$  \*\* $p < 0.001$  for pre-post changes  
Pain scores: 0 = none, 35 = maximum



A single treatment only was given to 22 of the patients; 5 patients had 2, 3 or 4 treatments each, and 2 patients received 6 treatments (Table 2). Patients with the shortest duration of pain were significantly more likely ( $p < 0.05$ ) to have received only one treatment than those who had had pain for more than 4 days. Complete follow-up data were available for 28 patients; in 3 cases all attempts to contact the patients were unsuccessful and in one case the patient was contacted, reported herself as "no change" and was referred for other therapy.

Twenty-five patients received treatment in the form of light periosteal pecking in the *Cervical Articular Pillar Area* as described by Mann in his textbook *Reinventing Acupuncture* (p. 115); in 5 of these patients, needling was also performed in the *Trapezius/Occiput Area* (p. 159) (2). In 4 cases, named acupuncture points were needled and in one case treatment was given to a tender muscular area at the base of the neck. There were no reports of adverse events associated with treatment.

At the follow-up questionnaire, pain was recorded as "much better" (the highest score on the measure of change) by a total of 22 patients. NPNP scores fell from an average of 12.1 ( $\pm 5.4$ ) before treatment to 4.8 ( $\pm 5.6$ ) at 3 months ( $p < 0.001$ ). Statistically significant reductions in pain were recorded by all 3 groups, and are presented in Table 3 and figure 7. The overall results show that 76% of patients were "much better" 3 months after acupuncture treatment.

### Discussion

This cohort study has found that the majority of patients presenting to GPs with neck pain of varying duration were apparently successfully treated with between one and six brief sessions of minimal acupuncture. Patients treated shortly after the onset of pain were less likely to need additional treatments. Acupuncture therefore appears to be a useful therapy for neck pain. Since it can be swiftly applied within primary care, there is considerable potential for savings in the cost both of medication and of referral for secondary care. This then raises the question of whether it may be cost-effective to fund GPs' training in acupuncture and to reimburse them for treating patients (in the same way that payment for minor surgical procedures saves greater costs in secondary care); this possibility will need rigorous economic evaluation.

The main limitation of this study is the lack of any control group, which makes it impossible to distinguish this apparent therapeutic effect from factors such as the natural history of the condition, regression to the mean, and placebo effect. In view of the morbidity associated with neck pain, and the ease of using minimal acupuncture in primary care, randomised controlled trials to examine these issues are amply justified.

To be more certain that the benefit was due to the acupuncture, it would have been useful to have documented the response to treatment after 2 weeks, as well as after 3 months. This would have

reduced the chance of observing an effect from any additional treatment which patients may have received (despite being asked to refrain from this). On the other hand, the outcome among these patients may actually be understated since the NPNP questionnaire does not allow patients at follow-up to register themselves as "completely better"; the best result which can be recorded is "much better".

Although it may be argued by some that the therapy used in this study is not a *traditional* form of acupuncture, yet it is treatment with needles, and there is no evidence that its success rate is any different from the traditional approach (9). Minimal acupuncture is probably more acceptable to western-trained doctors, and has the advantage that is based on the scientific understanding of physiology rather than *energetic* medicine: it is therefore open to hypothesis-generation and testing in the standard way. One important feature of minimal acupuncture is that it does not involve leaving needles in situ for 20 minutes, and can therefore be easily incorporated into the primary care consultation.

### Conclusion

This study suggests that minimal acupuncture may be an effective treatment for neck pain, and further definitive studies are recommended.

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# Frozen Shoulder: a Comparison of Western and Traditional Chinese Approaches and a Clinical Study of its Acupuncture Treatment

Emad S Tukmachi

## Summary

A pilot study using acupuncture in the treatment of 31 patients with frozen shoulder showed marked improvement in 24 and improvement in 6. Patients with idiopathic or arthritic frozen shoulder responded better than those with post-traumatic aetiology. There was no relationship between response to acupuncture and age.

Although this study involved no control group, the high level of improvement together with the author's clinical experience suggests that acupuncture should be considered an effective option in the treatment of frozen shoulder; the more so since conventional medical therapy has a low expectation of benefit. Aetiology pathology and clinical management are described in both Western medical and traditional Chinese terms and details of acupuncture treatment methods are given.

## Key words

Acupuncture, Age response, Capsulitis, Clinical study, Frozen shoulder, Periarthritis, Traditional Chinese medicine.

## Introduction

Frozen shoulder is the result of a degenerative and inflammatory process affecting the articular capsule and the soft tissues of the shoulder (1). It has had a number of medical synonyms: scapulo-humeral periarthritis (2,3), adhesive capsulitis (4-6), pericapsulitis, and obliterative bursitis. In traditional Chinese medicine it is termed "Shoulder at the age of 50" (Table 1).

Frozen shoulder can be mild and self-limiting in its course, or it may become chronic and give rise to progressive degenerative changes. Generally, it is characterised by stiffness with limitation of movement, and pain which may be acute, subacute or chronic. In mild cases, pain and stiffness may settle within a short period of time, with or without treatment, but the management of subacute and chronic cases is often unsatisfactory with drug therapy. Other physical treatments such as heat, massage and manipulation may be equally

**Table 1**

### SOME FACTS ABOUT FROZEN SHOULDER

1. The incidence of frozen shoulder in women is greater than in men, and occurs more often over the age of 50. The clinical features are of pain with a significant reduction of both passive and active movements (5), and pronounced sleep disturbance.
2. Frozen shoulder is more common in the non-dominant arm (7).
3. Although the exact pathology is unknown, the onset of frozen shoulder is usually gradual, but it may be acute and associated with previous history of minor injury to the shoulder joint (8).
4. In most cases frozen shoulder is unilateral, but it can be bilateral (9).
5. Frozen shoulder can induce secondary spasm in the pectoralis and biceps muscles (10).

unsatisfactory. In my own experience, acupuncture therapy for frozen shoulder has had the highest patient acceptance in preference to other methods of treatment.

The following approaches the subject from both Western and traditional Chinese medical points of view, examining the pathology, clinical features and management through both systems.

## Western medical view

### Aetiology

Although frozen shoulder remains one of those mysterious conditions with no definitive cause, there are some predisposing factors in its aetiology (Table 2) and a number of other problems appear to contribute to the condition:

- i. **Trauma:** Injury resulting from a fall or other impact, strenuous exercise, lifting something too heavy, traction or over-torsion may lead to inflammation of the shoulder joint or capsule followed by restriction of glenohumeral joint movement (11).
- ii. **Cervical disc degeneration:** Cervical spine pathology at the level of C4-7 or T1 may be involved (10).



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