Acupuncture for Tennis Elbow: An E-mail Consensus Study to Define a Standardised Treatment in a GPs’ Surgery

Philip Webster-Harrison, Adrian White, Jonny Rae

Summary
Acupuncture is a possible alternative treatment for tennis elbow in general practice. Rigorous investigation of its effectiveness is needed by means of a randomised controlled trial. Before undertaking a trial, a consensus is required on the best treatment protocol. Therefore, a modified Delphi Process was undertaken by email, consisting in three iterative rounds. Fourteen acupuncture trainers initially reported details of their normal treatment that were then incorporated into a treatment plan. This was circulated once for further suggestions and finally for agreement. Consensus was achieved from all 14 participants who responded to the third round.

Keywords
Tennis elbow, lateral epicondylalgia, acupuncture, consensus study.

Introduction
Acupuncture is increasingly popular with the public, and more general practitioners (GPs) are using acupuncture as another therapeutic option. The BMA report on acupuncture highlights its effectiveness in certain conditions and relative safety compared to the widespread use of NSAIDs, which are responsible for over 2000 deaths a year from gastrointestinal bleeds. The report comments that previous trials were often of poor design and calls for high quality research to help establish the appropriate place for acupuncture in modern medical practice.

Tennis elbow is a common troublesome condition that affects about four adults per 1000 annually. Tennis elbow is a pragmatic term that refers to pain in the lateral elbow ("lateral epicondylalgia"), increased with pressure on the lateral epicondyly and during resisted dorsiflexion of the wrist. Although it is usually self-limiting eventually, it causes much morbidity until it resolves. A recent trial demonstrated that a two week course of an NSAID was no better than placebo, and that although steroid injection provided superior pain relief at four weeks this effect was no longer seen at twelve months. Some patients receiving steroid injection had worse symptoms at six months. A systematic review of 13 studies found insufficient evidence to draw firm conclusions, but suggested a superior short-term effect of steroid injection over periods of less than six weeks, but no beneficial effects over intermediate or long terms. In addition, steroids are unpopular with some patients.

Since the optimum treatment for tennis elbow in primary care is still unclear, acupuncture is a safe alternative, which, if shown to be effective, could provide an alternative choice for both clinicians and patients. Therefore, a pragmatic randomised trial of acupuncture for tennis elbow compared with steroid injection and conservative treatment has been proposed. In order to allow the study to be replicated and to optimise the chance of successful treatment, we wanted to develop a standardised treatment protocol. Therefore a consensus study was performed and is described here.

A modified Delphi process was seen as the most practical way to overcome the barriers of distance between experts and to minimise the inconvenience to them. The Delphi process takes its name from the Delphic oracle’s skills of interpretation and foresight. One purpose of this method is to determine the extent to which experts agree on issues – overcoming the disadvantages normally found in decision making in groups.
which are commonly dominated by one or groups of individuals. The procedure essentially involves a series of ‘rounds’ in which each participant is given the results of other participants’ previous comments on the question, (anonymously) allowing individuals to change their opinion. This process is repeated until no further changes are suggested.

**Methods**

Twenty-two doctors who taught on British Medical Acupuncture Society training courses, which are the major source of acupuncture training in the UK for GPs, were identified as a group of ‘experts’ and were invited to participate. This group was chosen since the proposed trial was to be based exclusively in GP surgeries. The stated aim of the process was to ‘ensure that we are using the accepted best acupuncture treatment’.

Invitations and subsequent communications were by email and were sent out between 5-11-2001 and 5-6-2002; the last response received was on 28-7-2002.

The standard Delphi process involves individuals ranking their degree of agreement to a series of statements. We modified this, by asking respondents to describe, in an open-ended manner, eight items of their treatment of tennis elbow using acupuncture as suited to a normal GP surgery. We specifically excluded the use of moxibustion and electroacupuncture. We did not ask them to comment about any other aspects or design feature of the study, such as inclusion/exclusion criteria (though some volunteered this information). We asked them to comment on the following specific items, which we developed in line with the STRICTA criteria: 1. point selection, and how this is modified by clinical findings; 2. needle length and diameter; 3. depth of insertion; 4. treatment duration; 5. interval between treatments; 6. needle stimulation or not; 7. aim to achieve response? (deqi or muscle twitch); 8. number of treatments.

The first round responses were collated by the first author, removing names, then independently reviewed by both authors. Since these responses showed a remarkable degree of concordance, the first author was able to draw up a draft treatment plan which was modified by suggestions of the other authors. One specific question to participants was proposed: did they suggest using both LI11 and the tender area of the lateral epicondyle? The table of responses and comments and the draft treatment plan were then circulated to the experts in a second round. It was stressed that no contributors should feel a necessity to compromise their own treatment preferences to reach a consensus if they disagreed with others’ opinions. Individual answers were not disclosed to the group as a whole and only three convenors had access to the named responses.

Responses to the second round resulted in minimal changes to the treatment protocol, which was then circulated a third time asking for final comments and approval.

**Results**

A total of 14 accepted the invitation to participate, and consensus was achieved after three rounds. Fourteen people responded in the first round, seven responded in the second round and 14 responded in the third and final round confirming acceptance of the devised protocol. Table 1 details the results of the process, and table 2 shows the resulting treatment protocol.

**Discussion**

The process of email correspondence is a convenient mode of contacting geographically distant participants. Disadvantages are inherent in the different way individuals use emails: some responded reliably within a day of receiving an email, whereas others responded after several reminders and up to two months later. Potentially those seemingly keen to participate could lose interest having to wait a long time for the slower responders. The study took nine months: this time could be reduced by adopting a stricter timetable and deadlines, but our more relaxed approach may encourage greater participation.

The high degree of concordance between responders might be due to the fact many were trained in the same ‘school’. This may not be representative of acupuncture practitioners as a whole.
Other researchers have used different methods for establishing optimal treatment in preparation for clinical trials. Sherman reviewed practitioners’ case notes but found substantial variability. In another study, she surveyed 56 acupuncturists, selected at random, about their diagnosis of back pain and their use of 29 specific acupuncture points in its treatment. There was agreement on broad features of treatment such as the use of Bladder points (90%), the use of palpation to find points (82%), the importance of eliciting de qi (60%) and the need to provide up to eight treatments (79%). It should be noted that back pain is a much more variable clinical condition than tennis elbow, and here respondents had a wider spread of acupuncture backgrounds than the trainers surveyed in our study. Another method, developed by Birch, combines the treatment recommendations from classic texts to establish at least the minimum requirements for an adequate treatment.

This study reported here has met its primary
The aim of providing a treatment protocol which is essential for a future trial, and provides a useful guide for either inexperienced acupuncturists or those interested in modifying their treatment plans. The method could usefully be applied to other specific conditions. The results of such studies may prove educational for both participants and for other practitioners.

### Acknowledgements

The authors are grateful to the BMAS trainers who participated in this study: Mike Baird, Mike Callander, Mike Cammings, David Campbell, Alan Grant, Paul Gray, Ken Jones, Wynne Jones, Gerry Lockett, Chis Monella, Frankie Reid, Hywel Watkin, Paul Williams.

### Table 2 Standardised acupuncture treatment for use in a RCT of tennis elbow in a GP's surgery

<table>
<thead>
<tr>
<th>Inclusion criteria</th>
<th>Clinical diagnosis of tennis elbow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusion criteria</td>
<td>Significant shoulder or neck problems contributing to symptoms</td>
</tr>
<tr>
<td></td>
<td>History of vasovagal episodes with injection/phlebotomy/minor ops</td>
</tr>
<tr>
<td></td>
<td>Needle phobia</td>
</tr>
<tr>
<td></td>
<td>Treatment with warfarin / Bleeding disorders</td>
</tr>
<tr>
<td>Needles</td>
<td>Single use with guide tube, 30mm length, and 0.25mm diameter</td>
</tr>
<tr>
<td>Treatment 1</td>
<td>Patient recumbent if physically possible, insertion for 5 minutes, no stimulation</td>
</tr>
<tr>
<td>Points</td>
<td>In all cases this will be: LI4 up to 1cm into interosseous muscle</td>
</tr>
<tr>
<td></td>
<td>LI11 1-2cm deeply into muscle, depth according to the amount of forearm muscle</td>
</tr>
<tr>
<td></td>
<td>Directly onto the tender point on the lateral epicondyle, straight onto the periosteum; for the first session, needling this point should be limited to three minutes maximum with no stimulation other than insertion onto the periosteum</td>
</tr>
<tr>
<td>Trigger Points</td>
<td>Up to three trigger points in muscles around the elbow with tendon origin at the lateral epicondyle</td>
</tr>
<tr>
<td></td>
<td>Treat cautiously, and limit to three minutes</td>
</tr>
<tr>
<td>Subsequent Treatments</td>
<td>These may be seated if the first treatment was problem free. Duration of treatment is according to the response, if strong exacerbation of symptoms, then no stimulation and shorter treatment to three minutes; further shortening of needling duration if necessary according to the response; if improvement after first treatment with no exacerbation leave needles in for longer (6-10 minutes – even longer treatment may be of benefit but the aim is to demonstrate benefit within the GP surgery)</td>
</tr>
<tr>
<td></td>
<td>Stimulation should be employed for a poor response, and if there has been no significant exacerbation on the previous treatment. Stimulate to produce needling sensation or reproduce the original symptoms. Intensity can be increased with subsequent treatment according to need</td>
</tr>
<tr>
<td></td>
<td>Stimulation over the lateral epicondyle would be in the form of cautious periosteal pecking</td>
</tr>
<tr>
<td>Treatment Intervals</td>
<td>Weekly for a minimum of 2 treatments; aim for 3-4 treatments; stop when there are no symptoms for the preceding week. Treatments can continue for longer (up to 8 treatments) providing there is documented objective evidence of improvement</td>
</tr>
<tr>
<td>Relapses</td>
<td>If a relapse of symptoms occurs within the study period of 12 months following an initial successful course, a further four treatments may be offered to enable people to remain within their randomisation group</td>
</tr>
<tr>
<td>Electroacupuncture</td>
<td>As part of normal protocol for non-responders provision for a trial of electroacupuncture would be recommended, however, for the protocol in the RCT in General Practice this will not be included</td>
</tr>
</tbody>
</table>

### Reference List

Acupuncture for tennis elbow: an e-mail consensus study to define a standardised treatment in a GPs' surgery
Philip Webster-Harrison, Adrian White and Jonny Rae

*Acupunct Med* 2002 20: 181-185
doi: 10.1136/aim.20.4.181

Updated information and services can be found at:
[http://aim.bmj.com/content/20/4/181](http://aim.bmj.com/content/20/4/181)

### Email alerting service
Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

### Notes

To request permissions go to:

To order reprints go to:
[http://journals.bmj.com/content/subscribers](http://journals.bmj.com/content/subscribers)

To subscribe to BMJ go to:
[http://group.bmj.com/subscribe/](http://group.bmj.com/subscribe/)