

## Acupuncture for the Relief of Pain in Cystic Fibrosis



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Acupuncture is a treatment which involves inserting fine needles into specific points on the body. These points are variously named trigger points, acupuncture points, “ah shi” points or sore spots, depending on the training of the person delivering the treatment. Acupuncture is relatively new in Western Medicine where it is classed as a complementary therapy but has been used in Traditional Chinese Medicine (TCM) for many centuries.

There are two “schools” of thought regarding how the treatment works. From a Western perspective, the inserted needles are thought to send messages to the brain via the nervous system: the brain releases chemicals (endorphins) into the blood stream which block the sensation of pain, providing lasting relief. In Western acupuncture, many trigger points appear to fall on the energy channels known as meridians in TCM. These are named after organs in the body (heart, lung, liver, gall bladder, etc). The meridians run all over the body and are unrelated to the area of the organ; for example, the acupuncturist may use the bladder meridian when inserting needles in the back for pain.

As the Western approach to medicine is to assess and treat specific symptoms rather than work on maintaining and balancing health, the Western explanation on how acupuncture works is generally accepted and it is becoming more widely used within the healthcare setting in the UK. Physiotherapists are the group of healthcare professionals who have taken on the role in the largest number and they use acupuncture to treat a variety of different symptoms and conditions.

In Traditional Chinese Medicine, acupuncture helps to balance the energy within the body by releasing or stimulating energy through needling. The whole philosophy of TCM is to create and maintain a balance in the body to avoid illness and injury caused by an imbalance of energy.

Research (see reference list) has shown that acupuncture can be beneficial in treating respiratory related symptoms such as pain, shortness of breath, nausea and anxiety, all of which may be experienced by cystic fibrosis (CF) patients acutely as part of an exacerbation or more permanently as part of their chronic condition. Such symptoms can directly impact upon a person’s ability to actively participate in and benefit from nebuliser treatment, physiotherapy and exercise, hence contributing to a worsening of specific symptoms or their overall condition.

It was noted in our CF unit that a number of patients were complaining of back pain, which on physiotherapy assessment was determined to be muscular in nature. This was impacting on their participation in treatment sessions by limiting their willingness and ability to cough. Adaptation of techniques to ensure less frequent coughing helped but the patients still complained of pain and were reluctant to participate in treatment. As a result, these patients



were missing their physiotherapy intervention for chest clearance, a vital part of the treatment regime when admitted with a chest infection.

It was apparent that an effective pain relief regime was necessary, and acupuncture was chosen for this.

From September 2006 to January 2007, any CF patient admitted with a chest infection who complained of pain was offered acupuncture as part of their treatment regime. The treatment was administered by a Senior Physiotherapist (Emily Scott), trained in acupuncture at post graduate level and who is a member of the Acupuncture Association of Chartered Physiotherapists (AACP). After explanation and discussion of the acupuncture technique, formal consent was obtained from the patient for the treatment. The explanation about acupuncture included:

- 1.) The technique used
- 2.) How it worked
- 3.) Possible sensations
- 4.) Length of treatment
- 5.) Any side effects and risks

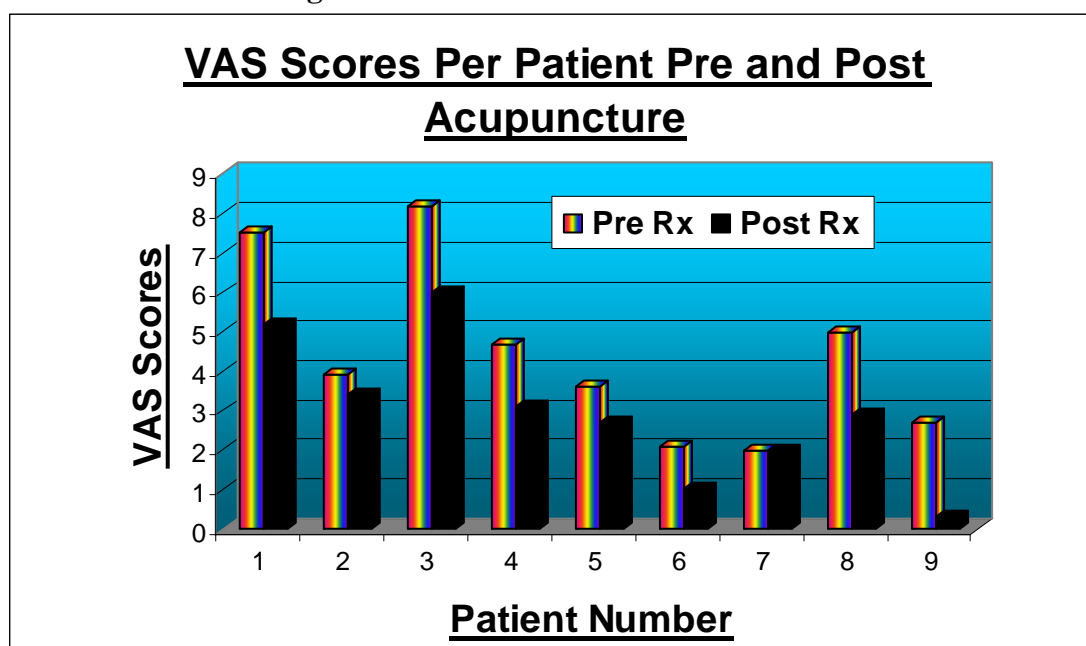
Following informed consent, individual acupuncture points were identified for each patient depending upon their symptoms.

Pain levels were measured pre and post treatment using a 10cm visual analogue scale (VAS), with “no pain at all” at one end and “worst pain imaginable” at the other end. Patients were asked to place a mark on this line that correlated with their level of pain both before and after treatment.

Patient details, date and time of treatment, the points used for treatment, length of treatment, adverse effects and pre/post pain scores were kept on a database.

Twelve patients were offered acupuncture during their admission to treat back or neck pain. Three (25%) refused, stating a fear of needles as their reason.

**Figure 1 – Pre and Post Treatment VAS Scores**

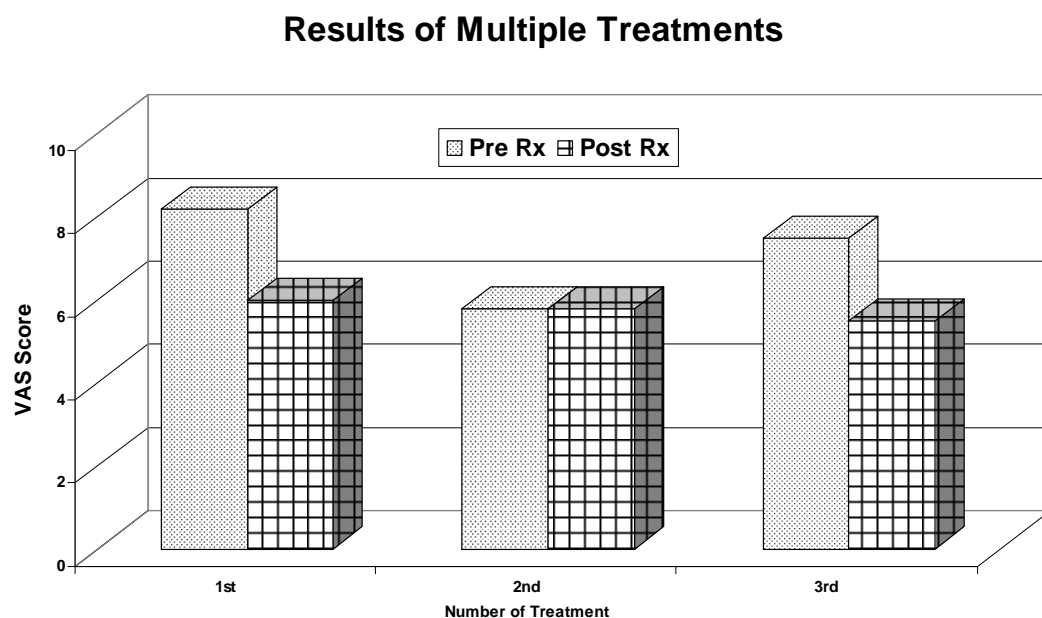


Pre Rx	7.5	3.9	8.2	4.7	3.6	2.1	2	5	2.7
Post Rx	5.2	3.4	6	3.1	2.7	1	2	2.9	0.3

Eight patients received one treatment session during their stay: all reported much improved symptoms. One patient, who was admitted for a prolonged period, received three sessions.

Significant improvements in pain were recorded following treatment (mean pre-treatment pain score 4.41 [range 2.0 – 8.2], mean post treatment pain score 2.95 [0.3 – 6.0];  $p < 0.001$ ). Although one patient had no change in their pain level, all reported an increased feeling of wellbeing post treatment. No adverse reactions to acupuncture were experienced, showing that this is an effective, safe, practical and inexpensive method of pain relief in acute chest exacerbations.

**Figure 2 – A bar graph representing the effect of a number of treatments on VAS score**



	1st Rx	2nd Rx	3rd Rx
Pre Rx	8.2	5.8	7.5
Post Rx	6	5.8	5.5

In this study, an unexpected finding was that patients also reported a sense of wellbeing and increased relaxation following treatment. It is of note that acupuncture is already widely used in the palliative care setting for oncology patients and is thought to have a large impact on pain, anxiety and relaxation levels. As the end stage of CF is less clear, palliative care is often managed by the CF team and can be combined with active treatment. The decision to treat CF patients as purely palliative is often made in the final days. As a result, CF patients may well be missing out on techniques that are used widely at an earlier stage in palliative care establishments. As CF patients do not access the holistic approach of palliative centres, similar interventions need to be offered in their usual place of care as part of normal practice for end stage CF patients by the CF team.

As CF patients continue to live longer, problems associated with postural changes, altered biomechanics and general aging can develop, causing pain. Acupuncture may become more



useful as a technique for outpatient follow up sessions to address long standing painful musculoskeletal and postural conditions as well as in acute admissions.

Other common uses for acupuncture include the treatment of anxiety, nausea and sinusitis, which are all symptoms that can be experienced by CF patients and require adequate management to ensure effective care can be delivered.

In summary, it appears acupuncture is useful in reducing acute pain in CF patients undergoing treatment for a chest exacerbation. Acupuncture may have a wider range of uses within CF care to address problems such as sinusitis, anxiety or nausea as well as increasing someone's sense of wellbeing and relaxation; however it needs to be administered by an appropriately trained professional and further studies need to be carried out.

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