available support from NIH grants, and poor payer coverage of the service. Patient barriers, including lack knowledge about AP, may also impact service provision.

H. Lee Moffitt Cancer Center (MCC), in Tampa, is the third-largest HCI-designated Comprehensive Cancer Center. The MCC Integrative Medicine Program includes AP, massage therapy, yoga, and meditation, and art therapy is available in a different section. We will discuss data from an MCC survey of patient symptom relief and satisfaction data from September 2010 through June 2012. Data are available on 146 individuals, who received 484 total AP sessions in this period. AP recipients were cancer patients, caregivers, or MCC employees. Symptoms (e.g., pain, anxiety, quality of life) were assessed with 10 point scales pre and post each AP session, and satisfaction was measured after each session.

Also to be discussed are AP practice parameters and MCC trials on self-AP for chemotherapy-related anxiety and AP for phantom limb pain.

Keywords: acupuncture, barriers to care, integrative therapy, patient survey, symptom management

# Producing Convincing Evidence on Acupuncture in Psychiatry and Pain: An Analysis of Progress

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#### Abstract

Acupuncture is widely used for a range of health problems including pain and depression. The quantity of basic and clinical research has rapidly increased over time but, for many conditions, systematic reviews conclude that the evidence is still insufficient or difficult to interpret. The aims of this study are to examine how the focus in pain research changed over time, to explore the current evidence base and compare this against use and clinical guidelines, and to analyze the methods used to assess clinical trial quality. Methods used involve analysis of publication patterns, studies of prevalence of use and systematic review methodology following searches primarily of PubMed and the Cochrane Library. Clinical guidelines on relevant topics are also identified and analyzed. The results indicate that the scope of pain trials has continued to increase and currently the focus is more on musculoskeletal pain than conditions such as fibromyalgia, neuralgia or gynaecological pain. Addressing specific pain conditions reflects patterns of use of acupuncture in Western populations. Quality of the research is assessed using broader criteria in place of scoring systems but significant challenges in trial design and reporting remain which affect conclusions of systematic reviews and incorporation of acupuncture into clinical guidelines. **Keywords:** acupuncture, depression, evidence, psychiatry, pain, systematic reviews

### The Role of Acupuncture with Pain Management for Women with Period Pain

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#### Abstract

Dysmenorrhoea is commonly experienced by younger women. In 2010 we published a Cochrane systematic review describing the evidence for acupuncture to treat primary dysmenorrhoea. This review concluded acupuncture may reduce period pain, however there is a need for further well-designed randomized controlled trials. The review recommended greater attention should be given to methodological design and the design of the treatment rationale, and the context of the treatment used in a research setting. We have recently completed an update of the review. This paper will provide an overview of the current evidence and describe characteristics of the dose of acupuncture associated with improved pain outcomes. **Keywords:** acupuncture, period pain, systematic review

## Heteroreceptor Complexes in the Central Nervous System. Focus on Their Role in Pain Modulation

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#### Abstract

In the Central Nervous System there exist two major modes of communication, synaptic and volume transmission. A major mechanism for integration of synaptic and volume transmission signals is represented by allosteric receptor-receptor interactions (bidirectional, saturable, probe dependence) in heteroreceptor complexes operating in all neuro-glial networks including the pain circuits and peripheral nociceptors. These receptor—receptor interactions are characterized as follows: when the binding of a ligand to the orthosteric or allosteric sites of one receptor protomer causes, via direct allosteric interactions, a change in the ligand recognition, decoding, and trafficking processes of another receptor protomer in the heteroreceptor complex. Thus, this interaction leads to a change in receptor protomer functions. The opioid heteroreceptor complexes appear to play a major role as integrators of nociceptive and antinociceptive synaptic and volume transmission and may participate in the mediation of the antinociceptive actions of acupuncture. The MOR-DOR heteroreceptor complex is of special interest since the DOR protomer exerts an antagonistic allosteric influence on the MOR protomer function. This complex contributes to morphine-induced tolerance and dependence. D2likeR-MOR heteroreceptor complexes in the striatum and the limbic system contribute to antinociceptive actions by reducing activity in the stress and anxiety neuron system.

**Keywords:** acupuncture, dopamineD4-mu opioid heteroreceptor complexes, morphine, opioid isoreceptor complexes, pain pathways, receptor-receptor interactions