ACUPUNCTURE: REVIEW OF THE SYSTEMATIC REVIEWS

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Summary / Conclusions:

- there is strong evidence on the effectiveness of acupuncture in treating temporo-mandibular and dental pain as well as treating post-operative nausea and vomiting.
- there is no evidence or even strong evidence against the use of acupuncture in treating various musculoskeletal disorders.
- acupuncture is a relatively safe procedure when performed by properly trained practitioners in a clinical environment using sterile, disposable needles
- the benefits of acupuncture are not experienced by every patient. To date, there is no way to identify who is most likely to benefit from the procedure
- at present, approval for its use in injured workers is inconsistent within the Workers' Compensation Board.
- Workers' Compensation Board of BC should not accept, nor pay for acupuncture treatments for any injured worker as a stand alone therapeutic nor preventative modality.
- If acupuncture is being considered within the Workers' Compensation Board of BC, it should be a part of a comprehensive pain treatment program. Generally, it is recommended that patients should receive a limited number of treatment sessions with an opportunity to re-evaluate after the completion of the session.

Background.

- The WCB of BC spends almost $ 200 million, annually, on health care benefits (Figure 1 and Figure 2).

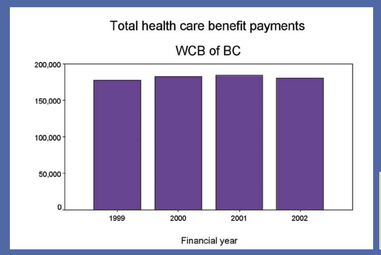

Figure 1. Total annual health care benefit costs at the WCB of BC

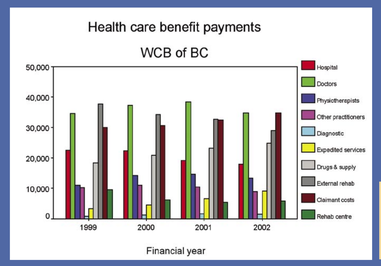

Figure 2. Description of annual health care benefit costs at the WCB of BC.

- Sixteen percent of Canadians saw alternative health care providers in 1998 – 1999. Of those people, 16% (1–2% of the total population) saw an acupuncturist.
- Acupuncture refers to the insertion of dry needles at specially chosen sites for the treatment or prevention of symptoms and conditions.
- Moxibustion is the use of a herb Artemisia vilgaris (mugwort) which is burned over the acupuncture site for purposes of warming.
- The Washington State Department of Labor and Industries has defined acupuncture as a health care service based on a traditional Oriental system of medical theory utilizing Oriental diagnosis and treatment to promote health and treat organic or functional disorders by treating specific acupuncture points or meridians.
- Acupuncture is performed with solid needles ranging in length from 1 – 10 cm. These needles can be made of gold, silver, copper, stainless steel or a combination of metals. In acupuncture, needles are inserted under the skin, in various acupuncture points, up to 8 cm deep.
- Today, besides needling, acupuncture is also performed by applying electrical current to the inserted needles (electroacupuncture), by focusing a laser beam in the acupuncture points (laser acupuncture), by applying a metal staple to an acupuncture point where it remains for a prolonged period of time (staple puncture), by applying vacuum force to acupuncture sites (cupping), by scarification (counter-irritation) or, the least invasive of all, by applying finger pressure (acupressure).
- In general, the scientific community accepts that acupuncture produces physiological changes in the human body. To this date, two theories are more accepted than others: one theory relates to the production of endorphins and enkephalins and the other theory is based on the gate theory of pain physiology.

Objectives.

-to conduct systematic review on the available systematic reviews on the effectiveness of acupuncture to treat various disorders
-to describe the acupuncture utilization at the WCB of BC
-to make policy recommendations to the WCB of BC based on the available evidence

Review of the published systematic reviews on acupuncture.

Methodology.

- Literature searches were undertaken on medical literature databases including Pubmed, Cochrane Library, ACP Journal Club, Clinical Evidence, Bandolier, the US Agency for Healthcare Research and Quality and the NHS Centre for Reviews and Dissemination at the University of York.; websites of members of the International Network of Agencies for Health Technologies Assessment (including Canada, the US, Great Britain, New Zealand, Australia, Sweden and Denmark); websites of BC, Alberta and the Quebec Office of Health Technology Assessment; websites of other WCBs in Canada (including Yukon and Northwest Territories, Alberta, Saskatchewan, Manitoba, Nova Scotia, Newfoundland, PEI, Quebec and Ontario) and in the US (Washington State, Colorado, California and Oregon); private health insurance companies (including Aetna, Humana, Permanente Medical group, Tuft and Western Health Advantage) and other agencies including Health Canada, the US NIH.
- Searches were done by employing a combination of medical subject heading and textwords of; acupuncture or acupressure or electroacupuncture or electro-acupuncture or staple acupuncture or staple-acupuncture or stapleacupuncture or staple puncture or staplepuncture or moxibustion and review or systematic review or meta analysis.
- Inclusion criteria: publications were selected if they were systematic reviews and/or meta-analyses. The primary studies were restricted to humans with no restriction to age, sex or ethnicity of the participants. There was no restriction placed on the year of publication. However, these systematic reviews or meta-analyses were required to have acupuncture as the primary treatment modality in the study. Publications were restricted to those available in English.
- Exclusion criteria: publications were excluded if the methodology used to evaluate the quality of the primary studies were not apparent. Many reviews used the same primary studies, hence, these were excluded. Those reviews that were built in earlier work were also excluded, and the most recent version of that work was included, if appropriate.

Summary of the evidence.

- The summary of the evidence on the effectiveness of acupuncture is presented in Table 1.
- There is strong evidence on the effectiveness of acupuncture in treating dental and temporo-mandibular pain, post-operative nausea and vomiting and chemotherapy related nausea and vomiting.
- There is strong evidence against acupuncture use for treating chronic neck pain.
- This review does not differentiate between the different types of acupuncture treatments. However, most of the primary research in the articles obtained was undertaken by employing needle acupuncture.
- There are 3 major problems surrounding primary research and systematic reviews on acupuncture: selection and the role of control groups, complexities of acupuncture including variations of acupuncture technique and methodological quality of the study.

Adverse events.

- Acupuncture is a relatively safe procedure, however there is evidence that serious adverse events related to acupuncture treatment do occur.
- The type of adverse events can vary from minor concerns such as pain, bleeding at the needle insertion site, nausea or fainting to major events such as cardiac tamponade or pneumothorax.

Table 1. Summary on the effectiveness of acupuncture.

Disease/condition	Source of the evidence	Year of publication	Recommendation	Strength of the evidence
Acute Low Back Pain	Swedish Council on TA*	2000	No evidence	Level 1
Chronic Low Back Pain	Swedish Council on TA* Alberta Heritage Foundation HTA** ICSI***	2000 2002 2000	Limited evidence No evidence Limited evidence	Level 1 Level 1 Level 1
Acute Neck Pain	Swedish Council on TA*	2000	No evidence	Level 1
Chronic Neck Pain	Swedish Council on TA* Alberta Heritage Foundation HTA**	2000 2002	Strong evidence **against** No evidence	Level 1 Level 1
Dental and Temporo-mandibular pain	Alberta Heritage Foundation HTA** NHS Centre for Review & Dissemination	2002 2001	Strong evidence **for** Evidence **for**	Level 1 Level 1
Tinnitus	Alberta Heritage Foundation HTA** NHS Centre for Review & Dissemination	2002 2001	No evidence No evidence	Level 1 Level 1
Post-operative nausea and vomiting	Alberta Heritage Foundation HTA** NHS Centre for Review & Dissemination	2002 2001	Strong evidence **for** Evidence **for**	Level 1 Level 1
Chemotherapy related nausea and vomiting	Alberta Heritage Foundation HTA** NHS Centre for Review & Dissemination	2002 2001	Evidence **for** Evidence **for**	Level 1 Level 1
Chronic pain	Alberta Heritage Foundation HTA** Ontario WSB NHS Centre for Review & Dissemination	2002 2001 2001	No evidence/inconclusive No evidence/inconclusive No evidence/inconclusive	Level 1 Level 1 Level 1
Fibromyalgia	Alberta Heritage Foundation HTA**	2002	No evidence/inconclusive	Level 1
Idiopathic headache	Alberta Heritage Foundation HTA** ICSI***	2002 2000	Inconclusive Limited evidence	Level 1 Level 1
Osteoarthritis	ICSI***	2000	No evidence	Level 1
Lateral epicondylitis	New Zealand HTA**	2002	Inconclusive	Level 1
Patellofemoral pain syndrome	New Zealand HTA**	2002	Inconclusive	Level 1
Rotator cuff tendinitis	New Zealand HTA**	2002	Inconclusive	Level 1
Myofascial trigger point pain	Cummings TM and White AR	2001	Inconclusive	Level 1

* Technology Assessment. ** Health Technology Assessment. *** Institute for Clinical System Improvement
NB. Various Cochrane-based reviews are incorporated in the reviews of systematic review

Acupuncture in other jurisdictions.

- Based on information gathered from their respective websites Workers' Compensation Boards in the Northwest Territories and Nunavut, Yukon, Alberta, Manitoba, Newfoundland and Labrador, and Ontario explicitly state that they recognise acupuncture as part of the entitlement of workers with a compensable injury, subject to certain parameters.
- Other, non-Canadian jurisdictions suggest a more diverse approach to their payment for acupuncture services. The Workers' Compensation of California, Colorado and Oregon perceive acupuncture as a valid method of pain treatment and as such do cover it. On the other hand, Washington State Department of Labor and Industries, Medicare, Blue Cross/Blue Shield Association and Medicaid do not recognise the validity of acupuncture, therefore it is not covered by these respective health insurers.

Acupuncture at the WCB of BC.

- Chapter 10, Section 78.14 (Acupuncture), Rehabilitation Services & Claims Manual: 'the WCB does not generally accept responsibility for acupuncture'. However, acupuncture is accepted as a part of a treatment program for dealing with some conditions. Its application, however, is inconsistant.
- Health Care Services Benefit Guideline: "acupuncture is reasonable for patients with preferences for this modality and pre-approval is required". At present, the guideline limits the treatments to 5 over a 2 weeks period.
- There are 24 service providers registered at the WCB of BC as providing acupuncture services.
- Each acupuncture session cost $ 28.12.
- None of these providers have ever billed the WCB of BC for acupuncture prior to 2001.
- During the period of 2001 - 2002, 286 acupuncture treatments were given to 38 claimants.
- 16 (42.1%) of these claimants were females and 22 (57.9%) were males.
- The mean age (± SD) of claimants who sought acupuncture was 42 ± 11 years.
- Six (15%) of these claims were for Health Care Only, 29 (76.3%) were for Short term Disability and 3 (7.9%) were on Long term Disability.
- 63.2% (24) claimants received ≤ 5 acupuncture during the course of their treatments. 18.4% (7 claimants) received 6-10 treatments and another 18.4% (7 claimants) received > 10 treatments.
- Of the 7 claimants who received > 10 treatments, their medical records documented some sort of progress in pain or functionality due to acupuncture.
- Among the 38 claimants who received acupuncture, 14 (36.8%) suffered from neck/back strain/sprain or back pain, 7 (18.4%) from vertebral displacement or fracture, 6 (15.8%) from rotator cuff syndrome, 4 (10.5%) from epicondylitis, 3 (7.9%) from multiple body contusion including ankle, foot and hip, and 1 (2.6%) of each of concussion, peripheral nerve lesion, 'other' fracture or 'other' tendinitis.
- Of the 7 claimants who received > 10 treatments, 2 were due to sprain/strain or backache, 1 was due to epicondylitis, 3 were due to vertebral related fracture and 1 was due to brain concussion.

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