

# **Acupuncture as a treatment within integrative health for palliative care – a brief narrative review of evidence and recommendations.**

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## **Abstract**

*Background:* Acupuncture has one of the fastest developing evidence bases in Complementary Medicine and is one of the leading therapies included within integrative health care. This narrative review examines areas where acupuncture has evidence of some effectiveness in palliative care and gives examples of health care experts and public health organizations recommending acupuncture as a viable treatment in patients in palliative care.

*Methods:* An electronic search within Pubmed followed by a hand search of documents found was conducted to find review articles documenting effectiveness of acupuncture for treatment of symptoms in palliative care patients. Publications that recommend use of acupuncture for symptom control in palliative care were found by searching through a database currently under construction by the lead author.

*Results:* Acupuncture shows low or moderate evidence for over 15 symptoms in palliative care. Examples were found and presented of publications recommending acupuncture for treatment of symptoms for patients in palliative care from Government, public health, oncology and medical expert sources. The most publications are in oncology, but other conditions were found and a number were found in paediatric care.

*Conclusions:* While the levels of evidence for use of acupuncture to treat symptoms in palliative care patients are relatively low, the evidence base is growing. Experts around the world are also increasingly recommending acupuncture as a treatment for symptoms in palliative care. It is expected that acupuncture as a leading therapy within integrative health will see increased use in palliative care patients.

## **Introduction**

Acupuncture used since 100 BCE emerged as a treatment for a variety of problems both for painful and non-painful, acute and chronic conditions.<sup>1,2</sup> It is one of a number of therapies within the broader domain of traditional East Asian Medicine (TEAM) and is now practiced around the world both alone and in conjunction with other TEAM and Western medical therapies.<sup>3</sup>

Considered as a form of Complementary and Alternative Medicine, CAM, its research base has developed considerably since the 1970s and especially since the 1990s.<sup>4</sup> Acupuncture is now becoming routinely used in different countries.<sup>5</sup> A recent survey found that 22.4% of physicians refer for acupuncture in the US<sup>6</sup> and recently acupuncture has been included within billable medical services by the American Medical Association.<sup>7</sup> A 2007 survey of palliative care centres in Canada found that 9% provided and 49% allowed acupuncture to be provided in palliative care.<sup>8</sup> In a 2016 German survey of CAM use in palliative care in oncology, the authors found that 40% of oncology patients used CAM, of these 64.5% used acupuncture - 25.8% of oncology patients in palliative care.<sup>9</sup>

## Integrative Health

The field of Integrative Health care has developed considerably in recent years and has “evolved to describe the combination of conventional medicine with complementary medical practices for which there is evidence of safety and efficacy”<sup>10</sup> and more recently as “healing oriented medicine that takes account of the whole person (body, mind, and spirit) including all aspects of lifestyle; it emphasizes therapeutic relationships and makes use of all appropriate therapies, both conventional and alternative”.<sup>11</sup> Integrative care in palliative medicine has grown considerably in recent years. Ten years ago, a survey of hospice care in Washington State found 86% used complementary and alternative medicine, 32% using acupuncture.<sup>12</sup> In a recent review of global trends for the utilization of integrative medicine in oncology, the authors document from 22% of oncology centres in European countries up to 65% in Australian are now using integrative medicine, with acupuncture often being the most commonly used therapy.<sup>13</sup>

## Palliative care

The “WHO defines palliative care as the prevention and relief of suffering of adult and paediatric patients and their families facing the problems associated with life-threatening illness.<sup>14</sup> These problems include the physical, psychological, social and spiritual suffering of patients, and psychological, social and spiritual suffering of family members”.<sup>15</sup> In palliative care “There are some key principles or ‘Golden Rules’ which underpin symptom management. These include: Always consider non-drug approaches as they can be as important as the use of drugs. Management plan is influenced by prognosis and patient choice and depends on the therapeutic goal”.<sup>16</sup> In recent years palliative care has adopted a focus on being “patient-centered and family-centered care that optimizes quality of life by anticipating, preventing, and treating suffering. Palliative care is operationalized through effective management of pain and other distressing symptoms, while incorporating psychosocial and spiritual care with consideration of patient/family needs, preferences, values, beliefs, and culture”,<sup>17</sup> which aligns integrative health approaches conceptually and practically with palliative care approaches.<sup>18</sup>

The primary aim of palliative care is “to relieve suffering and improve the quality of life of patients with advanced illnesses”.<sup>19</sup> To this end strong treatment approaches are often necessary such as opiate prescriptions to manage very distressing symptoms such as pain. Many other methods that are more gentle and easier for the patient to tolerate may also be recommended such as a gentle fan to assist with breathing in dyspnoea.<sup>20</sup> But symptoms in palliative care are often difficult to treat with a recent review of pharmacological therapies used in the last days of life showing “a lack of evidence concerning the effectiveness and safety of palliative drug treatment in dying patients”.<sup>21</sup> As a consequence of this difficulty and the sparse evidence, therapies that may not have a strong evidence base are often recommended because there are few evidence-based-treatment options available, or because they are better tolerated by the patient. An example is the use of acupuncture for cognitive disturbance.<sup>22</sup> Another example is the use of acupuncture in the treatment of aromatase inhibitor arthralgia, where it has been found among the most effective therapies to date.<sup>23</sup> It is also common practice in palliative care to give greater weight to patient preferences, for example less use of opiates and more use of milder analgesic treatments so that the patient can remain mentally clearer. In palliative care it is common that the patient requires a number of different therapies at the same time to handle the complex medical manifestations of each patient. When multiple therapies are

administered at the same time, therapy becomes a form of ‘complex intervention’.<sup>24, 25</sup> When testing complex interventions or a therapy within a complex intervention package, it can be difficult and sometimes not possible to perform explanatory (placebo-controlled) trials.<sup>25, 26</sup> Consequently, when evaluating evidence in palliative care, although sham or placebo intervention trial evidence is considered, evidence derived from other sources such as pragmatic trials may often be given more weight.<sup>25-30</sup> Thus, when considering the use of acupuncture in palliative care, non-sham trial-based evidence may be given more weight. Performance of explanatory (sham-controlled) trials of acupuncture is controversial since no sham interventions are inert<sup>31, 32</sup> creating potential bias against acupuncture and routine underestimation of treatment effects.<sup>33-35</sup> Thus, in the evaluation of evidence for acupuncture, palliative care specialists knowledgeable about this problem will tend to give greater weight to pragmatic trial evidence. As acupuncture is used more within palliative care it will be important for palliative care specialists to provide education for acupuncturists about the highly specialised needs of patients in palliative care so as to ensure a smooth transition and integration of acupuncturists into the health care team.<sup>36</sup>

What is the current evidence for use of acupuncture in palliative care and to what extent have experts in palliative care recommended the use of acupuncture? This short narrative review will summarise evidence of acupuncture in palliative care and explore how medical experts in different countries have recommended acupuncture in palliative health care.

## Methods

Review articles regarding the use of acupuncture for cancer pain include studies both in palliative care and not in palliative care, and articles may or may not list ‘palliative care’ as key words. Hence we chose a simple strategy to find relevant articles covering acupuncture in palliative care. A search in Pubmed was made on December 27, 2019 using the terms ‘acupuncture’ + ‘palliative’ + ‘review’ to find review articles. These were then manually searched to find studies that are cited covering acupuncture in palliative care. These additional publications were also manually searched for further publications and evidence. From all of these publications we then summarise the evidence for the use of acupuncture in palliative care. While systematic reviews and meta-analyses are emphasised, other review articles are included.

One of the authors (SB) has a grant to establish an online registry of publications that make statements or recommendations about use of acupuncture, including clinical practice guidelines. This registry and the methodology for finding relevant publications is discussed in a previous publication.<sup>5</sup> For the current paper, since the on-line registry is not yet complete, it was not possible to do a formal search of the data base. Instead, for this narrative review, SB searched within his database for guidelines and publications that make statements about use of acupuncture for patients in palliative care. The purpose being to find illustrative examples of recommendations to use acupuncture for patients in palliative care covering a number of areas such as publications issued by Government Health Department or Ministries of Health, National Health Service-related publications, publications from oncological and other specialist groups.

## Results

### Evidence for acupuncture in palliative care

The initial Pubmed search including the term 'palliative' found eight review articles of which six are systematic reviews addressing acupuncture in palliative care.<sup>37-44</sup> Within these we found a further 17 review articles of which 10 are systematic reviews documenting evidence of acupuncture in palliative care.

While not all reviewers agree and the evidence is often found inconclusive or only promising, acupuncture has shown effectiveness in palliative care in general<sup>44</sup> and in the treatment of specific symptoms: pain,<sup>37, 41</sup> cancer pain,<sup>38, 45-47</sup> neuropathy,<sup>48-49</sup> nausea and vomiting,<sup>38, 42, 43, 47, 50</sup> dyspnoea,<sup>20, 42</sup> hot flashes,<sup>43, 47, 51</sup> xerostomia,<sup>52, 53</sup> anxiety, depression, sleep problems,<sup>47, 54-56</sup> fatigue,<sup>37, 43, 47, 57</sup> cognitive effects,<sup>22</sup> hiccups.<sup>43, 58</sup> Most of the evidence has been in cancer care, but some has emerged in other areas.<sup>22, 42</sup> Most evidence relates to symptoms that are side effects of conventional cancer treatments. For example, very little is known about the effectiveness of acupuncture for nausea and vomiting in advanced terminal care, unrelated to chemotherapy. An important target of therapy in palliative care is to improve quality of life (QoL).<sup>19</sup> Improvement across a range of symptoms can significantly impact QoL, and systematic reviews indicate that acupuncture benefits QoL in palliative care.<sup>37, 39, 59</sup>

We also found several non-trial publications reporting on use of acupuncture in palliative care. In a chart analysis of 172 cancer patients, Cracolici and colleagues found significant improvements in pain, fatigue, nausea, sleep disturbance, anxiety, loss of appetite, shortness of breath, well-being and cough.<sup>60</sup> In a chart study of 68 patients receiving acupuncture in palliative care Miller and colleagues found significant reduction in pain, anxiety, depression, drowsiness, dyspnea, fatigue, nausea, and well-being, with association between improved depression and fatigue and pain reduction.<sup>61</sup> In a qualitative study of patient experiences receiving acupuncture in a hospice setting, McPhail and colleagues interviewed 20 patients found generally consistent reports that acupuncture not only reduced many physical symptoms but that it also improved emotional and psychological health and, for some, enhanced spiritual well-being.<sup>62</sup>

Twenty years ago there was not much evidence for acupuncture in palliative care,<sup>63, 64</sup> with assessments around ten years ago showing a general lack of convincing evidence,<sup>50, 65</sup> but as the evidence base for acupuncture has grown,<sup>4, 5</sup> we can see that the evidence base for acupuncture in palliative care has also grown.

In conditions like cancer, various symptoms often occur together, leading to the recognition of ‘symptom clusters’.<sup>66</sup> Since acupuncture is a technique that has shown evidence across a number of symptoms in cancer care, it is also recommended as a therapy because it can address a number of symptoms in the symptom clusters.<sup>67, 68</sup> The practitioner can modify treatment for each patient according to the presenting symptoms or priority of symptoms, with some evidence for each of the symptoms to be addressed. In palliative care patients also often exhibit clusters of symptoms. Few therapeutic options offer a mixed-evidence based approach like this. It may also be advantageous if traditionally based practice is used since emerging evidence supports the performance of TEAM diagnostic evaluations and treatments in palliative care. A recent study found that the diagnostic patterns were predictors for response in hot flashes in cancer patients.<sup>69</sup> Acupuncture is a generally safe therapy,<sup>70</sup> also in palliative care<sup>60, 62</sup> and has evidence of cost-effectiveness across a number of symptoms.<sup>70</sup> Since patients in palliative care maybe less able to tolerate various medical interventions, and since acupuncture appears to be reasonably well tolerated, it may be a useful tool in palliative care.<sup>60</sup>

### **Recommendations to use acupuncture in palliative care**

In previous publications we reported on the number of recommendations on the use of acupuncture that had been found by end of August, 2017,<sup>5</sup> and by end of March 2019 in oncology.<sup>71</sup> These include publications recommending acupuncture in palliative care. While most commonly in cancer patients, they do include non-cancer patients. Within the database held by SB from which the registry of recommendations related to acupuncture is being constructed, SB found recommendations to use acupuncture across more than 20 symptoms are in palliative care. Below are examples of recommendations in palliative care from a number of different sources.



### *National and State government recommendations in palliative care*

Acupuncture is recommended by the Australian Government for palliative care in the elderly,<sup>72</sup> see also (<https://www.palliaged.com.au/>), and pain in palliative care (<https://www.healthdirect.gov.au/>, <https://palliativecare.org.au/>). Australian State Governments also recommend acupuncture in palliative care, for example: Victoria State government – for pain ([www.betterhealth.vic.gov.au](http://www.betterhealth.vic.gov.au)), Tasmanian State government – for pain, nausea and vomiting (<http://www.dhhs.tas.gov.au>). The US government's National Cancer Institute suggests integrative therapies including acupuncture may be helpful in palliative care (<https://www.cancer.gov/publications/pdq/information-summaries/supportive-care> & <https://www.cancer.gov/publications/pdq/information-summaries/cam>).<sup>73</sup>

### *National Health Service recommendations in palliative care*

NHS Scotland recommends acupuncture for relief of dyspnoea, cancer pain, xerostomia, CINV, menopausal symptoms, fatigue, hiccups, anxiety and mood problems in palliative care (<https://www.nhsinform.scot/care-support-and-rights/palliative-care/symptom-control/>, <http://www.palliativecareguidelines.scot.nhs.uk/media/1182/hiccups.pdf>). The NHS Greater Manchester Strategic Clinical Network recommends acupuncture for fatigue ([http://www.sah.org.uk/media/496763/scn\\_pain\\_symptom\\_control\\_guidelines\\_june\\_2015.pdf](http://www.sah.org.uk/media/496763/scn_pain_symptom_control_guidelines_june_2015.pdf)), the NHS Northern Devon Healthcare recommends acupuncture for hiccups (<http://www.northdevonhealth.nhs.uk/wp-content/uploads/2016/06/Symptom-Management-in-Palliative-Care-Guidelines-v1.4.pdf>). Wessex Palliative Physicians recommends acupuncture for pain, neuropathic pain, nausea and vomiting, dyspnoea, hyperhidrosis.<sup>16</sup>

### *Oncological palliative care recommendations*

In the US the National Comprehensive Cancer Network recommends acupuncture in palliative care (<https://www.nccn.org/>).<sup>74</sup> The Cancer Council Victoria recommends acupuncture for pain and symptom control.<sup>75</sup> Acupuncture is recommended for pain control in palliative care in the UK.<sup>76</sup> Since 2015 the National German breast cancer group the Arbeitsgemeinschaft Gynakologische Onkologie has recommended acupuncture for over a dozen symptoms, some of which will show up in palliative care.<sup>77-page</sup>  
<sup>769</sup> In Texas the MD Anderson Cancer Center recommended acupuncture for xerostomia in 2007,<sup>78</sup> today acupuncture is used as part of integrative medicine for relief of symptoms in palliative care [<https://www.mdanderson.org/research/departments-labs-institutes/departments-divisions/palliative-care-and-rehabilitation-medicine.html>]. In

New York the Memorial Sloan Kettering uses acupuncture in palliative care (<https://www.mskcc.org/blog/reassessing-palliative-care-msk-emphasizes-supportive-care-all-people>). Acupuncture is recommended in South Africa for muscular problems in palliative care ([http://www.inpracticeafrica.com/~media/Guidelines/SA\\_HPCA\\_Clin.pdf](http://www.inpracticeafrica.com/~media/Guidelines/SA_HPCA_Clin.pdf)). There are some recommendations not to use acupuncture in palliative care in cancer patients, for example in 2015 the Integraal Kankercentrum Nederland, a Dutch cancer group recommended not to use acupuncture for dyspnoea ([https://www.nhg.org/sites/default/files/content/nhg\\_org/uploads/dyspneu\\_in\\_de\\_palliatieve\\_fase.pdf](https://www.nhg.org/sites/default/files/content/nhg_org/uploads/dyspneu_in_de_palliatieve_fase.pdf)), but few negative have been found so far, in part since the more detailed searching needed for data-entry in the registry has not been done yet.

### *Specialist palliative care recommendations*

Acupuncture is recommended for palliative care in multiple sclerosis,<sup>79</sup> pain control in HIV patients,<sup>80-81</sup> COPD,<sup>82</sup> patients with dementia<sup>83</sup> and hiccups in palliative care in Holland (<https://www.pallialine.nl>). The Australian organization Therapeutic Guidelines recommends acupuncture for hiccups and pain control in palliative care.<sup>84, 85</sup>

### *Examples of recommendations in paediatric palliative care*

Acupuncture is recommended in palliative care for pain control,<sup>86</sup> and more broadly for chronic and acute pain, cancer pain, dyspnoea and post-operative nausea and vomiting.<sup>40</sup> It is recommended for pain control in the Netherlands<sup>87</sup> and Ontario, Canada.<sup>88</sup> Acupuncture is recommended in hospital based paediatric palliative care in Minnesota, USA (<https://www.childrensmn.org/for-health-professionals/refer-patient-childrens/pain-medicine-palliative-care-hospice/>) and Ontario, Canada, (<https://www.macpeds.com/documents/PediatricPalliativecarecard.pdf>). Acupuncture has been found to be safe,<sup>89-91</sup> and feasible<sup>92, 93</sup> in paediatric patients.

## **Conclusions**

In this brief narrative review, we can see that the use of acupuncture as a treatment within the integrative medicine tool box in palliative care is documented in both medical specialist and government literature and in some countries appears to be rapidly expanding. This includes the use of acupuncture in paediatric palliative care. While the evidence for use of acupuncture treating symptoms in patients palliative care is low to moderate, it is growing. Acupuncture is one of the best researched CAM therapies in integrative health and as the value of integrative health approaches in palliative care develops, acupuncture will be increasingly used. It will be important for palliative care specialists to prepare appropriate educational opportunities to train acupuncturists in the specialised needs of palliative care. More research is needed to support the uses of acupuncture within integrative medical palliative care. Given the difficulties performing placebo control trials of acupuncture and the ongoing debate within the palliative care field about appropriate research methods, it is advisable to perform high quality pragmatic research approaches in future trials of acupuncture also including biomarkers of potential effects.

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## **Data availability**

There is no available data related to this article

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