

Peppermint oil aromatherapy may ease pain severity after heart surgery

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The use of essential peppermint oil aromatherapy may ease pain severity after open heart surgery and enhance sleep quality as well, suggest the results of a small comparative clinical trial, published online in the

journal *BMJ Supportive & Palliative Care*.

Heart surgery is a major procedure, necessitating the separation of the breastbone (sternum) as well as mechanical breathing support, both of which are associated with a high risk of severe pain, stress and sleeplessness, note the researchers.

Effective pain relief allows patients to recover more quickly and may reduce the risk of postoperative complications, they add. But both the pain itself and the drugs used to treat it can prolong the time needed for [mechanical ventilation](#) and increase postoperative complications, risk of death, length of hospital stay, and health care costs.

Alternatives to drugs may provide a safer option or may simply boost the effectiveness of existing painkillers, suggest the researchers.

Aromatherapy may be one such alternative, but its effectiveness is unclear. Previously published research shows that inhaled [essential oils](#) may be helpful, and peppermint [essential oil](#) is already widely used in palliative care.

The researchers therefore wanted to investigate the potential of peppermint essential oil to reduce the pain and improve the [sleep quality](#) of patients after [open heart surgery](#).

Sixty-four adults were randomly assigned either to treatment with 0.1ml of 10% essential peppermint oil or 10 ml distilled water administered 30 minutes before their breathing tube was removed, and then 3 times daily via nebulizer until the second night following their procedure—7 doses in all.

Both groups were similar in terms of their sex, age, and weight; type of surgery; time (hours) under general anesthesia; length of intubation;

amount of pain relief given; and time spent on mechanical breathing support.

The Numeric Pain Rating Scale and the St Mary's Hospital Sleep Questionnaire were used to assess changes in pain severity and sleep quality, respectively. The final analysis included 59 patients: 30 in the aromatherapy group and 29 in the comparison group.

After 2 days, the average [pain severity](#) score was 3.22 in the aromatherapy group and 4.56 in the comparison group, a statistically significant difference, say the researchers.

Average sleep scores on day 1 were 20.10 and 25.76 in the aromatherapy and comparison groups, respectively, falling to 18.63 and 22.62, respectively, on day 2, a statistically significant difference between the two groups. The higher the score, the poorer the sleep quality.

Those given peppermint oil aromatherapy needed less pharmacological pain relief than patients in the comparison group.

By way of an explanation for their findings, the researchers suggest that the main components of peppermint oil—carvone, limonene, and menthol—may be key to its pain relieving qualities, particularly menthol.

They also point to previously published studies confirming the relaxing and sedative effects of peppermint essential oil. As patients experience a high level of postoperative stress and pain after waking up in intensive care following their heart surgery, reducing these factors should improve sleep quality, they suggest.

This is a small trial, and the researchers acknowledge that they weren't able to exclude the possible environmental effects of light and noise on

patients' sleep quality, which may have affected the scores obtained.

But they conclude, "The results show that inhalation of peppermint essential oil can reduce the pain intensity of patients after open heart surgery and consequently reduce the use of pain relievers by patients.

"Also, the use of this herbal product can improve the sleep quality of patients in the first nights after surgery and bring them more comfort. Considering the effect of [peppermint](#) essential oil inhalation on pain and sleep quality... it can be concluded that this herbal product can be safely used as a complementary treatment in relieving [pain](#) and making [patients](#) comfortable after [heart surgery](#)."

More information: Pain and sleep after open-heart surgery—inhalation peppermint essence: double-blind randomized clinical trial, *BMJ Supportive & Palliative Care* (2023). [DOI: 10.1136/spcare-2023-004214](#)

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