

Does the use of topical honey result in a faster rate of second intention wound healing in dogs?

Louisa Marcombes

Hello, my name is Louisa Marcombes and here I'll be talking about my Knowledge Summary titled does the use of topical honey result in a faster rate of second intention wound healing in healthy dogs? The idea for this Knowledge Summary came to me as in clinical practice, I have noticed how regularly honey products are recommended by colleagues for wound healing, despite there being a huge range of alternative treatments. This has given me the impression that there is a lot of anecdotal evidence supporting its use and led me to wonder what empirical evidence existed. My PICO is: In healthy dogs, undergoing open wound management, does the topical application of honey, when compared to wounds washed daily with sterile saline reduce the time to complete wound healing. I restricted the literature search to dogs only as the differences in wound healing between species would make comparing studies difficult.

Additionally, I was obliged to drop the qualifier Manuka honey, when it became apparent that no prospective studies of Manuka honey on canine wounds were coming up on literature searches. This amended literature search found three papers that could be used to answer the PICO. The studies were from the same research group and it was evident that two papers, Jalali and others (2007) A and B were a duplicate manuscript. And for the Knowledge Summary, these papers were considered as one. Furthermore, there was reasonable suspicion and the third paper Jalali another's (2007) C was based on the same experimental procedure. This was problematic, not only because the methods described in the two studies were not identical, but also because it effectively meant that all the evidence available for the PICO is based on the same 10 animals. The papers were experimental prospective controlled trials, which is an appropriate study design for a PICO, looking at a treatment effect Jalali and others (2007) A and B compared to percentage reduction of wound area between treatment and control groups.

They showed mean wound area reduction for the honey treated group with greater than the control group on day 7, 14 and 21, the methods used to attain the wound area measurement were validated and the results significant the remaining outcomes reported by the papers were less robust, gross, and microscopic appearance of the wounds, which was presented simply as descriptive narrative with no statistical analysis had zero evidential value. Likewise, quantitative and qualitative bacteriology data was also obtained with the authors claiming that the significantly lower bacterial count in honey treated group on day 21, demonstrated antibacterial effect of honey. However, this being a secondary outcome for the PICO, the authors failed to discuss how this could be related to decrease time to wound healing and that it was a cause to factor was an assumption. As a result, the microbiological analysis was also considered of zero evidential value. To summarize the internal validity of both studies is reduced by the very small sample size vulnerabilities to bias due to flaws and experimental design and reporting and apparent data duplication.

Additionally, external validity is negatively impacted by the fact of honey, other than medical grade Manuka honey was used and the wounds treated were experimental burn wounds, which is probably not representative of the typical canine wound in the clinical setting. I have concluded that the evidence on its own is too weak to inform any changes in core practice. However, the possibly significant finding in one variable, along with stronger evidence provided by studies and other species indicates there may be a treatment effective honey and wound healing to be demonstrated. And that further studies are warranted.

Thank you for listening.

This work is licensed under a [Creative Commons Attribution 4.0 International License](https://creativecommons.org/licenses/by/4.0/). Feel free to adapt and share this document with acknowledgment to RCVS Knowledge. This information is provided for use for educational purposes. We do not warrant that information we provide will meet animal health or medical requirements.