

# LITERATURE REVIEW

## IS ANIMAL-ASSISTED THERAPY EFFECTIVE FOR PAIN MANAGEMENT?



The human-animal bond started out as a working relationship that has developed and transformed over the last 15,000 years (1); there is still much to be explored. Animal assisted therapy, facilitated by a trained therapist, is a health care modality that harnesses the power of the symbiotic relationship between animals and humans to achieve specific, measurable health outcomes.

**Written by: Aashima Singh, Canine Comprehension tutor.**



This literature review focuses on whether animal assisted therapy is effective for pain management. One in 5 Australians aged over 45 has chronic pain (2), and while there are many pharmacological agents available to aid with management, these aren't without side effects. While animal assisted therapy is not without risks itself, (allergic reaction, zoonotic transmission, bites and scratches), they are comparatively minimal. Having non-pharmacological adjuncts to assist with pain management is an important area to explore to improve the quality of life of many.

An important and ever increasing area of healthcare is management of chronic joint pain. Osteoarthritis is the most common cause of disability in older populations globally (3), and that figure is set to increase with the aging population. A study out of the Catalan Institute of Health in Spain focused on whether animal assisted therapy could improve pain in a polymedicated geriatric population with chronic joint pain (4). Polypharmacy is a burden itself, as having to remember to take multiple medications decreases quality of life and increases delirium risk, so reducing the amount of medication patients need to take is an important goal. The study design was a randomized, open label control trial (4). The length of the study was the longest duration of those included in this review, with 12 weekly sessions of an hour duration each. Both the intervention and control group underwent kinesitherapy sessions, but the intervention group completed the exercises with the support of a therapy dog (4).

# LITERATURE REVIEW

There was a statistically significant reduction in pain for the intervention group, and this effect was enhanced for those participants with a higher initial pain score (4). In other words, those who had greater pain at the start of the study had a larger response to the animal-assisted therapy. It is hypothesised that this effect is due to the distraction that the therapy dog can offer, allowing the participants with greater pain scores to engage more fully in kinesiotherapy exercises where they might not have been able to without the distraction present (4).

Another area where animal-assisted therapy has been studied for acute pain management is in the postoperative setting. This has been investigated in both adult and pediatric populations. A study conducted at Loyola University in Illinois, USA, set out to compare the effects of animal-assisted therapy on patients who had undergone joint replacement surgery (5). The study found that those patients who had been exposed to animal-assisted therapy after their surgery consumed less pain medication than the group who had not been exposed to animal-assisted therapy after surgery, and this result was statistically significant (5). The methods in this paper were judged to have a low risk of bias.

In a different study assessing a postoperative pediatric population, the participants were sorted into an intervention and control group and both were given identical analgesia (6). The intervention group was exposed to animal-assisted therapy, and then both groups were asked to rate their pain from 0 to 6, 0 being no pain. The participants in the intervention group reported lower pain scores; notably, 66% of the intervention group reported no pain compared to 33% of the control group reported no pain, and the results were found to be statistically significant (6).

The department of Anesthesiology at the University of Pittsburgh School of Medicine set out to test the application of animal-assisted therapy in an outpatient setting (7). This was tested on patients with fibromyalgia (7). Fibromyalgia is a condition that causes diffuse, neurological pain that is often treated with antidepressants or antiepileptics, although some patients do not respond to these medications.



# LITERATURE REVIEW



In this study, one group of patients attending an outpatient clinic were asked to wait for their scheduled appointment in a standard waiting room (control group), while the intervention group was assigned to wait in the therapy dog visiting room before their appointments (7). The participants were then surveyed after their appointments. It was found that the participants in the intervention group were more likely to have clinically meaningful pain relief compared to the control group, and these findings were statistically significant (7). Of note, this was a robust study with a large number of participants and low risk of bias.

A study from Pio XII Foundation-Barretos Cancer Hospital in Brazil enquired about the effect of animal assisted therapy on a pediatric oncology population (8). In this study an intervention group was asked a series of questions and had their vital signs noted before being exposed to 3 sessions of animal assisted therapy (8). After the session the participants were asked the same series of questions, and the results were compared to the pre intervention results (8). There was evidence of small but statistically significant reduction in pain scale scores.

Lastly, researchers in Seattle Children's Hospital, Washington asked what effect therapy animals would have on patients in their pediatric oncology, this time in an inpatient ward (9). Patients were issued a questionnaire before and after visits from the therapy animal (9). The study found that there was a statistically significant reduction in pain score after the visit (9), although there are some weaknesses in the study worth noting. The sample size is small (n=18) and there is also no control group in the study so more experimentation would be advisable.

In summary, animal assisted therapy is a novel and promising area of research that has the potential to be applied to both acute and chronic pain management situations. Along with multiple studies highlighting its efficacy, yielding statically significant results, the relatively low risk profile in conjunction with a diverse range of benefits supports funding of further inquiry.

# REFERENCES

## Reference list:

1. The Human-Animal Bond throughout Time [Internet]. College of Veterinary Medicine. 2018 [cited 6 January 2022]. Available from: <https://cvm.msu.edu/news/perspectives-magazine/perspectives-fall-2018/the-human-animal-bond-throughout-time>
2. Chronic pain in Australia, Summary - Australian Institute of Health and Welfare [Internet]. Australian Institute of Health and Welfare. 2022 [cited 6 January 2022]. Available from: <https://www.aihw.gov.au/reports/chronic-disease/chronic-pain-in-australia/contents/summary>
3. March L. Epidemiology and risk factors for osteoarthritis [Internet]. Up to date. 2022 [cited 6 January 2022]. Available from: <https://www.uptodate.com/contents/epidemiology-and-risk-factors-for-osteoarthritis/print>
4. Rodrigo-Claverol M, Casanova-Gonzalvo C, Malla-Clua B, Rodrigo-Claverol E, Jové-Naval J, Ortega-Bravo M. Animal-Assisted Intervention Improves Pain Perception in Polymedicated Geriatric Patients with Chronic Joint Pain: A Clinical Trial. *International Journal of Environmental Research and Public Health*. 2019;16(16):2843.
5. Havey J, Vlases F, Vlases P, Ludwig-Beymer P, Hackbarth D. The Effect of Animal-Assisted Therapy on Pain Medication Use After Joint Replacement. *Anthrozoös*. 2014;27(3):361-369.
6. Calcaterra V, Veggiotti P, Palestini C, De Giorgis V, Raschetti R, Tumminelli M et al. Post-Operative Benefits of Animal-Assisted Therapy in Pediatric Surgery: A Randomised Study. *PLOS ONE*. 2015;10(6):e0125813.
7. Marcus D, Bernstein C, Constantin J, Kunkel F, Breuer P, Hanlon R. Impact of Animal-Assisted Therapy for Outpatients with Fibromyalgia. *Pain Medicine*. 2013;14(1):43-51.
8. Silva N, Osório F. Impact of an animal-assisted therapy programme on physiological and psychosocial variables of paediatric oncology patients. *PLOS ONE*. 2018;13(4):e0194731.
9. Chubak J, Hawkes R, Dudzik C, Foose-Foster J, Eaton L, Johnson R et al. Pilot Study of Therapy Dog Visits for Inpatient Youth With Cancer. *Journal of Pediatric Oncology Nursing*. 2017;34(5):331-341.



# LITERATURE REVIEW

Written by: Aashima Singh ,Canine Comprehension tutor.

## About Canine Comprehension.

We provide a calmer school environment through our tailored Dog Assisted Learning programs. We know that being able to provide a positive environment that is calm increases positive behaviours throughout the classroom, school and family environments.

With early intervention, we can help your child to process the emotions they are currently feeling and help them to understand them in a safe environment. Our highly trained tutors and dogs offer a connection that some children are craving and can help to create surroundings that are conducive to learning.

Our programs and individualised tutoring are goal oriented, evidenced based and innovative. We aim to create an environment that offers conducive learning experiences to a broad range of students whether in the classroom or at home.

See our website and social media pages to learn more about us.

