

**THE IMPACT OF ANIMAL ASSISTED THERAPY (AAT)  
ON THE USE OF PAIN MEDICATIONS AFTER A SURGICAL PROCEDURE IN AN ACUTE  
CARE HOSPITAL**

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Animal Assisted Therapy (AAT) is defined as the use of animals to enhance therapeutic interactions and positive distractions for patients. AAT has been used in chronic care and psychiatric facilities and is becoming increasingly common in the acute care setting. Research demonstrates that Animal Assisted Therapy serves as a diversion from illness, improves morale, enhances sense of well being and lowers blood pressure. The literature also suggests that AAT increases socialization and communication, decreases loneliness and boosts staff and patient morale.

AAT was implemented at a community hospital in the Midwest in January 2002. Qualitatively, patients have expressed satisfaction with the program, with comments such as "... a wonderful distraction from being ill," "I have never had a more enjoyable stay at a hospital. The dogs made me feel great" and "... a heartwarming experience that I looked forward to every day."

This case controlled study was designed to measure the impact of AAT on the use of pain medications by patients in an acute care hospital after total joint replacement surgery. The investigators hypothesized that patients who received an AAT visit would require less pain medication when compared to patients who received usual and customary care.

After receiving IRB approval, retrospective data collection began. The sample consisted of all patients who received total joint replacement surgery in 2003. Data were collected from both the documentation and the pharmacy dispensing systems. All patients received care on the same nursing unit of the Midwest hospital and could choose to receive or refrain from AAT without coercion. AAT visits lasted between 5 and 15 minutes and were tailored specifically to patient preferences.

Patients who received AAT were matched with patients who did not receive the therapy in terms of key data elements, including surgical post operative day, surgeon, age, gender, and length of stay. Because time of surgery would be a confounding variable, no patients were included in the study on their day of surgery, even if they received an AAT visit on that day. In addition, because of the manual process needed to determine dose, patients who received patient controlled analgesia were also excluded from the study. All pain



medication doses were converted into intravenous morphine equivalencies using existing literature conversion rates.

Data analysis compared the group that received AAT (n=87) with the group that received no AAT (n=87) and found no statistically significant difference in terms of age, gender, ethnicity, length of stay, post-operative day and surgeon. However, patients who received AAT used statistically significantly less pain medication than those without AAT (morphine equivalence = 9.71 versus 14.06,  $p=0.003$ ). The time of AAT (morning, afternoon or evening) did not impact the use of pain medication. The largest difference was seen one to two days post operatively.

This study suggests that patients who receive AAT after their total joint replacement use less pain medication than those who do not receive AAT, particularly one to two days post operatively. A variety of reasons may explain this finding. First, because patients self-selected for this study, there may be fundamental differences between those who embrace AAT and those who do not. Second, while the researchers matched patients based on factors that influence the use of pain medication, such as type of surgery, age, gender, ethnicity, length of stay, post-operative day and surgeon, other unknown variables may account for the differences. Third, the AAT intervention itself may have resulted in a need for less pain medication because of the intervention's ability to serve as a distraction from the illness, improve morale, relax the patient and enhance the patient's sense of well being.

While this research represents an initial step in determining the impact of AAT on the use of pain medication, more research is needed. In particular, prospective, randomized studies would strengthen the investigation of this important topic.

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## Analysis of AAT Data

Hypothesis: AAT patients use less pain medication than non-AAT patients

Total Cases: 174

Summary 1

Group	Animal Assisted	Non- Animal Assisted	Total
Demographic			
Age, mean±SD p = 0.817			
	67.53±9.70	67.20±9.32	67.36±9.48
Sex, n(%) p = 1 .000			
Male	33 (37.9)	33 (37.9)	66(37.9)
Female	54(62.1)	54(62.1)	108(62.1)
Ethnic Group, n (%) p = 0.2 1 1			
CA	86 (98.9)	82 (94.3)	168(96.6)
Other	1(1.1)	5 (5.7)	6(3.4)
Clinical			
LOS, mean±SD p = 0. 1 68			
	4.45±1.12	4.20±1.28	4.32±1.21
Post-Operation Days, mean±SD p = 1 .000			
	2.29±1.21	2.29±1.21	2.29±1.21
Surgeon			p = 0.978
Morphine Equivalence, Mean, SD p = 0.003			
	9.71±9.24	14.06±10.05	11.88±9.87

**There is a statistically significant difference in Morphine Equivalence use between animal and non-animal assisted therapy patients.**



