

## Editorial Article

# Use of Canine-Assisted Therapy in Office-Based Flexible Cystoscopy

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## Editorial

While animals have been used throughout history to promote the health and well-being of humans, animal-assisted interventions have only recently emerged in mainstream healthcare as an evidence-based approach to improving human wellness and healing [1]. The use of canine assisted therapy (CAT) in health-related settings, including hospitals and nursing homes, has been dramatically increasing in recent decades [1]. CAT involves an interaction between a patient and a trained canine in addition to the canine's human owner or handler [2]. Interest in CAT is rising given increasing evidence of its therapeutic potential in targeting pain, anxiety, stress, and other health-related outcomes associated with procedures and various diseases states [1]. While it is unclear the percentage of US hospitals currently offering a CAT program, it is clear that research related to CAT has been on the rise. According to Pub Med's CSV timeline for articles related to "animal assisted therapy," there has been a steady increase since the 1980's: 1980s <10 articles/year; 1990s <50 articles/year; 2014 169 articles total. Articles related to "canine assisted therapy," specifically, totaled >50% of the articles published in 2014.

CAT research in healthcare settings has centered around improving both subjective and objective measurements related to patient health and well-being. Subjective measurements have included self-reported mood, anxiety, stress, and pain [3-10]. Barker et al. demonstrated how this canine-human interaction significantly reduced self-reported anxiety among

patients with mood and psychotic disorders compared to patients who received human only recreation group sessions [2]. Other neuropsychiatric studies have found similar benefits of CAT in reducing depression among nursing home patients [3], improving social interactions and communication in children with autism [4], and reducing post-operative pain in children following surgery [5]. Furthermore, Raina et al. demonstrated that pet ownership in geriatric populations led to improved performance of activities of daily living (ADLs) over a one-year longitudinal study [6]. Therefore, older adults are able to stay more independent and potentially avoid health-related complications from sedentary lifestyles through pet ownership [6]. CAT has also been shown to reduce objective measurements related to stress, anxiety, and pain including blood pressure [7-9], heart rate [9], and cortisol levels [10]. Allen et al. reported that while ACE inhibitor therapy alone can reduce blood pressure, heart rate, and plasma renin levels, it was only the addition of pet ownership that further reduced these parameters in response to added stressors including mental arithmetic tasks [7]. Another study found that a single 30 minute one-on-one session between a patient and therapy dog reduced cortisol, a stress hormone, and increased endorphins, hormones associated with well-being and happiness [10].

Fewer studies are available to detail the benefit of CAT in outpatient settings or during outpatient procedures. As a minimally invasive, safe, and cost-effective therapy, the use of CAT represents a desirable approach to mitigating pain, anxiety, stress, and fear associated with outpatient procedures. Flexible cystoscopy is an office-based procedure performed by

advancing a small flexible scope into the bladder via the urethra. It is performed for both diagnostic evaluation and therapeutic indications. This procedure is typically performed on the awake patient, with topical anesthetic as the only analgesia provided and may last 10-30 minutes, not including time needed for patient preparation. As this is an invasive procedure, patients often report associated pain, fear and anxiety [11-15]. While it is estimated that 6.6 million cystoscopies are performed annually with 2.3 million occurring in the US [16], few effective interventions have emerged to improve this experience for patients. Raheem et al. demonstrated that listening to music during cystoscopy significantly reduced post-procedure anxiety and pain scores [11]. However, Mirheydar et al. found the use of music did not significantly reduce pain or anxiety [12]. Furthermore, multiple other interventions have failed to demonstrate a reduction in cystoscopy-associated pain or anxiety, including the use of 2% topical lidocaine gel on the cystoscope [13], insertion of a combined local anesthetic lubricant into the urethra for 3 minutes prior to cystoscopy [14], and allowing the patient to observe his own cystoscopy [15].

To our knowledge, CAT has never been implemented during outpatient cystoscopy. Given its efficacy profile detailed above, we believe this is a greatly underutilized tool that can safely be implemented to alleviate the pain, fear, stress and anxiety associated with outpatient flexible cystoscopy. Furthermore, given the lack of current interventions to improve patient experience and stress during cystoscopy, we aim to demonstrate the benefits of CAT in outpatient flexible cystoscopy in an upcoming study with the hopes of improving patient care.

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