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SNIFFING OUT SOLUTIONS

# The Impact of Medical Scent Service Dogs

In the ever-evolving landscape of healthcare, innovation often emerges from the fusion of diverse disciplines and unorthodox approaches. Dr. Louis Bourget epitomizes this with his pioneering work at the intersection of medicine, physiology, and veterinary science. Armed with a background in physiology and a rich history of experiences spanning from dental surgery to facial reconstruction, Dr. Bourget has embarked on a groundbreaking journey to introduce Medical Scent Service Dogs into the realm of healthcare. His vision? To leverage the acute olfactory senses of these specially trained canines to detect cortisol levels in patients, offering a novel avenue to alleviate stress before, during, or after medical procedures. As he continues to push the boundaries of medical innovation, Dr. Bourget not only enriches his patients' lives but also challenges the healthcare community to embrace unconventional ideas that hold the promise of transformative change. In this article, we delve into Dr. Bourget's remarkable journey, exploring how his multifaceted expertise and unwavering compassion are reshaping the landscape of modern medicine.

The genesis of Dr. Bourget's innovative project stems from a serendipitous encounter with a friend and his canine companion. Observing the calming effect the dog had on his friend in a medical waiting room piqued Dr. Bourget's curiosity, prompting him to delve deeper into the potential therapeutic benefits of such animal-human interactions. This chance observation laid the foundation for a collaborative venture between Dr. Bourget and Bill Grimmer, a seasoned dog trainer known for his ability to teach dogs extraordinary skills. Together, they have embarked on a journey to harness the innate abilities of dogs to detect subtle changes in human physiology, particularly focusing on cortisol levels—a key indicator of stress. Through meticulous training and focused techniques, Dr. Bourget and Bill Grimmer hones the dogs' olfactory prowess, transforming them into adept medical scent detection companions. This union of medical expertise and canine intuition is curating a new frontier in healthcare, where the symbiotic relationship between humans and dogs offers a novel approach to stress reduction and patient care. As we look further into the mechanics of this innovative endeavor, we unravel the science behind Dr. Bourget and Bill Grimmer's groundbreaking work, shedding light on the transformative potential of Medical Scent Service Dogs in the medical profession.

**Scientific Research and Relevance**

The concept of Medical Scent Service Dogs is rooted in an understanding of the physiological response to stress, particularly in medical settings. Cortisol, the primary hormone associated with stress, plays a pivotal role in orchestrating the body's reaction to physical and psychological stressors. When faced with stress, the hypothalamic-pituitary-adrenal (HPA) axis and sympathetic nervous system are activated, triggering the release of cortisol. This hormone exerts a myriad of effects on the body, including the release of catecholamines, suppression of insulin, and mobilization of energy stores. However, prolonged elevation of cortisol levels can have detrimental consequences, such as impairing immune function and delaying wound healing.

In the context of preoperative anxiety, heightened cortisol levels can lead to increased heart rate, electrolyte imbalances, and reduced immune function. Further, research indicates a correlation between preoperative anxiety and postoperative pain, as well as complications during recovery. While various interventions have been implemented to alleviate preoperative anxiety, including pharmacological and non-pharmacological approaches, the emergence of Medical Scent Detection Service Dogs offers a novel and non-invasive solution.

The prevalence of stress and anxiety in our society manifests in diverse ways, from medication dependence to substance abuse and behavioral changes. For healthcare providers like Dr. Bourget, navigating the complexities of patient care amidst these challenges is a constant endeavor. While Emotional Support Animals (ESA) and therapy dogs have long been recognized for their therapeutic benefits, Medical Scent Detection Service Dogs represent a shift in addressing stress and anxiety proactively. Unlike traditional ESA dogs, these specially trained service dogs possess the unique ability to detect cortisol levels before patients even enter the clinic or consultation room. By identifying individuals experiencing heightened stress levels, these dogs offer a preemptive intervention that aims to restore patients' cortisol levels to a more manageable state. In doing so, they not only provide immediate relief but also serve as invaluable allies in uncovering underlying stressors that patients may be reluctant to acknowledge. This innovative approach not only enhances patient care but also aligns with the core tenets of service dog qualification, as these animals are trained to perform specific tasks that mitigate disabilities, including anxiety and stress-related disorders. Notably, research has shown that interactions with dogs not only lower cortisol levels but also elevate oxytocin, the hormone associated with bonding and well-being.

The anecdotal evidence provided by Dr. Bourget's experiences underscores the potential of Medical Scent Detection Service Dogs in mitigating preoperative anxiety and improving surgical outcomes. In a poignant example, a young woman facing multiple stressors, including anxiety and mood disorders, found solace in the presence of Finley, Dr.Bourget's Medical Scent Service Dog in training (SDiT). Finley's instinctive response to her elevated cortisol levels exemplifies the precision and efficacy of these dogs in identifying and addressing heightened stress levels. By offering tailored support to individuals with specific needs, these dogs represent the possibility of more personalized and holistic approaches to healthcare.

**From Theory to a Practical Application, It's Finley**

As we've explored the science behind Medical Scent Service dogs and their potential to revolutionize patient care, let's now shift our focus to a real-world application of this innovative approach. At the Atlantic Oral Surgery and Facial Reconstruction Centre, Dr. Bourget has embraced this cutting-edge concept by introducing Finley, a Medical Scent (Cortisol) service dog in training (SDiT), into the clinical setting. This practical experiment not only underscores Dr. Bourget's commitment to pushing the boundaries of traditional healthcare but also offers a glimpse into the transformative impact that these specially trained dogs can have on patient experiences.

Finley isn't your average dog! Under the guidance of Dr. Bourget, he is learning to seek out patients who exhibit high cortisol levels before surgery. Once identified, Finley's instinctual response kicks in as he

approaches these individuals, offering his calming presence and gentle touch in hopes of reducing their cortisol levels.  By harnessing Finley's unique abilities, Dr. Bourget aims to not only enhance patient comfort but also improve surgical outcomes.

In a recent case at the clinic, the SDiT, Finley, demonstrated his remarkable ability to alleviate pre-surgical anxiety. A young woman scheduled for wisdom teeth extraction, grappling with anxiety, ADHD, and mood disorders, entered the office in a state of nervousness. Despite Finley initially being with another patient, upon her arrival, he instinctively gravitated towards her. Placing his paws on her chair, Finley offered a comforting presence that immediately eased her stress. Following a brief interaction, her blood pressure dropped significantly from 180/100 to 113/74. With Finley by her side, she underwent her surgery with remarkable calmness, illustrating the profound impact of his intervention.

So, why don't we have more Finleys in clinics, hospitals, and medical environments all over Canada if the science works? Well, while this example exemplifies one of many instances of the transformative potential of Medical Scent Service Dogs like Finley, it's essential to acknowledge the challenges associated with implementing this innovative approach on a broader scale.

**Barriers to Entry in the Medical Marketplace**

Despite Finley's successes, there are hurdles to overcome in integrating Medical Scent Service Dogs into mainstream medical practice.

Among the foremost concerns are the potential risks of infections associated with animals in clinical environments and the bureaucratic machinery of large healthcare administrations often resistant to embracing new projects, particularly when decision-makers have entrenched interests or agendas. Additionally, navigating the complexities of patient care can present its own set of hurdles, as healthcare professionals strive to balance infection prevention with providing optimal pre-operative care. However, a pilot study conducted by Vos et al. (2021) investigated the contamination levels of assistance dogs' paws and their users' shoe soles, particularly in relation to access to hospitals and (in)visible disability. Their findings revealed that assistance dogs and their users exhibited comparable levels of general hygiene to pet dogs and their owners, with assistance dogs' paws being cleaner than shoe soles, suggesting that hygiene concerns regarding assistance dogs in public places, particularly hospitals, may be unfounded given the limited presence of assistance dog users among total hospital visitors in the Netherlands.

Despite these obstacles, private surgical facilities such as the Atlantic Oral Surgery and Facial Reconstruction Centre have been at the forefront of integrating Medical Scent (cortisol) Service Dogs in training (SDiT) into their practice for over six months. Through the development of key policy and procedures, informed by international best practices, they have successfully incorporated the presence of service dogs into patient care protocols, with notable success.

Upon conducting a comprehensive review of their activities, they are pleased to report that their infection rates have remained unaffected by the presence of service dogs. Furthermore, the tangible benefits to patient outcomes have exceeded expectations. Patients who would typically require treatment in hospital operating rooms due to anxiety or the inability to undergo IV sedation have been successfully treated in their facility, with the assistance of the SDiT.

Despite the promising outcomes observed, challenges persist in gaining broader recognition and acceptance for Medical Scent Service Dogs within healthcare systems. Outdated laws and definitions hinder their incorporation into mainstream medical practice, despite their demonstrated effectiveness in detecting a range of medical conditions. Renowned dog trainers have advocated for their use, yet efforts to update policies and procedures have faced resistance in Nova Scotia and beyond.

**Advocacy through Awareness**

Efforts to mitigate the challenges surrounding the integration of Medical Scent Service Dogs into mainstream healthcare settings extend beyond individual institutions. Continuous research endeavors and advocacy initiatives play a crucial role in raising awareness and garnering support for this innovative approach. For example, in a Spring 2020 Issue of the Endocrinologist, Helen Loo defines a Medical Alert Assistance Dog as one "trained to alert someone to an impending episode and allow the person to take preventative medication or safety measures, to either prevent the episode or limit its effects." The Medical Alert Assistance Dogs in her article are accredited by ADUK (Assistance Dogs UK), and work under the umbrella of Assistance Dogs International. "Any dog that carries the ADUK badge on its jacket has been shown to meet international standards for obedience and public access requirements, as well as accuracy and reliability for its specific role." The significance of articles like Helen's is the international strides it can aid in achieving national acceptance and policy progress in Canada.

Colleagues like Bill Grimmer, deeply involved in the training and utilization of service dogs, also actively engage with media platforms to shed light on the initiative's potential benefits and address

misconceptions. In a conversation with CBC New Brunswick on September 20th, 2021, Grimmer, an expert in dog scents and their potential applications, discusses the innovative use of dogs trained to detect and respond to spikes in cortisol, a hormone associated with stress. Drawing from his more than 45-year experience in dog training, search and rescue, as well as K9 training for bomb and narcotics detection, Grimmer emphasizes the crucial role of proper breed selection in service dog training. He notes that certain breeds, such as the German shepherd, Belgian Malinois, or Doberman, excel in police-like work but may not always be suitable for service dog tasks due to their potentially intimidating presence. Grimmer's insights underscore the significance of considering temperament and accessibility when selecting breeds for service dog training programs, highlighting the need for private citizens to have the ability to train their own Service Dogs in Training (SDiTs) for mainstream implementation. In addition, Grimmer highlights the symbiotic relationship between dogs and individuals with disabilities, where dogs are rewarded with touch or affection for helping to discover or assist with disabilities, further emphasizing the importance of understanding canine behavior in service dog training.

While there exists significant support for the integration of Medical Scent Service Dogs into healthcare practices, the transformational shift in the industry hinges upon legislative changes. Grimmer highlighted in a CBC article ("Service dogs for mental health need federal legislation, advocate says") on April 5th, 2024, that the absence of federal legislation poses a substantial barrier to the widespread adoption of these invaluable animals. The article underscores the urgent need for comprehensive regulatory frameworks that recognize the role of service dogs in addressing mental health challenges and other medical conditions. Without such legislative measures, the full potential of Medical Scent Service Dogs to enhance patient care and surgical outcomes remains unrealized. Through ongoing dialogue and dissemination of information, strides are being made to foster a better understanding of the role that Medical Scent Service Dogs can play in enhancing patient care and surgical outcomes. However, while advocacy efforts and public awareness campaigns are critical, it is the evolution of laws and regulations that will ultimately catalyze meaningful change in the industry.

**Looking Ahead**

Dr. Bourget's explains that the biggest message he wants to resonate with readers is open-mindedness and innovation in the realm of healthcare. Through the lens of Medical Scent Service Dogs, he urges us to embrace novel approaches that have the potential to revolutionize patient care and surgical outcomes. By fostering an environment of exploration to unconventional methods, we pave the way for transformative advancements that can profoundly impact the landscape of medicine.

The evidence of the deep impact of Medical Scent Service Dogs, such as the SDiT Finley, underscores the urgent need for legislative reform and a more open-minded approach to their integration into healthcare settings. As healthcare professionals continue to witness the positive outcomes facilitated by these remarkable animals, the imperative to revise antiquated laws and definitions becomes increasingly apparent.

As Dr. Bourget and his colleague, Bill Grimmer, continue to advocate for the integration of Medical Scent Service Dogs into clinical practice, the potential for improved patient outcomes and enhanced well-being becomes increasingly tangible.

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