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Safety Study of Wireless Fecobionics Device

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ABSTRACT

We developed a novel wireless device (Fecobionics) for mapping colonic and anorectal neuromuscular function. Our hypothesis is that the Fecobionics device will be safe to use for repeated testing without caused mucosal damage or any unwanted adverse effects. Validation of this innovative approach map and describe objectively (without disturbing the colonic transport and defecation processes) the transport characteristics and neuromuscular signatures during colonic transport and initial entry from the rectum into the relaxing anal canal. Twelve Mongrel dogs will be assigned into two groups: Fecobionics group and predicate control group (N=6 of each). Fecobionics and the predicate device will be transanally inserted into rectum. Further, each group is divided into two sub-groups: The acute group in which the animals will be euthanized immediately after the evacuation of the device, and the chronic group in which the animals will be terminated after 2 weeks. The animals will be monitored daily. After termination, colon and rectum will be harvested for histological measurements.

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