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Impact of an Auditory Stimulus on Baseline Cortisol Concentrations in Clinically Normal Dogs

T.E. Gin, M. Puchot, A.K. Cook

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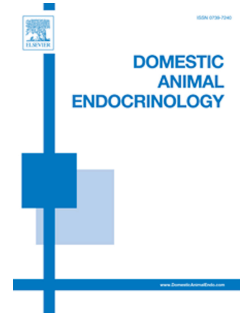
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1 Impact of an Auditory Stimulus on Baseline Cortisol Concentrations in Clinically Normal
2 Dogs

3 T. E. Gin¹, M. Puchot², A. K. Cook*

4 *Veterinary Medical Teaching Hospital, College of Veterinary Medicine and Biomedical*
5 *Sciences, Texas A&M University, 408 Raymond Stotzer Pkwy, College Station, TX*
6 *77845, USA*

7
8 **Abstract**

9 Baseline cortisol concentrations are routinely used to screen dogs for
10 hypoadrenocorticism (HOC); this diagnosis must then be confirmed with an ACTH
11 stimulation test. A baseline cortisol concentration less than 55 nmol/L (2 µg/dl) is highly
12 sensitive for HOC but lacks specificity, with a false positive rate >20%. Many dogs with
13 non-adrenal disease are therefore subjected to an unnecessary additional testing. It
14 was hypothesized that exposure to an unpleasant auditory stimulus prior to sample
15 collection would improve the specificity of baseline cortisol measurements in dogs with
16 non-adrenal disease by triggering cortisol production. Twenty-eight healthy client-owned
17 dogs were included in the study, with a median age of 4 yr (range 2 to 9 yr) and a
18 median weight of 20 kg (range 10 to 27 kg). Dogs were ineligible for inclusion if they
19 had received short- or long-acting glucocorticoids within the previous 30 and 90 d,
20 respectively. Dogs were randomly assigned to group 1 (control; no noise; n = 7), Group
21 2 (brief noise: n = 10) or Group 3 (long noise: n = 11) groups. Each dog and owner were
22 directed to a secluded area for approximately 15 min. Group 1 sat in relative quiet,
23 exposed only to the background sounds of a veterinary hospital. Group 2 were exposed

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