

# 6<sup>th</sup> CT-User Meeting

Joint venture:

**DGK-DVG**

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Department of Medical Imaging & Small Animal  
Orthopaedics; Faculty of Veterinary Medicine  
GHENT UNIVERSITY  
Belgium

Theme:

## Contrast Agents and Applications in Computed Tomography

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Het Pand

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# Proceedings

## **029 P05 The effect of positioning on computed tomographic evaluation of the adrenal glands in healthy Beagle dogs**

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**Introduction:** Except for studies of the uro-genital tract, the positioning for abdominal computed tomography (CT) examination is frequently based on the preference of the examiner. Considering that recumbency can lead to a change in localization, detectability of distinct margins of the organs and reconstruction quality; it is necessary to evaluate the positioning effect on the objective evaluation of abdominal organs. The purpose of this study was to evaluate the effect of patient decubitus on CT of adrenal glands biometry.

**Material and Methods:** Six adult anesthetized neutered Beagle dogs underwent each a CT examination in right lateral, left lateral, ventral and dorsal with 15 minutes intervals. The studies were anonymized and various adrenal glands size measurements were performed by two observers based on presented guidelines. The data were analyzed statistically and the effect of positioning of the animal on the adrenal gland size measurements was assessed.

**Results:** The results showed a significant size difference between the different positions in the left adrenal gland length and width of the cranial pole measured in the dorsal plane (P-value < 0.001 and 0.04 respectively). The measurements on the parasagittal images showed a significant difference in left adrenal length (P-value = 0.01) and cranial pole's height (P-value = 0.03), right adrenal gland's short branch length (P-value = 0.05) and long branch's caudal poles height (P-value < 0.01). Caudal pole height of the right adrenal gland's long branch was only significantly different (P-value < 0.01) in the various positions on the transverse images. As no gross anatomical measurements for adrenal glands were performed, it remains unclear in which position the measurements were the most precise.

**Conclusion:** According to these results, it is recommended to perform a CT evaluation of the adrenal glands always in the same recumbency. If the adrenal gland is evaluated on images taken in various recumbencies, it is suggested to rely on the measurements made on transverse plane images because only one item measured in transverse images was different in various positioning's.