



English Title: Evaluation of four **warming** procedures to minimise heat loss induced by **anaesthesia** and surgery in dogs.

Personal Authors: Tan, C., Govendir, M., Zaki, S., Miyake, Y., Packiarajah, P., Malik, R.

Author Affiliation: University Veterinary Centre-Sydney, Faculty of Veterinary Science, The University of Sydney, New South Wales 2006, Australia.

Editors: No editors

Document Title: Australian Veterinary Journal, 2004 (Vol. 82) (No. 1/2) 65-68



#### Abstract:

Objective: To evaluate the efficiency of four **warming** procedures, introduced after anaesthetic induction and continued during surgery, in minimising heat loss in anaesthetised dogs. Design: Dogs were paired. One of each pair was a control; the other was subjected to one of four **warming** procedures. Methods: Ninety-six dogs were involved in total. Pairs of dogs were matched for breed, hair length, and type of surgical procedure and placed adjacent to each other in a large temperature-controlled surgical theatre. One dog within each pair was assigned to one of four **warming** procedures that commenced immediately after anaesthetic induction. Group 1 (11 pairs) were placed on a purpose-designed prewarmed (41°C) electrically heated pad. Group 2 (18 pairs) were placed on a prewarmed electric heat pad (41°C), cocooned by four wrapped water bottles (initially 41°C) and subjected to **radiant** heat (150 watt lamp placed 50 cm away from the head of the dog). Group 3 (11 pairs) were surrounded by a forced air **warming** mattress (set at 43°C). Group 4 (8 pairs) were connected via the anaesthetic breathing circuit to a heater/humidifier (set at 41°C). Rectal temperature measurements were recorded every 15 min for the first 3 h of **anaesthesia**. The fall in rectal temperature of the control dog was subtracted from the fall in temperature of the treatment dog and this measurement was used to assess the efficacy of the various **warming** procedures. Results: The mean rectal temperature of unheated 'control' dogs decreased 1.9±0.6, 1.4±0.4 and 1.1±0.4°C over the first, second and third hour respectively. After 3 h the temperature fall differential for all groups were 0.7±0.7 (Group 1), 3.1±1.1 (Group 2), 2.4±1.1 (Group 3) and 1.0±1.1°C (Group 4). Thus the group 2 procedure was the most successful in preventing a drop of temperature followed by groups 3, 4 and 1. Conclusion: Large dogs undergo significant reduction in core body temperature especially during the first 2 h of **anaesthesia** and surgery. Supplementary **warming** substantially reduces this fall in body temperature, although certain **warming** procedures were found to be more effective than others.

Publisher: Australian Veterinary Association

Ads by Google

**California Radiant**  
Radiant Heat, Hydronic Heat, & Solar Design, Installation, & Consulting.  
[www.californiaradiant.us](http://www.californiaradiant.us)

**Electric Floor Warming**  
Easy and Quick to Install  
Under 2 hours per Room  
[www.warmtiles.com](http://www.warmtiles.com)

**Anaesthesia**  
What Is Anaesthesia?  
Anaesthesia Pictures & Info!  
[www.healthline.com](http://www.healthline.com)

**Online Journals**  
Full-text journals for academic research at Questia Online Library.  
[www.Questia.com/Journals](http://www.Questia.com/Journals)

**Anaesthesia by AHP**  
Anaesthesia coverage. 50 states. All specialties. Free proposals.  
[www.AHPhealthcare.com](http://www.AHPhealthcare.com)