

Heart rate of pet dogs: effects of overweight and exercise

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Background - In Australia, about 40% of pet dogs are overweight (1). High fat diets and obesity affect heart function of dogs (2). In people, exercise has been shown to improve heart function. There is no information on body condition and level of exercise on heart rate in pet dogs.

Objective - To determine the effects of body condition and level of exercise on heart rate (HR) of pet dogs carrying out a three-stage exercise test.

Design - Owners of dogs in the Melbourne metropolitan area volunteered their pets for the study. The exercise test, carried out over a 21 m circuit of four ramps, consisted of three periods of 2 min exercise followed by 2 min rest. Circuit speeds varied with size: dogs less than 47 cm in height ran at 3, 4 and 5 km/h, those above 47 cm ran at 4, 6 and 8 km/h. A Polar heart rate monitor (Kempele, Finland) was used to record HR at rest, during exercise and during recovery. Body condition was assessed using the Purina body condition system (3).

Outcomes - Resting HR of smaller dogs (n=16) was significantly ($P<0.05$) greater, 135.4 ± 25.7 beats/min (bpm), that of larger dogs, 103.3 ± 20.3 bpm (n=32). Although overweight large dogs (n=20) had a significantly ($P<0.05$) greater HR (111.8 ± 20.3 bpm) than lean dogs (96.4 ± 18.2 , n=28), recovery HR (average HR during recovery as a percentage of HR during exercise) of overweight dogs exercised every day was faster than that of lean dogs with limited exercise.

Conclusions – Heart function of pet dogs can be affected by body condition and exercise.

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2. Mizelle HL, Edwards TC, Montani, JP *Am J of Hypertension* 1994;7:374-378
3. Laflamme DVM *Canine Practice* 1997;22:10-15