

ENERGY RESTRICTION DURING A WEIGHT LOSS PROGRAM MUST BE STRICTER IN FEMALE THAN MALE DOGS. Isabelle Jeusette¹, Vincent Biourge², Patrick Nguyen³, Louis Istasse¹, Marianne Diez¹ ¹Animal Nutrition Unit, University of Liège, Belgium ²Royal Canin, Centre de Recherche, de Aimargues, France ³National Veterinary School of Nantes, France

Obesity is the most common nutritionally related health problem in companion animals. In veterinary practices, at least 60 % of obese dogs are entire or neutered females. The aim of this study was to assess the effect of sex on energy restriction and rate of weight loss in obese dogs.

Twelve chronically obese (> 10 months) beagles were included in the study. The group consisted of 3 entire and 3 neutered females as well as of 6 castrated males. Mean (\pm SEM) ages (4.8 ± 0.3 and 4.8 ± 0.5 yrs), initial body weights (BW) (23.4 ± 0.3 and 20.6 ± 0.5 kg), optimal BW (15.1 ± 0.1 and 14.1 ± 0.2 kg) and excess BW (55 ± 2 and 46 ± 3 %) were similar within the male and female groups. Over a 1 month baseline period during which the dogs were fed a commercial maintenance diet (Royal Canin Adult Premium Croc, crude protein 24.0 %, fat 16.1 %, 4140 kcal Metabolizable Energy/kg), dogs underwent hormonal and biochemical evaluation in order to rule out any primary hormonal or metabolic disorder. Dogs were then fed a high protein and low starch commercial reducing diet (Obesity Program DP 37, crude protein 34.0 %, crude fat 9.5 %, total dietary fibre 27.0 %, Metabolizable Energy 2800 kcal/kg -as is). As a starting point, dogs were fed the same amounts (by weight) of reducing diet than of the maintenance baseline diet. Those amounts were then progressively reduced to induce a weekly weight loss rate of around 1-2 % based on initial BW. During the weight loss period, BW, food consumption and body condition scores were monitored weekly.

Two significantly different ($P < 0.01$) levels of energy restriction – 90 % of the maintenance energy requirement (MER) for optimal BW in males and 79 % MER in females- were necessary to induce weight loss in dogs. To reach target BW in females, energy allowance had even to be gradually decreased to reach 72 % MER. Those levels of energy restriction led to a weekly rate of weight loss of 1.40 and 1.21 % for the male and female groups respectively. Target BW and optimal body condition were reached within 21 to 28 weeks for males and 21 to 32 weeks for females .

Our results indicate that energy restriction could be more severe in female than male dogs to induce and maintain similar rates of weight loss. Energy allowance must be regularly adjusted in females to keep a constant rate of weight loss.