WEIGHT MANAGEMENT PROGRAMME

THE PROGRAMME TO PROMOTE SUCCESSFUL WEIGHT MANAGEMENT IN YOUR CLINIC
OBESITY IS THE DISEASE WITH THE HIGHEST PREVALENCE WORLDWIDE...

Worldwide the prevalence ranges between 17% and 59% in dogs, and between 19% and 55% in cats.

Prevalence of overweight and obese cats and dogs in various countries

(1) Source: APOP survey, October 2011 (n=459, study conducted in 41 US veterinary clinics
(2) Courcier 2010
(3) Coillard 2009 and 2006
(4) Robertson 1999 and Bland 2010

Pet obesity in dogs and cats

21% Obese
31% Overweight
44% Normal
25%
30%
38%
Obesity is the disease with the highest prevalence worldwide... with a growing impact on dogs and cats.

**Pathologies associated with obesity**

**Upper Respiratory Tract Diseases**
- Tracheal collapse
- Laryngeal paralysis
- Upper airway obstruction syndrome (brachycephalic dogs)

**Osteoarticular Diseases**
- Osteoarthritis
- Intervertebral disc protrusion
- Cruciate ligament rupture

**Cardiopulmonary Diseases**
- Congestive heart failure
- Pulmonary insufficiency

**Urinary Diseases**
- Urinary stones
- Urinary tract infections

**Excessive Fat Accumulation**

**Osteoarticular Diseases**
- Osteoarthritis
- Intervertebral disc protrusion
- Cruciate ligament rupture

**Tumours**
- Mammary tumours

**Metabolic Disorders**
- Hyperlipidaemia
- Insulin resistance

**Obesity has very similar negative effects on cats. Moreover, cats are 4 times more at risk of developing diabetes mellitus.**

**Decreased Life Expectancy**

**Reduced Quality of Life**
WHY OBESITY IS SO DIFFICULT TO ADDRESS?

The pet owner:
- Does not recognise or acknowledge obesity
- Is not aware of the gravity of the pathology
- Has a fear of starving his/her pet

The pet:
- Lack of exercise
- Unenriched environment
- Imbalance between energy intake and energy expenditure

The clinic:
- Message difficult to explain to pet owners
- Obesity is not normally the priority during the consultation
- Time consuming

The pet owner:
- Message difficult to explain to pet owners
- Obesity is not normally the priority during the consultation
- Time consuming
HERE IS THE SOLUTION:

The Royal Canin Weight Management Programme helps to address each area to deliver better long term success.

WEIGHT MANAGEMENT PROGRAMME

3 steps to success

1. DIAGNOSE
   Effectively diagnose overweight and obese cases

2. COMMUNICATE
   Improve communications with your clients to increase compliance and success

3. RECOMMEND
   Successful long term nutritional solutions
1 DIAGNOSE OBESITY

BCS Digital: a new interactive 3D tool

- Individualised BCS
- Calculate daily feeding amounts
- Vet and pet owner tracked weight loss
- Post weight loss management

How BCS Digital works
First: Select a breed and enlarge the anatomical areas

You can rotate the 3D image using the cursors

Enlarge the selected anatomical areas

Once you are finished, discover the BCS

Reset the image if required

Select from 6 different breeds:
Or from 5 different morphotypes: X-Small, Mini, Medium, Maxi and Giant

EASY, FAST AND PRECISE DIAGNOSIS OF YOUR PATIENT’S BCS AND TARGET WEIGHT

Scan the code to take you to our online demonstration of BCS Digital
In 2011, the World Small Animal Veterinary Association’s Global Nutrition Committee published Global Nutritional Assessment Guidelines. Their guidelines use a 9-point Body Condition Score as gold standard and more and more veterinary professionals are using the same system. At Royal Canin, we are making the same move.

BUT WE’VE GONE EVEN FURTHER!

Together with experts from Liverpool University’s Weight Management Clinic, we have modelled the real shapes of different dog breeds and sizes at every point on the scale, providing you with a range of accurate size and breed-appropriate images to show your clients.

MORE ACCURATE IMAGES MEAN BETTER CLIENT EDUCATION AND BETTER RESULTS FOR YOUR PATIENTS

Using the 5-point scale, diagrams were less accurate and did not take breed-specific patterns of fat deposition into account.

At BCS 9, a toy breed like a Chihuahua is likely to have a lot of fat deposited around the chest and neck, but may still show a ventral abdominal tuck.

A Jack Russell Terrier at the same BCS is likely to carry more of its excess fat in the abdomen and less around the chest and neck.
Encourage owners to engage in conversation about their pets’ weight

Education of pet owners made easier

New weighing area materials

Light, modular design, ideal for use in a waiting room

Information regarding the ideal body condition and an attractive invitation to the pet owner to weigh their pet

Photo grids to help clients visualise and recognise BCS. The grid is integrated into the back board and mat of the weighing scales for convenience and ease of use.
Encourage owners to engage in conversation about their pets’ weight and follow-up overweight and obesity cases.

**Vet Follow Up: Weight Management module**

A new and exclusive online tool for your practice

1. Create a new patient
2. Enter the pet’s data in easy steps
3. The program automatically calculates calorie allocation and ration
4. Keep track of your patient’s results with the history and useful graphs
5. Create an electronic link with the pet owner to ensure compliance

**IMPROVE COMMUNICATION**
3 RECOMMEND NUTRITION

SATIETY

SCIENTIFICALLY PROVEN TO HAVE 5 BENEFICIAL EFFECTS

FEATURES OF ALL SATIETY PRODUCTS

- Special blend of fibres that increases the volume of stomach contents and promotes satiety (reduces the spontaneous consumption of food).
- A high protein content helps maintain muscle mass during a weight loss programme.

CATS

Ideal weight up to 10 kg - DRY

Essential fatty acids (Omega 3 and Omega 6) and trace elements (Cu, Zn) maintain healthy skin and coat.

Contains specific nutrients which contribute to maintaining good oral health.
1. Stimulates effective weight loss\textsuperscript{1,2}
2. Reduces begging\textsuperscript{2,3}
3. Maintains muscle mass\textsuperscript{1}
4. Improves quality of life\textsuperscript{6}
5. Stabilises weight\textsuperscript{4,5}

Scientific references:

Enriched with nutrients (protein, minerals and vitamins) to compensate for energy content restriction and ensure health during a weight loss programme.

Scientific references:

Nutrients help support healthy bones and joints placed under stress by excess body weight.

Ideal weight more than 10 kg - DRY

All dogs - WET

WHAT ABOUT

OBESITY MANAGEMENT remains a very good answer for pets currently losing weight on the diet. For certain conditions where an increase in fibre is not recommended, OBESITY MANAGEMENT remains the gold standard.
ROYAL CANIN SATIETY IS SUPPORTED BY AN EXCEPTIONAL BODY OF EVIDENCE GATHERED FROM RESEARCH IN CLIENT-OWNED PATIENTS.

Peer-reviewed field studies have shown that Royal Canin SATIETY Veterinary Diets:

- stimulate a successful and safe weight loss
- promote satiety, reducing voluntary energy intake and begging behaviour
- maintain lean body mass during weight loss
- maintain stable bodyweight after weight loss
- improve quality of life

References:
This paper compared 2 nutritional strategies and their performance during weight loss, in 42 client-owned dogs with naturally-occurring obesity:

- High protein, high fibre (Royal Canin SATIETY Canine dry); n=15
- High protein, medium fibre (Royal Canin Obesity Management Canine dry); n=27

Baseline characteristics (signalment, percentage overweight, and body fat percentage) were not significantly different between groups. The weight loss regimen was the same between the two groups. However, the percentage weight loss was greater and the mean rate of weight loss faster with SATIETY than with Obesity Management. The percentage of decrease in body fat mass (measured by dual-energy X-ray absorptiometry) was also greater in dogs fed SATIETY.

<table>
<thead>
<tr>
<th></th>
<th>Satiety group n=15</th>
<th>Control group n=27</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>STARTING BODY WEIGHT</td>
<td>36.6 kg (19-132)</td>
<td>28.9 kg (5.3-100)</td>
<td>0.555</td>
</tr>
<tr>
<td>TARGET BODY WEIGHT</td>
<td>25.8 kg (9.2-51.4)</td>
<td>24 kg (4.2-70)</td>
<td>0.896</td>
</tr>
<tr>
<td>STARTING BODY FAT</td>
<td>46% (31-51)</td>
<td>43% (27-55)</td>
<td>0.684</td>
</tr>
<tr>
<td>DURATION OF WEIGHT LOSS</td>
<td>182 days (105-391)</td>
<td>172 (84-687)</td>
<td>0.591</td>
</tr>
<tr>
<td>MEAN ENERGY ALLOCATION</td>
<td>63 kcal / kg⁰·⁷⁵ / day using target bodyweight (44.1-69.3)</td>
<td>63 kcal / kg⁰·⁷⁵ / day using target bodyweight (48.3-86.1)</td>
<td>0.844</td>
</tr>
<tr>
<td>WEIGHT LOSS</td>
<td>31.8 % (12-42)</td>
<td>20 % (5.9-45)</td>
<td>0.016*</td>
</tr>
<tr>
<td>RATE OF WEIGHT LOSS</td>
<td>1% per week (0.3-1.6)</td>
<td>0.7% per week (0.3-1.5)</td>
<td>0.028*</td>
</tr>
<tr>
<td>FINAL BODY FAT</td>
<td>27% (10-36)</td>
<td>33% (16-47)</td>
<td>0.005*</td>
</tr>
<tr>
<td>CHANGE IN BODY FAT MASS</td>
<td>58% (32-85)</td>
<td>37% (15-72)</td>
<td>0.002*</td>
</tr>
</tbody>
</table>

All data are expressed as median (range)

Royal Canin SATIETY improves the outcome of weight loss in obese dogs
The largest random, single-blind, weight loss trial ever published about client-owned cats!

48 client-owned cats with naturally occurring obesity completed this 20 week weight loss trial comparing 3 dietary strategies:

- Group A (n=16): Royal Canin SATIETY Feline dry (in small bags of 60 kcal).
- Group B (n=18): Mixed ration of Royal Canin SATIETY Feline dry (in small bags of 60 kcal and 100 g of Royal Canin Obesity Management wet (1 pouch).
- Group C (n=14): Hill’s r/d™ feline dry (in bags of 3 kg with a measuring cup).

After the enrolment visit, cats were randomly allocated to one of the 3 groups. At baseline, the 3 groups were homogenous for number of animals, bodyweight, body condition score, and gender distribution. They were fed between 30 and 35 kcal/kg/day, based on target bodyweight. Cats were assessed at weeks 4, 12 and 20, and energy allocation was adjusted as necessary.

Body Condition Score decreased significantly with time on all diets. The main outcomes of weight loss did not differ amongst the 3 strategies. The mean percentage of weight lost over the 20-week course was similar amongst groups (11.0%, 10.9% and 11.9%, respectively).

However, there were differences with regard to practicality and owner’s perception of their cat’s behaviour and wellbeing. Owners reported an increase in activity with time, with a statistically significant difference only for strategy A (SATIETY). They also reported an increase in coat condition with all strategies, and a decrease in seborrhoea, only with strategies A and B. At the end of the diet, the practicality scores reported by the owners of cats in strategy A were significantly higher than those of strategy C.

### Body weight of cats over time with different diet strategies.

<table>
<thead>
<tr>
<th></th>
<th>SATIETY feline dry</th>
<th>Mixed ration of SATIETY feline dry and Obesity Management feline pouch</th>
<th>Hill’s r/d™ feline dry</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TO</td>
<td>T4</td>
<td>T12</td>
</tr>
<tr>
<td>Body weight (kg)</td>
<td>7.20</td>
<td>6.93</td>
<td>6.59</td>
</tr>
<tr>
<td></td>
<td>±1.827</td>
<td>±1.729</td>
<td>±1.650</td>
</tr>
</tbody>
</table>

#### Successful weight loss in obese cats can be achieved with SATIETY, with reported benefits on patients’ wellbeing, most notably an increase in activity, an improved coat condition, and reduced begging behaviour.
Satiety can be defined as the feeling of fullness and the disappearance of appetite after a meal. The control of food intake in dogs and cats is complex, incompletely understood, and involves multiple interconnected pathways and signal elements. It is much more difficult to evaluate the feeling of satiety in dogs or in cats than it is in humans. Therefore, satiety in dogs and cats is generally assessed using indirect methods and the inclusion of more measurable criteria, such as voluntary food intake and behaviour markers.

The effect of SATIETY canine in reducing voluntary energy intake was assessed in dogs through several crossover studies comparing 3 different diets: HPHF (SATIETY Canine), HP (Obesity Management Canine) and HF (Hill’s r/d™ canine). To do so, 6 dogs were fed ad libitum during sequential 15 minutes periods.

• One study assessed satiety during repeated short term food exposure. This consisted in measuring energy ingested by the 6 dogs, when food was offered for 15 minutes every hour for 4 hours. This protocol was applied twice for each diet, on 2 non-consecutive days. Results showed that short term food intake was lower for Satiety than for both HP and HF diets.

• A second study assessed the medium-term satiety effect. This consisted in measuring the energy ingested by the 6 dogs when food was offered again 3 hours after the initial presentation of food. This protocol was applied for 2 consecutive days. Results showed that energy ingestion was lower for both Satiety and HF than for HP diet.

In the clinical trial assessing the efficacy of SATIETY Feline, satiety was assessed through a "begging score". Owners assessed how hungry their cat was with a four-point scale (score 1: no change in hunger; scores 2-4: mild, moderate and severe increase in hunger, respectively); other specific alterations in behaviour were also assessed as being present or absent e.g. increased vocalisation, stealing food, increased owner-contact and aggressiveness towards the owner.

Over the 20-week study, a significant diet effect was observed on owner-reported ‘hunger’ scores. The hunger score was significantly higher with the competitor diet as compared with both SATIETY strategies (dry only or mix fed with Obesity Management wet). Furthermore, at 20 weeks, owners of cats on the competitor diet reported that cats vocalised more and sought more contact with their owners.

**IN DOGS**

**IN CATS**

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Losing weight has a very positive impact on dog’s quality of life. This is of great interest to help convince owners of obese dogs of the importance of making their pets lose weight.

**Effect of weight loss on Health-Related Quality of life**

Once its target bodyweight is reached, the pet enters a critical weight stabilisation phase, and weight rebound after weight loss is a frequent issue. The long-term use of SATIETY can significantly limit regain in the follow-up period.

Recent research has shown that obese dogs and cats that maintain target weight after successful weight loss have an average daily metabolisable energy intake that is much lower than current maintenance energy recommendations for inactive pets. Therefore, resuming the pet’s previous diet without controlling its calorie intake would result in rapid weight gain.

To determine the long term success of a weight loss regimen and to assess the factors linked with weight regain, we studied the post-slimming period of 33 obese dogs referred to the Royal Canin Weight Management Clinic (University of Liverpool).

All dogs had successfully lost weight. For weight maintenance, 16 dogs were switched to a standard maintenance diet and 17 continued with their Royal Canin weight management diets (SATIETY for 13/17 dogs or OBESITY MANAGEMENT for 4/17). The median duration of follow-up was 640 days. There were no differences between diet groups for the energy intake during weight loss and, more specifically, at the start of the maintenance period. However, dogs that continued with their weight loss diet regained significantly less weight than those switched to a standard maintenance diet. Only 18% of dogs regained weight in the weight loss diet group, whereas rebound was observed in 81% of dogs that were switched to a maintenance diet.

**Long term use of SATIETY can significantly limit weight regain after a successful weight loss programme.**

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Weight loss diet (Satiety canine, n=13, Obesity Management Canine, n=4)</th>
<th>Standard maintenance diet (n=16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Neutered male (11) Neutered female (6)</td>
<td>Male (1) Neutered male (8) Neutered female (7)</td>
</tr>
<tr>
<td>Age</td>
<td>72 months (19 to 126)</td>
<td>78 months (19 to 110)</td>
</tr>
<tr>
<td>Change from optimal weight</td>
<td>1% (-7 to 27)</td>
<td>7% (0 to 31)</td>
</tr>
<tr>
<td>Follow-up duration</td>
<td>701 days (140 to 1216)</td>
<td>485 days (224 to 1564)</td>
</tr>
<tr>
<td>Status at follow-up</td>
<td>Lost: n=3 (18%) Stable: n=11 (64%) Gained: n=3 (18%)</td>
<td>Lost: n=0 (0%) Stable: n=3 (19%) Gained: n=13 (81%)</td>
</tr>
</tbody>
</table>

Vitality scores were indeed significantly increased, and pain scores were significantly decreased after weight loss: the greater the loss in body fat, the greater the improvement in vitality score. When comparing this data to that of the dogs that did not complete the weight loss program, vitality scores were higher and emotional disturbance scores were lower.
When losing weight, the primary objective is to lose body fat while preserving lean body mass. An adapted protein intake helps minimise muscle mass loss during weight loss.

A high protein intake may result in increased availability of amino acids for protein synthesis and maintenance of the muscular mass. The protein concentration of low calorie diets must be greater than those of maintenance foods to provide the essential amino acids while restricting the energy intake. Results of several studies have suggested that a higher protein/calorie ratio had positive effects on the preservation of lean body mass during weight loss.

Clinical weight loss trials in dogs fed SATIETY have shown that dogs mostly lost fat mass and that lean body mass loss was minimal. In a 2010 study, 15 client-owned obese dogs underwent a weight loss programme with SATIETY Canine in which body composition was measured at the beginning of the trial and after successful weight loss, using the gold standard technique of dual-energy X ray absorptiometry (DEXA). The analysis of body composition results showed that most of the body weight lost (92.3%) was composed of body fat.

In both dogs and cats, SATIETY is the nutritional strategy that promotes the greatest Satiety effect, reducing voluntary energy intake and limiting begging behaviour.

The high protein/calorie ratio of SATIETY helps minimise lean body mass loss during a weight loss programme.

In a study conducted at the Royal Canin Weight Management Clinic (University of Liverpool, UK), owners of obese dogs that successfully lose weight using the Royal Canin SATIETY diet noticed a significant improvement in their companion’s quality of life.

This research involved 50 client-owned obese dogs, from various breeds and genders, referred to the Royal Canin Weight Management Clinic. A weight management protocol was instigated on each dog, using Royal Canin diets designed for weight loss. Owners were asked to complete a standardised questionnaire designed to determine health-related quality of life (HRQOL) prior to and after weight loss. Their answers were converted into scores on a scale of 0-6, corresponding to a range of four factors: vitality, emotional disturbance, anxiety and pain. Thirty dogs completed the study and successfully reached their target bodyweight. The results showed that quality of life improved in the dogs that successfully lost weight.
Royal Canin is a major contributor to scientific knowledge regarding obesity in dogs and cats.

Royal Canin is a scientific reference in the field of obesity. Beyond providing Veterinarians with the most specialised diets to face the issue of obesity, the Royal Canin Research Centre also contributes to dog and cat obesity research on a daily basis, increasing the level of global scientific knowledge on this topic. Research focuses on all aspects related to obesity, such as the nutritional management of overweight pets or the clinical trials of new products, whilst also addressing a broader knowledge of this condition. This includes epidemiology, risk factors, diagnosis and methods of measuring body composition, pathogenesis, associated diseases, as well as the benefits of losing weight.

Below are some recent studies on obesity in cats and dogs, conducted in partnership with Royal Canin:


For more information about the Royal Canin Weight Management Programme or any of our Veterinary diets please contact your Veterinary Business Manager or visit www.royalcanin.co.uk / royalcanin.ie