

Activity monitoring – how it aids weight management

Myra Forster-van Hijfte DVM, CertVR, CertSAM, DipECVIM, FRCVS and **Bethany Scott** RVN explain how the use of activity monitors can benefit the management of canine obesity

OBESITY is a major health issue for our canine patients. A study of five UK practices in 2010 found 59 per cent of 696 dogs were overweight or obese based on body condition score¹.

Obesity has a direct negative effect on the dog's quality of life² and is also a factor in the development of other health problems, such as diabetes mellitus, cardiorespiratory disease, arthritis and neoplasia, among others.

The threat of these conditions makes the careful management of a dog's weight something all dog owners should pay careful attention to, and the veterinary profession adopts a vital educational and practical role in that ambition. Many veterinary practices offer weight management programmes and clinics for dogs, and their owners. However, just as in human patients, effective weight control remains a challenging task, making the development of additional approaches, and the exploration of new

tools an interesting and valuable possibility. Today's best practice approach to weight management is usually based primarily on the control of feeding. This can include, in the case of obesity, the use of a special veterinary only, weight-reducing diet that maintains food bulk, while reducing caloric intake.

Proper restriction of caloric intake is very effective at reducing weight. However, it is a common veterinary experience that owners find adhering to such diets difficult, often resulting in poor compliance. This means any such weight programme is at risk of stopping before the target weight is reached, or of relapsing when the target weight should be being maintained³.

An additional factor affecting canine weight is, of course, the level and regularity of physical activity that the dog experiences.

An increase in physical activity is advocated as an aid to weight management^{4,5}. However, once again, it is a common experience that

owner compliance in this area can be poor, and suspicions can be raised that levels of activity reported to vets in good faith by an owner may not, in fact, reflect the objective reality of the dog's own experience.

Activity monitoring in dogs

In the past few years, a popular fitness aid for humans – activity monitors worn on the wrist – have appeared in canine form. Such dog activity monitors are growing in popularity among dog owners, and the veterinary profession is beginning to explore and experiment with their use.

The authors each have independent experience of one such product among several on the market. That particular activity monitor consists of a smartphone app, paired with a monitoring device attached to the dog's collar. The app is designed to be suitable for dog owners to use, and the associated device is small, lightweight, waterproof and robust enough to be practical for dogs of all sizes.

The different products on the market all have different features. The activity monitor used by the authors is focused on measuring and reporting a dog's activity levels, and on allowing the

owner to record and monitor the dog's weight. Both of these functions are positioned within a framework of incentivisation, in which the dog owner is encouraged and rewarded for healthy behaviours on both a daily and long-term basis.

This reproduces and builds on the mechanisms used in the human activity monitors that many dog owners (and veterinary professionals) will themselves have used, enjoyed and may have found to be effective.

In the activity monitor system, canine activity is broken down into different types and displayed as such in the app. Therefore, time spent on intense "owner-initiated exercise", such as walking, running and playing, is separated from pottering around and resting.

The app gives an individually tailored exercise recommendation for the dog (Figure 1), based on breed, age, sex and weight, including limiting exercise duration for puppies and geriatrics. The activity monitor on the dog's collar allows estimates of the daily distance covered by the dog and the caloric burn to be calculated and displayed (Figure 2).

Owners can also enter and record weight measurements for their dog whenever they wish, and are reminded (and rewarded) for doing so on

a regular basis. As an aid to weight maintenance, the app will raise an automatic alert to the user should the dog's weight change (in either direction) by more than 10 per cent from the historical average recorded by the owner for that individual animal. The owner is advised by the app to consult a professional in that case.

The app allows an ideal weight to be entered, and the owner is taken through a simplified body condition score process and clearly advised to consult his or her vet before the ideal weight facility is invoked. Once set, each new dog weight entered by the owner is presented in the context of the journey towards the ideal weight, and the owner is offered feedback on their pet's progress in that regard.

How could this help in weight management?

Based on the authors' personal experiences with the activity monitor system, they propose three possible ways canine activity monitoring might help vets and VNs to help owners to help their dogs:

1. Prevention is better than cure

When owners first get their dog, it's essential exercise and nutrition are discussed – ideally as part of a first consultation and health check protocol in the veterinary practice.

Suggesting or recommending owners obtain and use a canine activity monitor may help to crystallise and make permanent the advice given during such a

consultation, and could provide the dog owner with a useful focus and aid for the early formation of good habits in these areas.

Such a good start to a dog's life – including a tailored exercise programme recommended and recorded by the app, and perhaps even feeding based on actual calories burnt – could clearly help prevent later obesity with all its undesirable consequences for the dog.

2. Weight awareness – a true elephant in the room

Owners are often blissfully or willfully unaware their pet is overweight, and it can be difficult for the veterinary professional to raise the topic without causing offence. Owners can feel blamed or stigmatised, and can become defensive.

Apps that include a weight management function can act as a useful "third party" in such discussions. They may act as the primary route through which an owner first becomes aware of a weight problem. For example, in the activity monitor's app, the owner is taken through a simplified body conditioning score on his or her dog, which, in turn, may lead to a veterinary consultation if the body condition score appears to be too high or too low (Figure 3). An owner is then hopefully already primed that a problem may exist with his or her dog's weight, rather than the vet or nurse having to raise this quite delicate topic.

A subsequent full WSAVA nine-point score in clinic would then confirm the condition scoring of an owner's dog. Alternatively, the app may offer the veterinary

professional an apparent "third-party" confirmation of what he or she is telling the dog owner, removing – or, at least, reducing – the emotional sting of that message.

3. Owner engagement with weight management programmes

Even if prevention fails, successful awareness will ideally result in the enrollment of the dog in a weight management programme, often run by veterinary nurses with a particular interest in nutrition and weight management.

Again, topics discussed are likely to include weight, body condition score, diet and quantity of food, target weight and time to reach it, and appropriate exercise levels.

In this context, the activity monitor helps to encourage the owner to reach daily activity targets, which will give owners a positive action to contribute to their dog's weight management. The app will also allow an ideal weight to be entered and the veterinary professional can set the weekly weight loss (1 per cent, 1.5 per cent or 2 per cent; Figure 4). The app will then automatically calculate the weight loss target per week.

Repeat weighing is encouraged and further encouragement is given when targets are met (Figure 5). The app will alert the owner if the weight loss has exceeded the target weight loss set, and in that case will encourage the owner to revisit the veterinary clinic for further advice.

All this helps the dog owner to remember what has been discussed (particularly, target weight and appropriate rate of loss), and to make a commitment to act on it. Active monitoring may also provide the daily encouragement needed to help with compliance, and, in any case, will certainly provide the evidence of what's really happened in between clinic visits.

The activity monitor in practice

In her role as a practising veterinary nurse, Bethany has specific experience of using the dog activity monitoring product in obesity clinics and with good success in a clinical setting.

As aforementioned, reducing caloric intake, while maintaining bulk and nutritional balance remains the primary tool to achieve weight loss. However, because we know overweight dogs will exercise for shorter periods of time and less frequently than dogs of an ideal body

condition⁶, she also introduces owners to activity monitoring. Her experience has been that this is readily accepted by patients in the clinics.

During the first consultation in clinic, Bethany works with the dog owner to enter the dog's age, sex and breed into the app, receiving an exercise duration recommendation in exchange. This can be adjusted if necessary (perhaps based on factors not visible to the app), and it then becomes the agreed activity goal for the dog.

The app also allows her to set the ideal weight and set the target weight loss/week, which can be adjusted if necessary during follow-up consultations.

Importantly, at this first stage, Bethany, with the owner's agreement, pairs the activity monitor device only with a phone owned by the clinic. This has the effect of engaging and encouraging owners to work hard towards the activity goal, as they are aware they are being monitored although they cannot immediately see the results. It also appears to encourage attendance at follow-up consultations, if only to see a pet's progress in the app on the clinic phone. Bethany also introduces a competitive element as she shows her own dog's activity alongside the owner's dog.

During follow-up consultations, it takes only a few seconds to fetch the data from the device on the dog's collar into the app on the phone, often allowing that step to be completed on the walk between scales and consulting room. The dog's new weight can be entered and the app will show whether exercise and weight targets have been reached.

Colour-coding exercise in the app makes it easy to identify days on which exercise goals have been achieved and days they have not. The app can provide further minute-by-minute detail on any chosen day, and this helps to challenge an owner's claim that "my dog races around the fields every morning and evening", when, in fact, it can be seen in the app to have been walking gently with little continuous running.

The fact the activity monitor app does not count an activity unless it has been performed for at least five minutes also makes it easy to disprove an owner's claim his or her dog "runs around the garden all afternoon", when in fact the animal had run for two minutes and then slept for the rest of the afternoon. Meanwhile, the playing category gives scope for an owner to achieve

an activity goal in an indoor setting if required.

Once use of the monitor is established in this way, she encourages owners to download the app to their own phones, and to take over ownership of the activity monitoring process.

Used in this way, Bethany has found the activity monitor makes a great motivator for clients, who will often talk about their individual results and take pride in beating that of the veterinary nurse, who is also an activity monitor user. Because each exercise goal is calculated and set for the individual dog, all owners have an equal chance, and none is ever rewarded for over-exercising a pet.

The overall effect – thus far at least – is of increased motivation and engagement.

This protocol used by Bethany may be of interest to other veterinary nurses interested in exploring the use of an activity monitor in their weight management clinics.

Conclusions

As with all such things, establishing a robust causal link between the use of activity monitoring and effective weight management requires careful study. But already the anecdotal evidence is strong.

Dog owners enjoy the experience of activity monitoring, report increased awareness of the health of their pet, and at least appear

to modify their behaviour as a result. We believe this bodes well for the effective use of this tool, and encourage others to try the approach and to share their experiences with the veterinary community.

Bethany is one of her obesity clinics.



continued on page 16

References

1. Courcier EC et al (2010). An epidemiological study of environmental factors associated with

You tell dog owners, "Dogs need exercise."

We tell them, "You did it."



PitPat is the UK's no. 1 dog activity monitor. Find out why at pitpat.com

pitpat
Made for dogs



Figure 1. Example of a tailored activity screen, with exercise recommendation.



Figure 2. Screen showing several recorded weights.

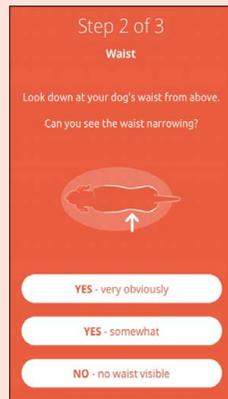


Figure 3. Screen showing an example of steps to obtain a body condition score



Figure 4. Screen showing ideal weight and weekly target.

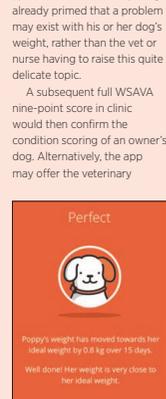


Figure 5. Progress feedback gives owners encouragement.

Activity monitoring – Managing weight

– continued from page 15

canine obesity, *J Small Anim Pract* 51(7): 362–367.

2. Yam PS et al (2016). Impact of canine overweight and obesity on health-related quality of life. *Prev Vet Med* 127: 64–69.

3. German AJ et al (2015). Cohort study of the success of controlled weight loss programs for obese dogs. *J Vet Intern Med* 129(67): 1,547–1,555.

4. Vitger A et al (2016). Integration of a physical training program in a weight loss plan for overweight pet dogs. *Am Vet Med Assoc* 248(2): 174–182.

5. German AJ (2016). Weight management in obese pets: the tailoring concept and how it can improve results. *Acta Vet Scand* 58(Suppl 1): 57.

6. German AJ et al (2017). Overweight dogs exercise less frequently and for shorter periods: results of a large online survey of dog owners from the UK. *J Nutr Sci* 6: e11.



MYRA FORSTER-VAN HIJFTE

Myra is an RCVS and European specialist in small animal medicine, and RCVS fellow. She co-founded North Downs Specialist Referrals, and is a non-executive director and investor in PitPat, a UK company that develops and sells activity monitoring products specifically designed for dogs. She is a trustee of the British College of Veterinary Specialists and a member of the editorial board of RCVS Vet Evidence.



BETHANY SCOTT

Bethany qualified in 2017 from Lite College. She has worked as a locum VN in general practice and emergency and critical care. Bethany has volunteered in clinics in the Caribbean and now works full-time in general practice. She has a special interest in nutrition.

vn**times**

VN Voice

‘Rewards are worth the work’

Jack Pye RVN, BVNA Oral Care Nurse Cert shares how he turned a childhood love for animals into a career

Starting off in high school I always knew I wanted to be involved in working with animals, but I was unsure of what pathway to take.

My thoughts moved towards the veterinary field and I used this as a catalyst for my choices in school, taking a big interest in science, and also physical education for the theory side of anatomy and physiology.

I attempted to get into a veterinary practice for my work experience at school; however, I was unsuccessful, so instead I worked in a restaurant, which is where I picked up a job after my placement and worked for a couple of years, while then going on to study for my Level 2 animal nursing assistant position.

While I carried out the animal nursing assistant qualification I managed to get a work experience placement at a practice local to me called Taverham Veterinary Practice and carried out a one-day-a-week placement for more than a year and a half. Here, I picked up a lot of practical skills, and a good knowledge base of the industry.

After completing my animal nursing assistant position, I picked up an SVN position. It was daunting starting off my official training, but I knew this was what I wanted. I was the only male SVN in my class and was aware of the small number of us in the industry – the elusive “male VN” – but this spurred me on more to achieve the RVN title.

I qualified in 2018 and was overcome with emotion. It wasn't a straightforward journey, with wobbles and challenges on the way, but this is normal so if anyone experiences these troubles, push on, work hard and you will get there. It's not easy, but the reward is worth the work.

Now, I work in emergency and critical care (ECC), along with exotics. This is a huge passion of mine. I thoroughly enjoy ECC work and the not knowing what could come through the door.

I've recently joined the BVNA council. This is a great way to spread your passion for the profession and to put forward new ideas to progress the profession as a whole. I'm in my first year, but I love it and would urge anyone to look into running to be on the council.

The possibilities are endless and it's a very exciting time to be a vet nurse. Who knows where your RVN title can take you? There really is a whole host of things you can do, and it's great to collaborate and meet people in the profession who have achieved different things and taken different pathways. I'm extremely proud to be an RVN and I'm hugely excited for what the future holds for our profession.

When cat owner compliance is essential.

Advocate® is spot-on.

1 pipette.
9 parasites.

Now licenced to treat eye worm - *Thelazia callipaeda*, and to treat and prevent cat lungworm - *Aelurostrongylus abstrusus*



Parasite protection made simple

Use Medicines Responsibly

Advocate® for cats contains imidacloprid & moxidectin **POM-V**. Advice should be sought from the medicine prescriber. Further information from the datasheet at www.noahcompendium.co.uk or on request. ©Registered Trade Mark of Bayer AG. Bayer plc, 400 South Oak Way, Green Park, Reading, RG2 6AD. Tel: 0118 206 3000. L.GB.MKT.03.2020.21229



Advocate®