

Physical Activity Programs for Cats

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Exercise can be an integral part of a weight loss program, serve as both mental and environmental enrichment, and function as a preventive measure for indoor cats prone to obesity and/or obesity-associated diseases. Although increasing physical activity can help with weight loss, unless there is significant activity that burns calories, physical activity in cats may be more useful in the management of behavior problems or conditions linked to stress (eg, feline lower urinary tract disease). For example, a cat that overgrooms or begs for food may be distracted from such behaviors by physical activity and/or mental enrichment.

With the exception of walking, information on various forms of exercise in dogs and cats is largely undocumented; this leaves cat owners without clear guidance on how to provide and encourage healthy activity for their cat unless it is leash-trained. The benefits of physical activity in cats are difficult to quantify due to lack of research, but any increase in physical activity is likely beneficial. Thus, the development of an individualized physical activity

program can be a helpful addition to primary nutritional management of weight loss and/or provide a means for reducing attention-seeking and/or destructive behaviors.

Patient Assessment

Before incorporating exercise into a cat's routine, the patient should first be assessed to confirm eligibility for a physical activity program. Then, obtaining patient history, followed by determining patient motivations and the owner's readiness to commit, can help ensure selection of activities and development of a physical activity program tailored to the individual patient.

Patient Eligibility

Patient eligibility for a physical activity program should be determined by obtaining patient BCS and muscle condition score (see ***Suggested Reading***, page 31) and assessing the patient for any comorbidities that would restrict exercise (eg, asthma; orthopedic conditions requiring cage rest, exercise restriction, or restriction of certain activities). Cats suspected of such comorbidities

may need to gradually work up to physical activity or should not engage in a program until a full diagnostic investigation can be performed to rule out comorbid conditions and/or determine activity restrictions, if necessary. A complete diagnostic investigation is also recommended in patients with moderate-to-severe muscle wasting or with a BCS of 8-9/9. Moderate-to-severe muscle wasting may be indicative of a comorbid condition and should be addressed prior to implementation of a weight loss plan or physical activity program. In these patients, physical activity does not have to be restricted, but active weight loss should not occur until any medical conditions have been stabilized, as weight loss in patients with disease may induce more muscle loss than fat loss.

EXAMPLE HISTORY FORM

Is the cat primarily:

☐ Indoor ☐ Outdoor ☐ Both

☐ Other (eg, access to large indoor locations such as sunrooms)

Are there other pets in the household?

☐ Yes ☐ No

If yes, please provide species and number: _____

Please describe the cat's activity level:

☐ Low ☐ Moderate ☐ High

Please describe the cat's current physical activity (eg, chases a toy for 5 minutes twice per week):

Does the cat have a condition that requires exercise restriction (eg, coughing, joint pain, recent surgery, respiratory disease, heart disease)?

Patient History

After patient eligibility for a physical activity program is confirmed, a detailed dietary history, including current and previous activity level, should be obtained (**Example History Form**; see **Suggested Reading**, page 31).¹ Such information can help assess the household environment and determine what level of activity can be recommended. For example, an indoor-only cat may require scheduled activity throughout the day.

Patient Motivations

The owner should be interviewed to determine the patient's motivations and incentives (eg, food-motivated [eg, willing to follow a piece of kibble down a hallway] vs hunting-motivated [eg, prefers chasing a laser light or electronic mouse]). Recommendations for a physical activity program should always be tailored to each cat's specific motivations to ensure the cat enjoys its activities (see specific suggestions for various motivations in **Activity Selection & Implementation**). Providing activity recommendations tailored to the individual cat can also provide a bonding experience for the cat and the owner.

Owner Commitment

The owner's level of interest in the program and commitment to change should be evaluated (see **Suggested Reading**, page 31).² For cats that live in a household with multiple humans, each individual should be interviewed to gauge his or her interest and level of commitment, as this can help tailor the plan to an achievable level for the household; if this is not possible, having all members individually fill out a dietary history form that includes questions regarding personal readiness to commit would also help identify household dynamics. Owners with low readiness to commit should be given only a few simple activities to try, and frequent check-ins with the owner should be held to evaluate continued interest and adherence to the program, whereas owners with high readiness to commit could be given multiple activities to try. Creating a calendar with clear goals for each activity can also be beneficial.

Activity Selection & Implementation

The physical activity chosen should be part of an individualized weight management plan; patient motivations should be considered, and expectations, schedule, potential challenges, and any patient or owner limitations should be discussed with the owner.³ For example, owners of previously sedentary cats should be encouraged to gradually increase their cat's activity, starting with creative, low-intensity activities (eg, walking around the house, searching for food items) for 5 to 10 minutes per day. Cats with higher BCS scores should be more cautiously worked up to the activity goals set for them, as arthritis and/or joint issues are more prevalent in this population and may require exercise restriction or modification (eg, shorter duration, lower intensity).

For cats with exercise limitations (eg, those with orthopedic disease), veterinary physical rehabilitation services that can help improve strength and mobility while limiting the risk for further injury are available. For cats that require specialized care or those that should not engage in a rigorous physical activity program, consulting a certified veterinary physical therapy specialist should be considered, as such specialists will be able to recommend and facilitate physical activity for cats with physical impairments through various methods (eg, standard treadmills, underwater treadmills, guided swimming; **Figure 1**). Increasing numbers of studies have shown the potential benefit of physical and aquatic therapy as part of a weight management program for dogs, and such therapies should not be ruled out in cats.^{4,5}

Food-motivated cats can be given puzzle toys that allow access to treats or meals after the cat has activated the toy through physical activity.⁶ The food items the patient enjoys and that motivate the patient to move should be ascertained. Cats do not have sweet receptors⁷ and are therefore more likely to prefer textured foods and meat tastes. In the author's experience, vegetables that are semisoft (eg, zucchini) or moist and crunchy (eg, sweet red peppers) may also be appetizing to cats.

Continues ►



▲ **FIGURE 1** A cat on an individualized physical therapy plan that includes underwater treadmill work to provide resistance without putting undue stress on joints. Photo courtesy of University of Tennessee College of Veterinary Medicine



▲ **FIGURE 2** A cat on a leash walk as part of its individualized physical activity program

RELATED ARTICLES

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Commercial treats vary in calories, so owners should be instructed to read treat labels before selecting a commercial treat; the chosen treat should not exceed 1 kcal per piece. High-calorie foods such as cheese or fatty meats (eg, ground beef) should be avoided. For cats fed only canned food, owners can open a can of food and encourage and entice the cat to follow them around the house. Kibble can also be used as a treat if the cat is fed dry food; for these cats and those that like to eat throughout the day, particularly those in single-pet households, spreading kibble throughout the house can be an excellent way to encourage activity associated with mealtimes. Owners should be advised to not use too many high-calorie treats or foods to encourage exercise, as an activity that burns 10 calories but requires 100 calories in treats will defeat the purpose of the exercise.

For cats that are motivated by hunting, electronic toys (eg, mice, laser/pen lights) can be used to encourage physical activity. However, some cats may quickly become bored of such toys; in such

situations, a treat or kibble can be tossed to the cat when it catches the light or toy mouse.

More active and adventurous cats can be taught to walk on a leash through positive reinforcement (eg, given a treat for letting the harness be put on) and gradually work up to going outside with the harness on (*Figure 2*, previous page). Of note, many natural tendencies of cats (eg, “hunting” kibble, chasing toys) include physical activity that can be incorporated into the program. In addition, modifying the household environment to encourage more natural behaviors (eg, placing food bowls on shelves or providing large kitty condos to encourage jumping) may incite motivation for more physical activity.^{8,9}

Several resources for encouraging activity in cats are available. See *Suggested Reading* for specific recommendations, some of which have handouts that can be given to owners to test which activity their cat prefers and works for their household environment.⁸

Follow-Up & Troubleshooting

After the physical activity program has been tailored to the patient and implemented, continued owner interest and adherence to the program should be evaluated through regular follow-up. Troubleshooting activities (see *Suggested Reading*), and various parts of the weight loss or obesity prevention plan, every 2 weeks should be considered.

Conclusion

Owners should be educated that, although increased physical activity may help reduce begging behaviors and maintain lean tissue, there is no substitute for monitoring caloric intake. Increasing physical activity in dogs has been shown to allow for ingestion of slightly more calories while still maintaining weight loss goals; however, calorie restriction and monitoring are still considered mainstays of obesity prevention and treatment.¹⁰ Although outside the scope of this article, it is important to note that nutritional management is of critical importance in feline weight loss and weight management (see *Related Articles*, previous page). Cats in particular tend to

POLL

What type(s) of activity do you recommend for your feline patients? Check all that apply.

- A. Interactive toys (eg, laser pointers, feathers)**
- B. Food puzzles**
- C. Hiding food or treats**
- D. Interactive play (eg, fetch)**
- E. Leash-walking**

Scan the QR code to submit your answer and see the other responses! The poll is located at the bottom of the article.



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require significant calorie restriction to achieve an ideal BCS. An appropriate veterinary therapeutic weight loss diet is often necessary to reduce caloric intake without reducing nutrients essential to cats. An individualized physical activity program can be a successful adjunct to primary nutritional management of weight loss in cats. ■■■

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Suggested Reading

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An activity that burns 10 calories but requires 100 calories in treats will defeat the purpose of the exercise.



BRIEF SUMMARY:
Before using Coraxis[®], please consult the product insert, a summary of which follows:

WARNING:
• **DO NOT ADMINISTER THIS PRODUCT ORALLY**
• For the first 30 minutes after application ensure that dogs cannot lick the product from application sites on themselves or other treated animals.
• Children should not come in contact with application sites for two (2) hours after application.
(See Contraindications, Warnings, Human Warnings, and Adverse Reactions, for more information)

CAUTION:
Federal (U.S.A.) Law restricts this drug to use by or on the order of a licensed veterinarian.

INDICATIONS:
CORAXIS is indicated for the prevention of heartworm disease caused by *Dirofilaria immitis*. CORAXIS is also indicated for the treatment and control of the following intestinal parasites:

	Intestinal Parasite	Intestinal Stage		
		Adult	Immature Adult	Fourth Stage Larvae
Hookworm	<i>Ancylostoma caninum</i>	X	X	X
Species	<i>Uncinaria stenocephala</i>	X	X	X
Roundworm	<i>Toxocara canis</i>	X		X
Species	<i>Toxascaris leonina</i>	X		
Whipworm	<i>Trichuris vulpis</i>	X		

CONTRAINDICATIONS:
Do not administer this product orally. (See WARNINGS.)
Do not use this product (containing 2.5% moxidectin) on cats.

HUMAN WARNINGS:
Not for human use. Keep out of the reach of children.
Children should not come in contact with application sites for two (2) hours after application. Causes eye irritation. Harmful if swallowed. Do not get in eyes or on clothing. Avoid contact with skin. Exposure to the product has been reported to cause headache, dizziness, and redness, burning, tingling, or numbness of the skin. Wash hands thoroughly with soap and warm water after handling.

If contact with eyes occurs, hold eyelids open and flush with copious amounts of water for 15 minutes. If eye irritation develops or persists, contact a physician. If swallowed, call poison control center or physician immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or physician. People with known hypersensitivity to benzyl alcohol or moxidectin should administer the product with caution. In case of allergic reaction, contact a physician. If contact with skin or clothing occurs, take off contaminated clothing. Wash skin immediately with plenty of soap and water. Call a poison control center or physician for treatment advice.

The Safety Data Sheet (SDS) provides additional occupational safety information. For a copy of the Safety Data Sheet (SDS) or to report adverse reactions call Bayer Veterinary Services at 1-800-422-9874. For consumer questions call 1-800-255-6826.

PRECAUTIONS:
Do not dispense dose applicator tubes without complete safety and administration information.

Use with caution in sick, debilitated, or underweight animals. The safety of CORAXIS has not been established in breeding, pregnant, or lactating dogs. The safe use of CORAXIS has not been established in puppies and dogs less than 7 weeks of age or less than 3 lbs body weight.

Prior to administration of CORAXIS, dogs should be tested for existing heartworm infection. At the discretion of the veterinarian, infected dogs should be treated with an adulticide to remove adult heartworms.

CORAXIS is not effective against adult *D. immitis*. (See ANIMAL SAFETY - Safety Study in Heartworm-Positive Dogs.)

ADVERSE REACTIONS:
Since CORAXIS contains 2.5% moxidectin, studies that demonstrated the safe use of a topical solution containing 2.5% moxidectin + 10% imidacloprid were acceptable to demonstrate the safety of CORAXIS.

Field Studies: Following treatment with a topical solution containing 2.5% moxidectin + 10% imidacloprid or an active control, dog owners reported the following post-treatment reactions:

OBSERVATION	Moxidectin + Imidacloprid n = 128	Active Control n = 68
Pruritus	19 dogs (14.8%)	7 dogs (10.3%)
Residue	9 dogs (7.0%)	5 dogs (7.4%)
Medicinal Odor	5 dogs (3.9%)	None observed
Lethargy	1 dog (0.8%)	1 dog (1.5%)
Inappetence	1 dog (0.8%)	1 dog (1.5%)
Hyperactivity	1 dog (0.8%)	None observed

During a field study of a topical solution containing 2.5% moxidectin + 10% imidacloprid using 61 dogs with pre-existing flea allergy dermatitis, one (1.6%) dog experienced localized pruritus immediately after product application, and one investigator noted hyperkeratosis at the application site of one dog (1.6%).

Laboratory Effectiveness Studies: One dog in a laboratory effectiveness study experienced weakness, depression and unsteadiness between 6 and 9 days after application of a topical solution containing 2.5% moxidectin + 10% imidacloprid. The signs resolved without intervention by day 10 post-application. The signs in this dog may have been related to peak serum levels of moxidectin, which vary between dogs, and occur between 1 and 21 days after product application.

The following clinical observations also occurred in laboratory effectiveness studies following application of a topical solution containing 2.5% moxidectin + 10% imidacloprid and may be directly attributed to the drug or may be secondary to the intestinal parasite burden or other underlying conditions in the dogs: diarrhea, bloody stools, vomiting, anorexia, lethargy, coughing, ocular discharge and nasal discharge. Observations at the application sites included damp, stiff or greasy hair, the appearance of a white deposit on the hair, and mild erythema, which resolved without treatment within 2 to 48 hours.

Foreign Market Experience: Because the following events were reported voluntarily during post-approval use of the product containing 2.5% moxidectin + 10% imidacloprid in foreign markets, it is not always possible to reliably establish a causal relationship to drug exposure. Adverse events associated with CORAXIS (2.5% moxidectin) are expected to be similar.

The following adverse events were reported in humans: eye irritation, allergic reactions, skin irritation, skin tingling, sore throat and chemical odor. Adverse events reported in dogs typically treated with a topical solution containing 2.5% moxidectin + 10% imidacloprid included: vomiting, diarrhea, bloody diarrhea, salivation, poor appetite, lethargy, weakness, restlessness, agitation, disorientation, ataxia, muscle tremors, seizures, panting, labored breathing, acute pulmonary edema, hives, rash, swollen face and ears, pruritus, erythema, alopecia, hot spots, local discomfort and discoloration of the hair at the application site. Accidental oral ingestion in dogs caused salivation, vomiting, muscle tremor, seizures, mydriasis, ataxia, lethargy, disorientation, agitation and poor appetite.

Adverse events in cats typically treated with imidacloprid + moxidectin for dogs included application site and skin reactions, vomiting, lethargy, agitation and neurologic signs.

To report a suspected adverse reaction, call 1-800-422-9874.

ANIMAL SAFETY:
In a controlled, double-masked, field safety study, a topical solution containing 2.5% moxidectin + 10% imidacloprid was administered to 128 dogs of various breeds, 3 months to 15 years of age, weighing 4 to 157 pounds. The moxidectin + imidacloprid topical solution was used safely in dogs concomitantly receiving ACE inhibitors, anticonvulsants, antihistamines, antimicrobials, chondroprotectants, corticosteroids, immunotherapeutics, MAO inhibitors, NSAIDs, ophthalmic medications, sympathomimetics, synthetic estrogens, thyroid hormones, and urinary acidifiers. Owners reported the following signs in their dogs after application of moxidectin + imidacloprid topical solution: pruritus, itchy/greasy residue at the treatment site, medicinal odor, lethargy, inappetence and hyperactivity. (See ADVERSE REACTIONS.)
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