



*Pennsylvania Specialty and Emergency Associates*  
**Hickory Veterinary Hospital**

## **Puppy Packet**

**Compliments of:**  
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## **CRATE TRAINING THE PUP**

By **PETER J. VOLLMER, Animal Care Center Veterinary Clinic,**  
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One of the most useful devices for raising a puppy, and perhaps one of the most misunderstood, is a fold-up wire dog crate. Properly used, this device can aid in housetraining puppies. It can also save hundreds of dollars in damage to household items. Since the crate is portable, it can be easily taken along on trips. Thus overnight visits or vacations with the family pet can be more enjoyable. People who raise, train, and show dogs have been aware of the benefits of crates for years. Unfortunately, the new pet owner is not as well informed.

I advise owners of new puppies to concentrate on housetraining, socialization, and crate training during the early weeks of rearing. However, before owners begin crate training, they should be aware of several tendencies in the normal, healthy pup.

### **SEPARATION REFLEX**

When separated from their social group, most pups whine, bark, or howl. These sounds are referred to as distress vocalizations. In the wild, these sounds increase the chances that a puppy will be reunited with the pack. If a pup's movement is restrained while it is isolated, it will respond with escape behaviors such as digging, thrashing about, and chewing. These behaviors have obvious benefits for survival.

Many pet owners inadvertently elicit these behaviors by placing the pup in a barricaded kitchen or other unoccupied area of the house. Sometimes these owners provide a ticking clock, a radio, or a hot water bottle to "comfort" the animal. This entire procedure is unnecessary at the least, and can harm the puppy psychologically and physically if emotional behaviors indicating stress are allowed to persist or worsen.

### **RECOMMENDED PROCEDURE**

The procedure we use and recommend to clients for inhibiting the separation reflex is based upon several other canine tendencies. These are the pup's preference to bed down with, or in the presence of others; to bed down in a sheltered, den-like atmosphere; and to learn through association. The procedure we recommend to clients is as follows:

1. Acquire a crate large enough for an adult dog to stand and turn unimpeded.
2. Assemble the crate in a bedroom of the house.
3. Introduce the pup to the crate by placing several treats in and around it. Also, feed the pup several meals inside the crate.
4. Well before bedtime, place the pup in the crate and offer a treat. Close and lock the gate.
5. Leave the room, but remain just outside in order to audit the pup's behavior.
6. At the first indication of any separation responses, intervene with a sharply raised voice. The idea is that the pup associate its behavior with the startling outcome the behavior produced. Some pups will not respond to a raised voice. We have found that most respond well to sounds generated by a shaker can (a small coffee can containing several coins) or a newspaper slapped sharply against a door or wall.

7. Usually the pup settles quietly in the crate after three to eight attempts at emotional responses, if they are followed by a startling sound. After the puppy is quiet keep it inside the crate for about ten minutes. Do not to praise or pet the pup immediately after releasing it. This can reinforce the desirability of leaving the crate.
8. After an interval of 30 to 45 minutes, repeat the procedure. Extend the pup's quiet time in the crate to about 30 minutes.
9. While the pup is inside the crate, provide one chewable toy. Other items such as blankets or newspapers are not necessary. Also, any collars or leads should be removed to prevent entanglement.

By the time bedtime arrives, the pup has already associated being quiet with being in the crate. Also, the effects produced by separation are negated if the crate is in a bedroom where a member of the family sleeps.

## **OVERNIGHT ELIMINATION**

Usually after waking the pup will eliminate. If the pup awakens while inside the crate and needs to eliminate, it will probably whine or bark, dogs tend to avoid eliminations in their bedding areas (den effect). The pup can then be taken outside to eliminate.

## **PROS AND CONS**

This procedure has several advantages for house-training puppies. First of all, the pup does not form the habit of eliminating inside the house. People who barricade the pup in the kitchen or some other area must also provide newspapers to absorb the waste. The pheromones contained within the urine and feces are then transferred to the surface of the floor. This can influence the dog to eliminate in that area at a later date. Second, the pup can be placed in its "den" when it cannot be watched during the day. Destructive habits, as well as eliminating inside the house, can be further controlled. Third, the separation reflex is inhibited, thus curtailing possible side effects related to stress.

The procedure does have some disadvantages. A young pup should not be placed in its crate for prolonged periods of time. During the day, the limit should be two to three hours at a time. This is because of the frequent periods of activity that occur through early development, as well as frequent elimination responses.

People who are gone for extended periods must provide the pup with a larger, damage proof area. The procedure described above can be used to control the separation reflexes. However, an area for elimination must be provided within the enclosed area, as well as food and water, according to length of absence. A pup should not be isolated for extended periods of time, even within a damage-proof area, unless absolutely necessary. Isolation can have negative effects on a pup's psychological development.

A pup that has been successfully crate-trained will prefer resting in its "den". As the pup matures, it will voluntarily seek out the crate and enter it at the appropriate time. While inside its crate, the dog will be quiet. These are all indications of a comfortable, pleasant association with the crate. Of course, the peace of mind the owner enjoys knowing that the dog is quiet, comfortable, and not destroying the house is immeasurable.

Many clients ask how long their dogs should be kept in the crate. The answer depends upon the dog. Some animals are never able to have the run of the house, even when mature. In any event, if the dog has been crate-trained, the owners will never find it necessary to dispose of the animal because of destructive behavior occurring during their absence.

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# HOUSEBREAKING PUPPIES

by Carol Benjamin (from "THE AKC GAZETTE", December 1980)

Dogs are creatures of habit. Whatever world you show them, that's the world they'll believe in. As newborns, they need the stimulation of their mother's licking to help them to eliminate wastes. In that way, the den is kept clean and the puppies thrive. When they are still tiny, still blind and deaf, the stimulation of eating begins to work wonders on its own. Still, their devoted mother ingests all their wastes and keeps the den tidy.

Some mothers, as well you know, are better than others. I'd be willing to bet that the more scrupulously clean the mother keeps the den, the easier it is to housebreak those puppies. Believing that, when my own stalwart, little bitch Fanny had her first litter, we lined the whelping box with newspaper; my daughter and I changed it as our energies would allow—at least five times a day. In between, Fanny did her job. Our eight puppies got so used to being clean and dry that when one of them stepped into a wet spot (they still could not see) it would shake its foot and cry. They just didn't like walking around in urine, and who could blame them?

Poor initial upbringing has been the downfall of many a puppy as well as many a person. When you buy a puppy someone else has whelped and raised, what has happened before you come into his life may have taught him to be dirty or just not to give a hoot. Fall asleep in his cereal? Sure. And in anything else that's around, too.

Some owners add to this bad early training without meaning to. They leave the puppy in a room with papers for him to soil. Often, particularly if it's an isolated area of the house, the laundry room or someplace in the basement, they are not too regular in cleaning up. The message as your dog reads it is that it's okay to soil in the house. If it weren't, why would you leave the mess there?

The best thing you can do for your puppy and yourself is to clean up quickly. In this way, your message is loud and clear—or perhaps should I say, "loud and clean". Time and time again I have been called in on a housebreaking consultation where a big part of the problem had to do with negative subliminal messages. But whatever happened before did not ruin your dog. He's well equipped to relearn. So if you mind a dirty floor, make sure he does too. Clean up now—not later. Wash the area, every time. Vinegar will neutralize the odor that inspires your dog to keep returning to the scene of his crime. Use a cleanser that does not contain ammonia, such as white vinegar mixed with club soda. Cleanliness is only one of the ways you'll get through to your dog without yelling, hitting or threatening to call the pound. Remember, we are dealing with a den animal. His survival depends upon a clean nest. So if we stimulate the den by placing the puppy in a very small area, he will, by relying on nothing but his own instincts and without much work on your part, begin rapidly to learn how to pace his need to eliminate so as to stay clean between outings. Most animals have a natural desire to keep the area where they eat and sleep clean. We can capitalize on this convenient fact of life to communicate to the dog and get a necessary job done quite easily. If the dog you are trying to housebreak seems to be a dirty one, it is very possible that somewhere along the line he was taught to be that way. A pet dog cannot control his own environment. He has very little choice. Left alone in a dirty pen with his littermates or in an uncleaned playpen or other small area by himself, the puppy is unable to get a mop and bucket and clean up. He simply adjusts.

## Housebreaking with a Crate

Housebreaking a puppy or a grown dog with the use of a wire housebreaking crate simply means formalizing the information above into a housebreaking regimen. You know your puppy would prefer to stay in a clean, dry area if given the chance. You know he is built to keep his little den clean. So a schedule has to be formulated, humane to him and possible for you. He will get used to going out on that schedule, on time, please, and staying in his clean, dry, small den—the crate—in between. At least, that's

what he'll do until he's housebroken. Once he catches on, he'll need a little bit of time until this habit is established. Then he'll get progressively longer and longer periods of freedom after each walk and before he is again confined in the crate. Eventually he will be reliable enough to have the run of the house. Easy? You bet.

First, let's talk about the crate. No, it is not cruel. Providing a den for a den animal is not cruel. Although it may look like jail, since it is made out of wire, it isn't. The fact that the crate is wire allows cool breezes to blow over your dog's body and allows him to see what's going on around him when he's inclined to look. The crate, often made so that it is collapsible, will also be a handy piece of equipment for other problem correction and prevention. It is also the best and safest way to take your dog traveling. Crated he will be unable to jump out of the car and get lost or hurt. He'll feel secure. You'll be able to save money on boarding by taking him with you on vacations. Motels and even hotels often accept dogs in rooms if you have a crate. It assures the management that your dog will not eat the beds, rugs and walls. Even reluctant relatives may invite you with canine when they know he can be crated when no one is watching him. And all kinds of other messages are getting through to him as he learns to accept the confinement of the crate, messages that will help you to train him and stay in charge.

For housebreaking purposes, the crate should be the size of the puppy. If it is larger than his reclining body, he can go to one end and eliminate and go to the other end and lie down. Since one end is pretty close to the other, he'll end up waking and sleeping in urine and feces—the exact opposite of what we are after. The extra space would also enable him to move about. Moving about would make him need to eliminate. So the small size crate both encourages cleanliness and minimizes the need to evacuate. Naturally, the crate is being used as a teaching tool and the puppy will be given as much freedom as he can handle all throughout the housebreaking period. He just should not have enough freedom, in or out of the crate, to allow him to have accidents indoors.

If you'd like to double and triple the mileage you get for your money, and who wouldn't, buy a crate that will fit your dog's adult size and, for housebreaking, make it smaller with a piece of wood or a wire rack. Once your dog has the idea, anyway, the bigger size will do just as well.

Many people ask if they can put something on the bottom of the crate so that the dog will not have to lie on the cold metal surface. Many dogs prefer the cold surface. However, you can put anything you like in the crate as long as your puppy doesn't take that thing as an invitation to eliminate. If you have already paper-trained the puppy, it would not be a good idea to put paper in the crate. A towel may make your puppy feel cozier, but he might urinate on it. Since the towel will absorb the urine, it won't run all over the crate. The puppy can then bunch it into a corner and stay dry. In that way, the towel might allow the puppy to cheat. Of course, that won't help his training any. Some puppies will make a chew toy out of a towel or anything else you put in the crate. If it makes you feel better, try one old towel. If your puppy wets it or tears it, remove it and let the puppy stay in the empty crate.

The next question is whether or not anything can go into the crate to feed or entertain the puppy. The whole idea of the crate is to imitate a natural environment that will encourage the puppy to quickly and easily train himself to eliminate out of doors on a schedule suitable to his needs and your time schedule. The idea is not to torture him, bore him, and make him miserable. Of course, he can have a ball or a bone to chew. You may, if you think it will entertain him, leave a radio playing and hope that the music will soothe his savage breast. Food, on the other hand, is not a terrific idea since it will give him a need to go out. That may happen while you are away at work.

His eating habit naturally will be another factor in the housebreaking process. It is a mistake, in an attempt to be kind, to leave food available for long periods of time or even all day long. All other factors aside, this is a very poor way to housebreak a dog. Constant eating means constant elimination. Puppies should be fed on schedule, depending on when you can whisk them out of the crate and out of the house. Food should be left down for no more than fifteen minutes. Dawdling over food is a bad habit. It may also encourage two other bad habits—his of not being housebroken and yours of cooking little specialty items because he's acting fussy about his dog food. Veal scaloppini is far too expensive. Let him stick to dog

food and fifteen minutes. Losing a meal once or twice for acting slow and picky will encourage him to chow down efficiently when it's mealtime. So much for veal scaloppini.

Unless the weather is ghastly and you have no air conditioning, you will not have to leave water in the crate. If you did, it would create the need to urinate, possibly off schedule since the puppy is young. However, the puppy should have as much water as he likes when he is out of the crate. Once he is housebroken, he should always have an ample supply of fresh water. Water is essential for his health—for digestion, for safe excretion of chemical wastes from his kidneys, for his body's ability to cool itself. Deprivation of water would be harmful.

If you are worried about leaving no water in the crate while you are out at work, leave a couple of ice cubes to melt in a dish. In this way your puppy can wet his whistle without ingesting huge amounts of liquid. Also, the water available as the cubes melt will last longer than a bowl of water.

Our next job is the preparation of a schedule. I would no more ask you to get up at an ungodly hour than I would ask your young dog to wait more than a maximum of eight hours before going out, so some compromises are in order. If you must have lights out by eleven, your puppy must be up and out of doors by seven. Cheer up. When he's an adult, he can and will wait longer over night. But while he's young and learning, eight hours is really all he can wait.

Here is a sample walking and feeding schedule which you can amend for your hours, keeping in mind that you can only get an extra hour's sleep in the morning by staying up an hour later in the evening. No cheating.

## **PUPPY SCHEDULES FOR HOUSEBREAKING**

### **IF YOU ARE AT HOME:**

#### **A.M.**

7:00 - Walk  
7:30 - Feed  
7:45 - Walk  
    Fifteen minutes play in kitchen  
    Confine in crate

#### **P.M.**

12:00 - Walk  
    Fifteen minutes play in kitchen  
    Confine in crate

4:00 - Feed  
    Walk  
    Fifteen minutes play in kitchen  
    Confine in crate

7:00 - Walk  
    Fifteen minutes play in the kitchen  
    Confine in crate

11:00 - Walk  
    Confine in crate overnight

### **IF YOU WORK ALL DAY:**

#### **A.M.**

7:00 - Walk  
7:15 - Feed  
    Play in kitchen while you eat breakfast  
8:00 - (or just before you leave) Walk  
    Confine in crate

#### **P.M.**

6:00 - Walk  
6:20 - Feed  
    Walk  
    Confine in crate

11:00 - Walk  
    Confine in crate overnight

The stay at home schedule, naturally, is easier on your puppy. But if you have to work, you have to work. People do not tend to quit their jobs when it's time to housebreak a dog. However, if there's a nice kid or friendly neighbor who can get in and walk the puppy once in the middle of the time you are out, it would be terrific. If there's no possibility of that, the puppy will have to adjust.

Only you will know your own puppy intimately. Therefore, only you can adjust the schedule realistically. Fifteen or twenty minutes of play in the kitchen (not on the rug) is what the average puppy can do before needing another outing. But here, above all, common sense should prevail. Suppose the kids want to play with the puppy and it's in between walks. You can say "no" to the kids. Or you can say "yes" and have them walk the puppy before they play with him. In fact, they can just play with the puppy outside. There's no harm in that. Any time you or they have the time or the desire to play with the puppy out of doors, do so. If the puppy wets when outside, that's just fine. If you praise him every time he does, you'll speed up housebreaking by motivating him.

Your puppy may stay dry for only five minutes or for an hour. If so, change the bedding so that it's right for him. Walk him, praise him warmly for evacuating in the great outdoors. Bring him in and play with him or just let him romp in the kitchen while you prepare a meal or have a coffee break. Then with the company of his favorite toy, crate him until the next outing. Most puppies will make excellent use of their crate time by catching up on lost sleep and grooming.

If the puppy soils your kitchen he's been out of the crate too long. Or he didn't do what he was supposed to outside. Where could he do it in that case, but inside? If the walk was a dud, put the puppy right back in the crate until his next scheduled walk. This is how you can communicate to him what this whole experience is all about. If the puppy soils the crate, it's either because it's the first or second time he's in it, and he doesn't know yet that he'll be stuck with it for awhile, or the crate is too big. When he does have an

accident in the crate, scold him, walk him, praise him if he goes outside and clean the crate. Remember, we want him to loathe being dirty. So never intentionally leave the puppy in the soiled crate or put him back in a dirty crate after an outing.

Now the puppy is getting into the swing of things. He does indeed empty himself when out on walks. He keeps the crate and kitchen dry. Now you can begin to expand the time he is out playing, moment by moment. Do not rush. In the case of housebreaking, faster is often slower in the long run. If he's fine for a week, give him twenty minutes of play after his walk and the next week and maybe thirty minutes at a time the week after that. After a few months, he'll be able to play in the kitchen for an hour or two at a time. Now you can begin to leave him alone in the kitchen. You can also start to experiment with tiny doses of freedom in other rooms. Prior to this time, he was never in the position to have an accident unnoticed. Now you can take him exploring in the rest of the house and begin to give him freedom, five or ten minutes of it at a time, in rooms other than the kitchen, both monitored by you and alone.

If he backslides, even once, he goes back to the first week's schedule for a full week. Then you'll creep slowly toward giving him the run of the house again, one small step at a time. Expect him to backslide a few times. No owner could be so lucky as to have a dog who never lost his head on the pale blue oriental rug. Life just doesn't work that way. So do not feel frustrated if your housebreaking dance goes forward and backward. The job is getting done. Dogs learn a lot from their mistakes.

(Excerpted from the book DOG PROBLEMS copyright 1981 by Carol Lea Benjamin published by Doubleday & Company, Inc.)

## Vaccines for Puppies

Vac/Age	6-8 Weeks	10-12 Weeks	14-16 Weeks	18-20 Weeks	Annual Boosters
<b>DHPP</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>X</b>	<b>1-2 Years</b>
<b>Rabies</b>			<b>X</b>		<b>2 years</b>
<b>Bordetella – Kennel Cough</b>			<b>X</b>		<b>6 months</b>

D = Distemper  
H = Hepatitis  
P = Parvovirus  
P = Parainfluenza

### General Guidelines for Puppy Vaccinations:

1. Vaccinate every 3-4 weeks until 20 weeks of age or greater.
2. Puppies should be kept from unknown/stray or unhealthy dogs and out of areas frequented by dogs, i.e.: parks, dog walks, until 2 weeks after their last vaccination.
3. Bordetella -Kennel cough can be given as early as 3 weeks of age. This is usually boosted at 12-14 weeks if the dog will be boarding. Repeat yearly unless show dog or boarded frequently then vaccinate every 6 months. Required for boarding. Most effective if given 10-14 days before possible exposure.
4. If dog is greater than 16 weeks of age for first vaccination, give 1 booster in 3-4 weeks.
5. Lyme vaccination, not recommended, but can be given as early as 12 weeks. For puppies, two doses are administered in their first year, then yearly boosters are recommended. Lyme vaccine is usually recommended only for those dogs considered to be at high risk for the disease.
6. Sick animals or animals with a temperature over 103°F are not vaccinated.

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## **RABIES**

Rabies is a lethal disease for all warm blooded animals that contract it- humans included. Many people believe rabies is a thing of the past, but it is very real - rabid animals have been found in Fairmount Park and many of the Philadelphia suburbs.

We are very lucky to have a safe and effective vaccine for this deadly virus. Depending on the vaccine given and the area you live in, protection may last one to three years. If your pet's vaccine lapses and s/he obtains a wound of unknown origin (and you live in Montgomery County), the owner has a choice of 6 months quarantine in a veterinary hospital or euthanasia with examination of the pet's brain for rabies. Other counties have other regulations, but all center around the fact that an unvaccinated pet can pose a health risk to the people s/he is in contact with.

**All puppies should be vaccinated at 12 weeks of age, at one year, and then every two years thereafter in this area.**

Hopefully your pet will never be exposed to rabid animal, but even the indoor cat can escape when a door is left ajar or the fenced-in dog can discover the playful raccoon in the trash cans. You can never be too careful. The vaccine should be boosted if there is any bite exposure to an unvaccinated animal, including unvaccinated pets and wildlife.

# NEUTERING

## TO NEUTER OR NOT TO NEUTER

Many controversies exist concerning neutering pets. In general, a good policy is to neuter any animal, which is not to be specifically used for breeding. Pet overpopulation has caused countless dogs and cats to be put to death in animal shelters or to roam the streets searching for a mate. To a large extent, this tragedy is the end result of the neglect of birth control in our pets. Even owners who try to be responsible are often at fault- it is very difficult to keep a pet that is intent on breeding completely confined whether it is a male or female. A serious breeder is prepared for this problem, but the average pet owner is not.

The first question you must consider is, "Should I have my pet neutered?" Pet overpopulation is only one of the issues involved. If it is not done routinely, most pets end up being neutered at some point for either behavioral or medical reasons. A female in season or an attracted male is much more interested in breeding than in being a loving pet. A normally steady, secure, even-tempered, well-trained animal will often be moody and aggressive. Females will be restless, anxious to get outside to the awaiting pack of eager males that are sure to be on your front lawn. She will need to be kept indoors, since fenced in yards are rarely enough to keep her in and the males out. In addition, you will have to contend with the bloody discharge that she will leave throughout the house. Males will tend to roam, often going through screens and over fences in search of a female in season. His "male related" behavior will include aggression (usually directed towards other male dogs, but also possibly toward people, including family members) and territorial urine marking.

A neutered pet is also a healthier pet. Unspayed females have a high risk of mammary tumors, and are susceptible to developing cancer and infections of the uterus as mature adults. Intact males tend to get disorders of the prostate (enlargement, abscesses and/or tumors), tumors of the testicles, perineal hernias, and other tumors that are related to the effects of testosterone on the tissues. The incidence of these problems is high enough to justify neutering as a medical preventive measure alone.

Once you have decided to neuter your pet, the next question is, "When is the best time?" It is recommended that both males and females be neutered at 6 months of age. At this time the animal is young and healthy, and best able to undergo a surgical procedure. The reproductive organs are large enough to make the procedure feasible, but undeveloped enough to keep the risks to a minimum.

This is especially true of a female who has never gone through a heat cycle: the blood vessels, uterus and ovaries are small and so the spay is quicker and safer. In addition, if females are spayed before they come into season for the first time, the risks of developing mammary cancer are close to zero. If you wait until after she has had two heat cycles, the chances are equal to that of an unspayed female, so it really is beneficial to have your pet spayed early. For males, roaming and aggression are serious problems in many cases. Some people choose to wait to see if these problems will develop before deciding to neuter their pets. Unfortunately, these traits are often learned behaviors by this time, and neutering will not reverse them. In many instances, if the pet had been neutered early, the behavior problems would never have developed.

Some people believe that neutering an animal at a young age will cause it to be obese as an adult. It is true that in many cases the metabolism will be lower after neutering, but this would occur regardless of the age at which the procedure was done. The simple solution to this problem is to make sure our pet gets adequate exercise and is not overfed, which you should do regardless of the animal's reproductive status. Another belief is that animals neutered at a young age will not reach their normal size. In actuality, there has never been any scientific indication that this is so. Neutering your pet is advised, therefore, for both behavioral and medical reasons.

## **FLEAS AND FLEA CONTROL**

Although many things can cause your dog or cat to be itchy, fleas are responsible in the vast majority of cases. Fleas are small black or brown insects that feed off the blood of all animals. Some animals are bothered just by the physical irritation of the fleabite. Most dogs and many cats, however, are allergic to the saliva that the flea injects into the blood with every bite. In these animals just one flea may be responsible for all those hours of scratching and misery. Your veterinarian can examine your pet for fleas and determine the likelihood of a flea allergy and/or bacterial skin infection. As you can imagine, adequate flea control is very important to the comfort of your pet.

### **Understanding the Flea**

In order to be successful at keeping fleas off your dog and/or cat and out of your house, you should know a little bit about the life cycle of the flea. When environmental conditions are favorable (65 - 80°F and high humidity), the life cycle from egg to flea can be completed in 16 days. Adult fleas may live for several months, continuing to produce offspring all that time.

The eggs themselves are very resistant to both insecticides and environmental conditions. They can lie dormant for 2 years awaiting the right conditions to hatch. So while you may have eradicated all the adults with dips and sprays and a cold winter, the summer warmth will hatch a new crop of adults.

The adult flea spends little time in the fur of its host. They prefer to hop off after a meal and hide in dark dusty places such as under couch cushions, carpets, walls, or even the cracks in wood and tile floors. It is here that the female lays her eggs.

Since fleas spend so little time on your pet, it may be hard for you to appreciate, by merely inspecting the animal, how much discomfort they are causing. Dog and cat body temperature is 101 - 102°F, warmer than a person's. The fleas prefer to bite the warmer animals rather than people unless they are present in tremendous numbers. Please do not wait for them to bother you before you begin your flea control program. If you have any doubt as to whether fleas are a problem, consult your veterinarian.

## **FLEA CONTROL**

### **A. FOR THE PET**

Flea control must be practiced on all animals in the household. One pet may be bothered more than others, but they all can be carriers.

1. A rapid and time-honored flea treatment is the use of dips and flea shampoos. A shampoo will kill the fleas on the pet, but is washed off leaving little or no residual action for the other 90% of the flea population not currently on the pet. Dips will give a residual action for about 10 - 14 days and can be repeated every 2 weeks in areas of heavy infestation. If you are dipping your cat, be sure the dip is labeled for cats before using it on yours. The directions on the shampoo or dip should be followed closely. Shampoos should be thoroughly rinsed off, but dips need to drip dry on the pet. The dip should be massaged deep into the coat and cover the entire body, starting at the head and working toward the tail, being careful of the eyes and genitals. Most dips do dry the coat, so one tablespoon of an emollient bath oil such as Sesame Oil Rinse or Alpha Keri can be added to the dip solution.

Flea collars have been used for years and are very popular, but often are not the most effective mode of flea control. Like many products, some are better than others, and your veterinarian can advise you on the most effective of the collars available.

Tick control by one collar, the Preventic collar, is actually quite good, and can be used in conjunction with Frontline, another product listed below for tick control in heavily infested areas.

Powders and sprays can also be used for flea control and may be safest for young puppies, kittens, or older animals. Most should not be used in conjunction with dips, because the total dose of insecticide may be too great for the pet to handle. Pyrethrin sprays can be used daily if needed on adult animals.

Monthly treatments are relatively new and very safe and effective.

**PROGRAM:** Given orally once a month, this product prevents development of the NEXT generation of fleas. Safe for dogs and cats 6 weeks of age and older, Program does not kill the flea which bites the pet (so your pet will still be bitten), but the eggs she lays will not hatch. This product works well to reduce the flea population and is ideal for difficult to treat homes or homes with small children since there is no chemical residue on the pet. Another product, Sentinel, combines Program with the once monthly heartworm medication Interceptor for ease of dosing.

**FRONTLINE:** Spray or topical, safe for dogs and cats 10 weeks of age or older. This product kills fleas and ticks on cats for 1 month, and kills ticks for 1 month and fleas for 1 - 3 months on dogs. The reason for the difference is the product is sequestered in the oil glands of the skin. Cats have less oily skin than dogs, so Frontline does not last as long in cats. Frontline is UNAFFECTED by swimming and bathing, provided the product label is followed. This is the first monthly product to control both fleas and ticks. Frontline takes about 24 hours to kill ticks. There is still the chance that the ticks could bite your pet in this time and spread disease like Lyme disease.

**K9 Advantix:** This is a newer flea and tick preparation. It combines the flea medication of the older product Advantage plus another insecticide that kills and repels ticks. The benefit of this product is that ticks are less likely to bite the pet because of the repellent. The ticks will often drop off of the pet but still have absorbed enough of the medication to be killed. This medication is not as waterproof if the dog is frequently bathed or swims (more than once every two weeks). This product is very toxic to cats and can only be used on dogs. If your cat regularly grooms your dog, keep them separated until the product dries.

**Revolution:** This is a more expensive product. The benefit is that in addition to being a flea and tick treatment, it replaces monthly heartworm preventatives. The disadvantage is that it is not as strong as Frontline or Advantix for killing fleas or ticks.

## **B. ENVIRONMENTAL CONTROL**

Remember, for every flea you see on your animal, there may be as many a 100 fleas in the environment! Therefore, environmental control can be the key to a successful program.

1. Program acts as a delayed environmental control by rendering the eggs laid by an affected female flea non-viable. Most environmental controls will kill the adult, unlike Program.

2. Professional exterminators may be a good choice for a large house and a quick knockdown of adults. Make sure the company you choose is spraying for FLEAS - routine spraying services do not kill fleas. Some companies like **Rx for Fleas** do this routinely. Their process involves a powder (a special boric acid compound) which is placed deep into your rugs. This product is less toxic than traditional chemicals and may be advisable for homes with small children. It is guaranteed for 1 year when done by them, but is also available for you to purchase and apply with a guarantee of 6 months. A thorough steam cleaning (provided the carpet reaches a temperature of greater than 95 degrees) will kill newly hatched fleas.

3. Do-it-yourself: This is always an option and may be more economical for apartments and smaller homes. Using an effective spray is a must. Those available at the veterinarian are generally the most effective, and a qualified person can help you pick out the spray or treatment that is best for you and your home. When treating your home, don't forget the kennel, car, and doghouse! If you use a flea bomb, remember it will work best in an area with little furniture and obstructions. Hand-held sprays are most easily directed into the areas you need to treat.

Often, in cases of severe infestation, you will see an increase in flea activity. This is due to the mechanical heat and vibration of the vacuum as well as the ingredients in many flea sprays stimulating the eggs to hatch in order to be killed by the spray.

Remember that even the professionals do not have insecticides that kill flea eggs. Therefore it will help if you vacuum the house thoroughly, especially the dark and dusty places that can be difficult to do. Discard the vacuum bag outside the house when you are done - fleas can hatch back out of the vacuum bag into your house again otherwise. All pets and people (except the sprayer) should leave the house during the treatment and the house left vacant for 2 - 3 hours afterwards to give the spray time to dry. After the spraying, don't vacuum again for at least a week. The whole process should be repeated 2 weeks after the first spraying to break the life cycle of the eggs missed on the first treatment. Your pets should be treated on the same day you treat the house. Please follow all label instructions carefully.

4. **THE YARD:** Fleas live in the yard as well as in the house and on your pet. Of course, if you have several acres of land or if your pet roams free you cannot effectively treat the entire area. You can, however, create a buffer zone around your house. Remember fleas will congregate close to the house, dog/cat resting places, and outbuildings.

The yard can usually be treated with a heavy application of 5 - 10% Sevin dust. A large heavily infested yard should be sprayed using a sprayer attachment for the hose. Some products are available at **Hickory Veterinary Hospital** for house use, or a solution can be made up with 2 oz of 50% Malathion in a gallon of water. For best results with the latter, consult a knowledgeable lawn/garden person.

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## **INTESTINAL PARASITES**

Many puppies, kittens, and adult pets harbor worms. In spite of ever-improving kennel management, sanitation, and medical agents with which to combat worms, the unique biology of intestinal parasites allows them to persist. Because of the remarkable ability of these parasites to survive, animal owners must be ever alert and persistent in their effort to keep their pets free of worms. The best way to check for worms is to bring a fresh stool sample to your veterinarian for microscopic examination.

### **Ascarids (Roundworms)**

Ascarids are the most commonly found worms in both juvenile and adult dogs and cats. The adult worms are whitish and have a round diameter unlike tapeworms which are more flattened. In a severely infested pet, you may see spaghetti-like worms in either the stool or in vomitus. Clinical signs of worms can be mucus in the stool, dull coat, vomiting, diarrhea, and in puppies and kittens a pot-bellied appearance.

Roundworms enter a host in the form of a microscopic egg with a very sticky coating that clings to the fur, nose, or food and are swallowed while the animal is grooming or eating. Puppies and kittens can be infected with worms through their mother's milk and/or in the womb.

Other animals (rabbits, rats, and earthworms) may ingest the roundworm eggs and unwittingly carry encysted larvae. If dogs or cats eat these animals they will become infected with the encysted larvae which will mature to adulthood in the dog or cat's small intestine.

### **Hookworms**

Hookworms are very small parasites measuring about 1/2" long and 1/30" in diameter. Due to this small size, they are rarely seen in the feces, so it is best to have a stool sample examined by your veterinarian. Some common signs include continual vomiting; black, tarry stools; no interest in play, and low energy.

Hookworms are the most harmful intestinal parasite. The mouth parts of the worm have a number of hooks to attach to the inside of your pet's intestine, often causing bleeding each time they attach or move to the next area to feed off their host's blood. A mother can pass hookworms to her young through the placenta or breast milk. Small/young kittens and puppies can die of anemia if they have a large hookworm infestation.

Your pet can ingest hookworms or absorb the parasite's larvae through the skin while playing or eating in an infected area. Once the eggs or larvae reach the intestines, they mature and produce eggs which are shed in the host's feces and mature to larvae ready to infect the next dog, cat, or even child who plays in the area.

Small children can ingest the eggs while playing in infected areas. The larvae can penetrate the skin of bare feet, or any body part in contact with contaminated soil. Such infections can appear as skin rashes and should be inspected by your pediatrician. Please be sure to have small children wash their hands before eating and keep your yard clean of feces, especially if your pet has been found to be positive for worms.

### **Whipworms**

The whipworm is a small worm with a whip-like body only 1 1/2 "to 2 3/4" long and no thicker than a needle. It attaches to the inner wall of the colon and cecum (a blind pouch at the junction of large and small intestine). The eggs are very resistant to environmental factors and will infect any dog that ingests them. The life cycle from egg to adult worm takes about 2 1/2 months.

Quite often, adult dogs do not show signs of infection, but a problem should be suspected if your dog shows chronic diarrhea and a poor nutritional status.

Many safe and effective dewormers are available at the veterinary office. Many of the monthly heartworm medications will also control some of the most common intestinal worms, though an initial dose of dewormer is advised for more rapid control of the problem.

## **Tapeworms**

Tapeworms are ribbon-like - sometimes several feet in length, but made up of many segments which break apart and look like small whitish or brown rice grains. These segments are often seen clinging to the hair around the pet's anus. Each segment contains hundreds of eggs, which mature and attach to your pet's intestinal wall and absorb digested food.

Symptoms of tapeworms are often vague. The appetite is usually good, but pets may be unthrifty and lose weight. In a typical case, the owner will see tapeworm segments of the feces. These segments are often not seen in a microscopic fecal exam (they are too large) but if the segment breaks open, the eggs can be seen microscopically.

The tapeworm life cycle requires an intermediate host such as a flea larva or other host to ingest the tapeworm eggs. If the infected flea or host is then eaten by a dog or cat, the tapeworm can complete its life cycle, maturing in the pet's intestine and laying eggs to infect the next intermediate host. In this way one infected dog in a kennel with fleas can infect the fleas which then can infect many other dogs without the first dog ever coming in contact with the others.

## **Coccidia - Protozoans**

Coccidia are one celled organisms, not worms or bacteria. The disease coccidiosis usually affects young dogs in crowded conditions like pet stores or kennels. They may show signs such as diarrhea, weight-loss, and loss of appetite. Older pets often show no signs of infestation.

Coccidiosis is contracted by animals walking in infected areas and licking their feet or contaminated food dishes present in pens where infected pets had been. Sanitation is a very important part of coccidial control.

## **Prevention of Intestinal Parasites**

- 1) Don't let your dog play in areas heavily frequented by other dogs.
- 2) Keep the pet's environment free of fleas; they can harbor tapeworms.
- 3) Hose down all runs and cages frequently.
- 4) Keep children away from areas where dogs and cats eliminate; feces can be infested with parasite eggs.
- 5) Make a habit of keeping your cat's litterbox and dog's play area clean.
- 6) Change your pet's bedding frequently, washing it if possible.
- 7) Take your dog or cat along with a fresh stool sample to your veterinarian at least once a year. Kittens and puppies should be checked more often.
- 8) If your dog lives in an area with many other dogs, year-round monthly heartworm preventative will help keep the most common intestinal worms under control.

## **Danger Poison**

One of the most common problems that a veterinarian encounters is poisoning. Hazardous substances are often readily available to the inquisitive pet. You, as an owner, can prevent most accidental poisoning by being aware of the potential toxicity of many household items and by taking appropriate precautions. When an animal is presented for treatment for poisoning, the owners are usually convinced that a nasty neighbor fed the animal the substance; actually, this happens only rarely. Almost always, the poison was something around the house or yard.

Animals are poisoned in 3 general ways:

- 1) They eat the toxin.
- 2) They inhale the toxin.
- 3) The toxin enters the body through the skin.

It is important to consider these routes of entry when you bring a toxic substance into the house. If your pet has come into contact with something you think may harm him/her, always have the label available and note the amount s/he contacted. This information will help your veterinarian choose the proper treatment. Some of the more common poisons encountered in this area will be discussed below.

### **RODENTICIDES**

Dogs often eat poisons that are put out to kill rats and mice. These substances are usually formulated to encourage the rodents to eat it. Unfortunately, what is tasty for the rat is also tasty for the dog. Be aware that your neighbors may have put these poisons down in their yard, and if your dog runs free, s/he might just go over and help him/herself. Most of these poisons are composed of a substance that interferes with the production of clotting factors and so cause internal bleeding. Look for signs of bleeding externally too, such as blood in the urine or feces, and hemorrhages on the gums or skin. Treatment is very effective, but must be started in time.

Other rodenticide such as strychnine or 1080 cause central nervous system disorders such as muscle twitches and seizures. Although these are less commonly used, some exterminators will put them down in problem areas. Many of these have no effective treatment available.

### **INSECTICIDES**

In the summer months, we commonly expose our pets to insecticides in the form of flea and tick treatments and bug control in the house and garden. Be very careful to follow proper instructions when dipping, spraying, and powdering. Most dips and powders should be used only once every 7 - 10 days. Some (like pyrethrins) are safe to use daily and in combination with other products, but you should always check labels.

Many sprays and powders are also used around the house, on floors and carpets, and on lawns and in gardens. Although these products are chemicals that taste bad and are not readily eaten, they can be inhaled or absorbed through the skin. Be especially careful about lawn treatments- a mild rain may activate the chemical but not wash it completely into the soil, making it more potent than when first laid down.

Most insecticides used are either anticholinesterase inhibitors (e.g. organophosphate and carbamates) or chlorinated hydrocarbons. The former cause excess salivation, urination, and diarrhea which will progress to muscle twitching and paralysis. The hydrocarbons usually cause central nervous system excitement with seizures. Make sure you know what chemical was used so your veterinarian can give proper treatment.

### **ETHYLENE GLYCOL – (ANTI-FREEZE)**

Ethylene glycol is a chemical that makes up antifreeze and is sometimes used in other automobile fluids. It has a very sweet taste and thus is often ingested by animals. Be very careful to use a drain pan when changing your radiator fluid. Only a few laps from a puddle in the driveway are enough to kill a cat. Although dogs are slightly more resistant, a few tablespoons will kill a small dog. Early on this toxin attacks the nervous system, causing wobbliness, rapid breathing, and depression, progressing to coma and death. If the animal survives the first

phase, as the substance is metabolized, it forms a product that is toxic to the kidneys, and the pet often dies of renal failure. If caught quickly enough, this poison may be treatable, but unfortunately, the veterinarian is often seen too late.

## **LEAD**

We all know that puppies are curious and will chew anything and everything. One problem is the puppy who is left alone will busy him/herself licking and chewing peeling paint. Most older homes have lead paint around, usually in a utility room, garage, or basement, where a puppy may be kept. Lead paint may also be on antiques - a bird cage, an old dog crate, etc. As the lead builds up in the animal's body, signs become apparent. These may be central nervous system signs, including nervousness and seizures, or may be gastrointestinal with vomiting, diarrhea, and abdominal pains. Treatment is effective, but must be started early.

Many other products are around that can poison your pets. It is wise to check the toxicity of plants before putting them in animal-accessible areas, either indoors or outdoors. Be forewarned that in the holiday season both mistletoe berries and poinsettias are toxic. Keep all drugs and alcoholic beverages away from your pets always. Also remember that most inanimate objects like garbage may turn into poisons or blockages when eaten by a dog or cat who can't pass them. In the last year we have surgically removed rubber bands, plastic bag wire ties, socks, balls, coins, panty hose, string, nuts and bolts, chew toys, beef bones, and tinsel from the stomachs and intestines of pets. Often it is too late to save the animals.

## **TYLENOL**

The aspirin-free analgesics like Tylenol (which contain acetaminophen) and Motrin (which contain ibuprofen) that we humans take so casually can be harmful or fatal to dogs and cats; cats even more than dogs. One Tylenol can kill a cat. So be careful with your own animals- warn the purchasers of your puppies- and alert your cat friends.

### **DON'T EVER GIVE ASPIRIN-FREE ANALGESICS TO ANY ANIMALS!**

Manufacturers should be required to put warnings on their labels. You can see that they do. Write to the companies directly, but most importantly, write to the controlling power - the FDA:

**FEDERAL FOOD AND DRUG ADMINISTRATION  
ROCKVILLE, MD 20857**

Urge them to have all drugs containing the above mentioned ingredients labeled **NOT FOR USE IN ANIMALS**. Also write to both your state and federal legislators and call this matter to their attention.

(The above information on Tylenol and aspirin-free analgesics is courtesy of the Pennsylvania Federation of Dog Clubs, Inc.)

### **Some general points to remember if you suspect poisoning:**

- 1) First call your veterinarian. Know what the toxin is, the concentration (mg), route of entry, and the time of contact if possible.
- 2) If the poison is absorbed through the skin, wash the animal. If the poison is ingested, **DON'T** induce vomiting until directed by a veterinarian.
- 3) If you are unable to reach a vet, check the label many companies have a telephone number to call in case of an accident. In not, call the **Poison Control Hotline**, which is run by the Philadelphia Health Services. The number for **EMERGENCIES ONLY** is **215-922-5523**.

## Heartworm disease in Dogs

Heartworm disease is a life-threatening disease caused by a blood-borne parasite transmitted to dogs by the bite of an infected mosquito. The infected mosquito injects an immature larval form of the heartworm into the bloodstream. These larvae (or microfilariae) go through 2 stages of development to become adult worms, which can reproduce sexually to produce more micro-filariae. The adult worms live in the pulmonary (lung) arteries where they cause damage to the walls of the arteries which can result in complete blockage of the vessels. When a large number of worms is present some will move into the right ventricle of the heart and cause heart failure and eventually death.

### OCCULT HEARTWORM DISEASE

When we test a dog for heartworm disease we can look for the microfilariae (baby heartworms) in a blood smear. However, even if this test is negative your dog could still have occult heartworm disease. This occurs when there are adult worms of only one sex, when there are too few microfilariae to be detected, or when the dog's immune system has killed the microfilariae but not the adult worms. In these situations there are no microfilariae circulating in the bloodstream, but the dog can still become sick from heartworm disease. Fortunately, there is a blood test available to detect proteins produced by adult heartworms. This is the screening test that we perform prior to starting your dog on preventative medication, and every two years thereafter. If you stop the preventative for a period of more than 2 months you also need to have your dog retested.

### HEARTWORM TREATMENT

There are two approved treatments for dogs with heartworm infections. Caparsolate is an arsenic compound that must be given in 4 intravenous doses over a 48-hour period. The drug has toxic effects on the liver and kidneys which can sometimes stop treatment temporarily, and is only about 70-75% effective at killing all the worms. With heavy infestations a second treatment is sometimes necessary. Even with low numbers of worms dogs can die from the resulting blockage of pulmonary arteries by the dead worms. The second medication is called Immiticide (melarsomine) which is much less toxic to the liver, can be given by one injection in the muscle (in most cases) and is about 95% effective. This is the treatment we currently recommend. All dogs must also have treatment for the microfilariae (if present) following adulticide treatment. This usually involves using the same type of preventative medications we already use.

### HEARTWORM PREVENTION

Because of the risk involved in treating heartworm disease **ALL DOGS SHOULD BE MAINTAINED ON HEARTWORM PREVENTATIVE!** Even if your dog is rarely outside, mosquitoes can get into your house and infect your dog. In this area we recommend year-round prevention with a blood test every other year. You can also use heartworm preventative seasonally from April through December. However, if you use a preventative seasonally, a heartworm test needs to be performed each spring before the first dose is given. Puppies between the ages of 9 weeks and 6 months can be started on heartworm preventative without an initial blood test since it takes a minimum of 6 months to develop a heartworm infection. **THERE IS ALSO HEARTWORM PREVENTATIVE AVAILABLE FOR USE IN CATS! ASK US!!**

## LYME DISEASE ALERT

Lyme disease was first recognized in 1975. It was the cause of many cases of arthritis in people from Old Lyme, Connecticut. Lyme disease is transmitted primarily from the bite of the deer tick, *Ixodes scapularis*.

In 1984 veterinarians found that dogs can contract Lyme disease. For some reason cats are much more resistant, but rare cases have been seen here. Cows, horses, and goats have also contracted Lyme disease. The most common symptoms in animals are the same as seen in people: lameness, joint swelling, fever, lethargy, and general body aches; but Lyme disease can affect other systems like the heart, kidney, or central nervous system.

The best way to keep your pets and family free of Lyme disease is to keep them free of ticks. Follow these recommendations:

1. Cut brush away and mow grass in areas where people and pets play.
2. Treat your yard with a spray recommended by our veterinary staff.
3. Use of monthly flea and tick medications and/or dips or use of topical sprays or powders (according to label directions) on the pet are excellent deterrents, but you should also treat the home in areas with heavy tick populations. Premise sprays and bombs, or the non-toxic Rx for Fleas powder will kill ticks which have ridden into the house on pets or people. Ask for assistance in picking a product for your situation.
4. Routinely check pets and family members after they have been outside. The deer tick is very small; it may look like a pencil point with legs. If you do find a tick on your pet, remove it by grasping the tick as close to the skin as possible and pulling. Wash the affected area where the tick was attached with soap and water and some peroxide; then wash your hands as well.

There is a vaccine for Lyme disease, but its use is controversial. Please feel free to discuss this further with one of our vets.

Lyme disease in people and pets can be treated. Early detection is important. In people the rash is very obvious, in dogs, we are not so lucky. We must wait for signs of illness to develop. You play a vital role in the diagnosis of Lyme disease by knowing when your pet is limping suddenly, or seems to be ill.

## Canine Nutrition

In recent years there has been much interest in nutrition and fitness. The number of pet foods on the market has increased dramatically in the last decade to include every imaginable flavor and formulation. With all of these choices, the big questions still remain- what do I feed my pet, how often, and how much?

Pet foods come in 3 main types; dry/kibble, semi-moist, and canned. Each has its own advantages and drawbacks. Dry food is economical, very convenient to store, and easy to feed. Companies have both large and small kibbles to suit the large and small dogs. The chewing action will help keep teeth clean and the name brand foods are nutritionally complete. Some pets will not eat dry food unless more tasty canned or table food is mixed in or hot water is added.

Some breeds of dog are predisposed to a dangerous condition called bloat. These are the large, deep-chested breeds like German Shepherds, Retrievers, Great Danes, Collies, and even Dachshunds. In this condition, the stomach, often full of a large meal or large amount of water, can swing around inside the dog and twist. These dogs often will have bloated stomachs and retch repeatedly with nothing or foam coming up. This is a life-threatening condition and the veterinarian should be called immediately. Researchers believe a combination of anatomical conformation and exercising with a full stomach predisposes to bloat. Deep-chested dogs should not exercise after meals and their kibble should be soaked prior to feeding so it does not expand within the stomach.

Soft-moist foods (Gaines Burgers, Top Choice, the bits in Kibbles and Bits) are also convenient to store and easy to feed. Though nutritionally complete, they are higher in sugar (and also preservatives and artificial colors) than dry foods, and so appeal more to fussy eaters. The high sugar content also makes them higher in calories, so you would not want to feed these to a diabetic or a dog with a tendency towards being overweight.

Canned foods are the most palatable, being higher in fat, meat products, and water. They are also the most expensive, need refrigeration after opening, and do nothing to help keep your pet's teeth clean. Many canned foods are meant to be mixed with dry foods, and so are not complete and balanced diets - you should read the labels before choosing one to feed as an exclusive diet.

Once you have chosen the type of food, you must then decide on a brand name. Some brands are easily available at the supermarket, and in general the big name brands are best - Purina, Iams, etc. It is in your pet's best interest to steer away from the bargain/generic brands of food. Although they contain the guaranteed percentage of protein, carbohydrates, fats, etc., the quality is the cheapest available and often poorly digestible by your pet. For instance, both a hamburger and a rawhide bone are 100% beef - which one can the dog digest better?

The next step up in dog food is the premium foods, only available at pet stores, veterinarians, or pet food distributors. Some examples of this are Eukanuba, and Science Diet, etc. These brands are often the most digestible (meaning the dog eats less volume of food to get the same amount of nutrition) resulting in fewer stools to clean up. These companies' foods are on a fixed formula recipe, meaning every bag has the same quality and quantity of ingredients as any other bag. This is not true of the supermarket foods, even the name brands where the analysis of the food is the same, but the ingredients may vary a bit. This is usually not a problem unless you have a dog with food allergies or special needs.

Many companies make puppy, adult, high protein, senior, and less active formulas. You need to decide which formulation is best for your dog - be honest! If you have a house pet whose exercise is a few times around the block, adult maintenance is fine. If you hunt your dog, run several miles routinely, or have a show dog under a lot of stress, the high protein formulas are best. Puppies should, of course get puppy food. The only exception to this is giant breed puppies which can develop too fast on some of the high quality puppy foods. Giant breed puppies should be fed large breed puppy food so their bodies can grow at a slower rate. The older dogs (over 8 yrs) who are becoming overweight, should be fed one of the senior foods. If you have a senior dog who is still

active and in good condition, keep him/her on their regular diet. Ideally, your dog should have a thin layer of fat beneath which you can feel the ribs. If this is not the case, a less active diet would be best.

Many companies offer pet vitamins and mineral supplements. If a healthy dog is getting a name brand food, s/he does not need supplements. Vitamins are rarely needed if dog food is the major portion of your dog's diet. If, on the other hand, your dog gets primarily human food, is extremely finicky, or ill, pet vitamins may be in order. There also may be situations where food additives will be prescribed by your veterinarian, for example, pregnant and nursing bitches, dogs with poor coats, or other medical conditions. It is important to remember that the balance of nutrients is just as important as receiving them in the first place. Therefore anything you add to your pet's diet has potential for upsetting the nutritional balance of the diet as a whole. Always check with your veterinarian before adding anything to your dog's diet. This is especially true in growing puppies given calcium supplements; many bone diseases in young dogs might have been avoided if the puppy buyer had followed a veterinarian's advice rather than a product label.

Young puppies should be fed three times a day. At some point around 4-5 months of age, puppies will no longer be eating all three meals well. This is the time to decrease the number of feedings to twice a day. Be sure to use your own judgment, as some puppies will eat anything placed in front of them no matter how old! Adult dogs (greater than one year of age) may be fed once or twice a day; splitting the feedings into two meals is almost always healthier, but is often inconvenient for the owner. The timing of the meal depends purely on your own individual preference and housebreaking schedule.

One of the most difficult things to decide is how much to feed your dog. Most of the time the recommendations on the dog food labels are greatly exaggerated (they would like to sell more food). Each individual dog will have a different food intake requirement based on its age, activity level, and state of health. Basically, your goal is to feed the proper amount to maintain your dog at his/her proper weight. To determine this, rub your hands along his/her chest wall; you should be able to feel the ribs beneath a thin layer of fat. Once you determine the correct weight for your dog, monitor it every few months, and adjust meal sizes as needed.

## YOUR PET'S DENTISTRY

Dogs and cats do not ordinarily suffer from cavities as we do. They do, however, commonly have an accumulation of calculus (tartar) on their teeth. Cats especially react to this bacterial plaque with gingivitis – an inflammation of the gums. This can become severe enough to result not only in discomfort, but also tooth loss, abscesses, and bone infection. If your pet has bad breath, or suffers from gingivitis, we may suggest dentistry.

All dental procedures are performed under general anesthesia. The anesthetic used at **Hickory Veterinary Hospital** is one of the safest known and is commonly used in people. It has minimal suppression of the heart function and pets rapidly go to sleep and awaken. If your pet is 7 years or older, a blood test is done to be sure there are no other medical problems to be aware of before anesthesia. All older pets are also given an intravenous catheter and fluids to further ensure their safety.

Your pet should receive no food or water starting from 10 P.M. on the night before their dentistry. They can arrive in the morning from 7:15 A.M. until 9 A.M. at the hospital. They will have their dentistry that morning and be ready to go home that same day when the effects of the anesthesia have worn off. You will be telephoned when your pet has finished his/her procedure and is waking up.

At **Hickory Veterinary Hospital**, a trained technician and veterinarian perform all dentistry's. The dentistry procedure includes an inspection of all teeth, assessment of disease, cleaning, and polishing.

Dental extraction are sometimes necessary, and an additional charge will be incurred. Agreement for extraction is made prior to the dentistry and if any additional problems occur the pet's owner will be called during the procedure.

Some puppies, especially of the smaller breeds, retain some of their baby teeth. These should be extracted when s/he is neutered to prevent dental disease when s/he gets older. Please mention this to the receptionist if your puppy needs such attention when making a routine spay or neuter appointment.

**Hickory Veterinary Hospital** takes pride in offering your pet the safest and best of the services. The next time you are confronted with your pet's less than sterling breath, consider that a dentistry may be the answer to a healthier mouth, better breath, and a happier pet!

## **OVERCOMING CAR SICKNESS**

By Capt. Arthur J. Haggerty and Carol Benjamin

Car sickness is a form of motion sickness that is caused by excessive, uneven rhythmic motion in a car. Some doctors say this malady is caused by motion's effect on the labyrinths of the inner ear, but many other factors can bring on motion sickness. In humans, smells and odors, physical discomfort, unsanitary conditions, suggestion, and fear can cause car sickness. Fear has a decided effect on the dog. Psychosomatic illnesses in dogs have been well documented in veterinary literature. In severe cases, merely putting a dog in a parked car will cause salivation. Car sickness cannot always be cured in humans, but in dogs it usually can.

The initial manifestation of car sickness in dogs is often an excessive amount of salivation. This is often, but not always, followed by retching and vomiting. The presence of food in the dog's stomach may increase the likelihood of car sickness. Even with only the discomfort of salivation, the dog's appearance would be sickly. He would neither be ready for the show ring nor a visit to Aunt Judy's.

Every ride for the dog should not end up with an inoculation at the veterinarian's office or tedious plucking at the grooming salon. These factors would certainly increase the incidences of psychosomatic car sickness.

The standard method for combating motion sickness in humans is to give Dramamine before the onset of the symptoms. Dramamine will cause extreme drowsiness and is unsatisfactory as a cure for dogs. The show fancier cannot arrive ready to enter his dogs in the ring if they have been given this medication. It is equally unsatisfactory for the average dog owner who wants to make his dog a true part of the family and take him along on outings.

The "sink or swim" method is not the best approach. In this method, you would take the dog out driving until the problem is cured. This is hard on the dog and on the humans who have to clean up after him. The following steps are designed to give dog owners with the car sick dogs a minimum amount of work. Some of the steps can be followed when you are going out in the car anyway. If your dog is responding well, you can skip some steps and proceed more rapidly. It will depend upon how severe the problem is. Proceed when your dog seems blasé with the present step.

### **HOW TO CURE CAR SICKNESS**

- 1) Put your dog in your parked car. Praise him, pet him, reassure him. Make him feel it's a party. Do not start the motor. After a few minutes, take him for a walk and then home. Do this twice a day for a few days.
- 2) Take Fido out to dinner...that is, out of the house and into your car. At his normal feeding time, put him in the car and give him his chow. After a few tries, leave the car and let him eat there alone. Come back, praise him and walk him as soon as he finishes eating. If he won't eat with you gone, take your favorite magazine (Top Dobe) and keep him company. Try this for one week.
- 3) Now put Fido in the car, turn your engine on, make sure the window is cracked so that he has air and talk to him. Tell him "The Three Bears", shut off the motor, and take him out. Always praise him for sitting in the car.
- 4) Increase your warm up – motor on, car parked. Tell him a longer story. Praise and go home.
- 5) Time for a spin. Proceed as above and go for a very short ride. Talk to him, reassure him, praise him when you get home. Do this for a few days.

- 6) Now you can start to take Fido on your short errands. When running out to the drugstore or for the Sunday papers, take him for a ride. When you get to your destination, take him with you. Tell him he's terrific – and drive him home. If he begins to salivate while you're driving, pull over and stop for a few minutes. Then proceed. A nice walk before the trip home will relax him and make it all worthwhile for him as well. He'll look forward to the next journey.
- 7) Continue slowly until you can take him on longer and longer trips.

### **FINAL TIPS**

- Don't feed your dog before you work with him in the car. Except when feeding him IN the car, let him look forward to dinner immediately after the lesson.
- Always leave the window open for enough fresh air but NOT enough for him to jump out.
- As he progresses so that he can go for short runs, take him whenever you can... on chores, for a short visit to friends, for a fill-up at the gas station. Work his rides into your normal routine whenever possible. Happy motoring!

(Reprinted from TOP DOBE magazine (Sept./Oct., 1977) By permission of publishers: TRU-LINE PUBLICATIONS, LTD. )

# **Dog Trainers Dozen on Biting**

## **A TRAINER'S DOZEN TO PREVENT BITING**

by Carol Benjamin

Wouldn't you like to stop an ugly problem before it becomes a vicious habit? Some of these techniques will also work on older dogs that are already biting seriously. Remember this, however: an older dog who has bitten is likely to get more aggressive temporarily before he gives up and becomes the darling you've dreamed of. As a professional trainer, I always feel it's worth a try to stop biting before giving up and putting a dog to sleep. But be prepared, physically and emotionally, for him to come on stronger at first. The rule of thumb is this: you must end up the winner... in each session. If he growls and you correct him, you must continue to correct him until he stops growling at you. If you don't, he will know that you have backed down, and then, my friend, it's all over. With an entrenched biting problem, it might be worth seeking the help of a professional. Following the twelve tips in this article, the problem should never arise in the first place.

### **1. NIP NIPPING IN THE BUD**

Nipping is the forerunner of biting if it goes unchecked. Yes, your puppy is teething and needs to chew. But you don't want him to get the idea that human flesh belongs in his mouth. Even if his nips are "loving" and gentle at first, he's learning a bad lesson. As he grows older, bigger and more aggressive – a natural part of his growing up – his bites will become harder and harder. Play it safe and stop him now while he's small. Try a firm "NO". If he nips again, give him a slap under his chin and say "NO" as you do it. Moderate the force you use to his size. If he's a Maltese, flick your finger under his chin. If your "puppy" is a full blown bully of a Doberman, slap upward with all your might. You're in more danger of breaking than he is, so do it and break a bad habit before it is too late.

### **2. USE YOUR NOODLE – USE HIS LEASH**

The leash is your training equipment and should be respected as such by your dog. He should not chomp on it, play with it or drag it around the house. When training him (you are training, of course!), he learns that when his leash is on, you can make corrections. If your little biter is no longer a puppy but still pint-sized, correct him for nipping or biting by tossing him to the left, the right, and back again using a short leash. Say "NO" as you do it. This will remind him of the shaking he got from his mom when he was a bad puppy, and will convince him of the seriousness of his crime. It's also safer for you, particularly with small dog, than a slap under the chin.

### **3. NEWSPAPERS ARE FOR KINDLING**

Read your Sunday paper and then toss it into the fireplace. Or save it for the Boy Scouts recycling drive. But whatever else you do, don't use a rolled up newspaper to hit your dog. When agitating a dog for protection training, the trainer may use a stick or rag to provoke the dog. Your rolled newspaper can have the same effect. If your dog needs a whack (he may, sometimes), use your hand. Your hand will praise him and it may correct him. But hold off on hitting as much as possible. It is an inappropriate correction for housebreaking and normal disobedience, especially with a puppy. There are softer, better ways that work.

### **4. "NO" AND "OK" WITH FOOD**

Food is sometimes the inspiration for biting problems. In the wild, canine types snarl, growl and bite to defend their portions. But you supply all the chow your darling needs. He doesn't need to defend his bowl and bone. Begin by telling him "OK" whenever he gets something to eat. After a week or so, hold out a dog biscuit and if he tries to take it, tell him "NO". At the point where you get him to resist it and wait, tell

him “OK” and let him have it. Furthermore, praise him for taking it at the right time. Teach him that he cannot have food until he hears the magic work “OK”. Practice with a biscuit or his food dish no more than once a week. Too much fooling with this good exercise can make him crazy. He’ll never know when he can have what he sees or keep what you give him. So an occasional “NO” is in order and a daily “OK” whenever he’s fed or gets a treat.

## **5. “ENOUGH”**

This unusual and subtle command is a winner. “No” means what you are doing is wrong. Never do it again. “Enough” means that what you are doing was OK, but it no longer is. Too complicated for a dog? Not by a long shot. It can be used to stop wildness, excessive barking and roughhousing. It is an excellent tool in biting prevention. It will make your dog look classier than Lassie. Teach it primarily through the tone of your voice. If you need to, physically take hold of your dog and stop him from whatever he’s doing, saying “Enough”. Try it. You’ll love it.

## **6. LIMIT ROUGHHOUSING**

I can’t in good conscience tell you never to roughhouse with your dog. If it turns you on, do it, but not before he learns “enough”, nor before you can sense when it’s time to stop. Rough play should not include your puppy biting your arm, pulling on your clothes, or any form of tug of war. It should never be done by children. Don’t let the kids tease your dog or swing their hands in front of his face. A little sane horseplay is great for dogs and masters. Bud don’t do it to the point where your dog gets carried away and loses his hairy head. That’s when biting can occur. When you play with your dog, play it smart.

## **7. EXPOSURE TO THE WORLD**

If you stayed home all the time, you’d be depressed, bored, and you’d probably go bananas. Your dog won’t show it the way you would, but believe me, he’s bored too. Worse than that, the lack of exposure to the world he lives in makes him afraid. Imagine if one day you went for a walk and everything you saw was strange to you . . . funny things sped by in the street, strange animals of all sizes loomed up before you, you were plunked into the middle of a huge crowd. Some biting problems come from fear. Those that are genetic are another story, but some fear problems come from lack of exposure. Take your pooch for a stroll, out of the yard, off the block, around town. He’s a doll. Why not show him off! He’ll thank you in ways you can’t imagine. He’ll be more sure of himself, less fearful, more poised and confident. You’ll both look forward to these outings.

## **8. APPROPRIATE PRAISE**

Always encourage behavior you want repeated by praising your dog. He’s a simple soul and will respond marvelously to this simple device. Often I’ve seen people try to “calm” an aggressive dog by petting and soft talk – this is inappropriate praise. The results are exactly opposite to what you want. Only praise your dog when you’re sure he’s doing what he should be doing. Use an obedience command such as the down-stay to calm him when he’s wild.

## **9. APPROPRIATE CORRECTION**

Like you, I melt when a soft, furry creature gives me a soulful look with limpid, shining eyes. But yes, I can yank a leash with the best of you, and yes, I can hit a dog in the chops when necessary. I spend a good deal of my time getting jumped on, yanked, nipped, scratched, bumped and even bitten. Once or twice per dog, When your perfect angel pulls your pants, thumps you in the chest, drags you down the street or teethes on your hands, correct him. “No.” said firmly and seriously, works wonders with canines. So does an appropriate whack under the chin (an uppercut) or a good shaking on the leash. If you don’t clearly and strongly correct bad behavior, it will continue. Problems don’t go away by themselves. They get corrected or they grow worse. Your dog’s nature as a pack animal ensures this. Either you’re the boss . . . or he is. So praise him when he’s good and correct him when he isn’t. Here is the key to a well behaved dog who will never become a biter.

## **10. TEACH HIM HIS LIMITS**

If you want the kind of dog who can go anywhere with you, will be trustworthy with children and who will never, never humiliate you by growling at a judge, teach him his limits when he's young. The secret here is to end on a positive note whenever possible. It makes it easier on you and on Fido. No, you can't chew my couch but yes, you can chew your bone. No, you can't relieve yourself indoors but yes, you can outdoors. No, you can't nip my hand but yes, you can gnaw on your toys. Round it out, make it complete. Replace a No No with a resounding Yes Yes. It's a happier, saner way to teach limits than by saying nothing but No all day long.

## **11. THE LONG DOWN-STAY**

Surprised? This command is a lifesaver, a gold mine, a dog's best friend. Many "well trained" dogs are cleverly humoring their proud owners. That's why some dogs who know all the basic commands still become bullies and biters. Their thinking goes like this: "OK, now he wants me to lie down. That was long enough. Now I think I'll go play with the cat." Many owners are so thrilled with the one minute sit-stay and the three minute down that they never get beyond it. Or they are so proud of a down with no distractions that they never work for a down at the National Cat Show. To my mind, a dog that won't stay put where you want him to, when you want him to, and for as long as you want him to is not a trained dog. Build the down-stay so that your dog will do it for one hour. Cruel? I'd love someone to put me on a long down-stay after a hard day's work! If he's bored, he can go to sleep. He probably will. The long down-stay will convince your dog that you are in control. It is a gentle way of getting an important point across. It will serve you well when your dog goes visiting with you, has a long wait at the dog show or is stuck waiting at the vet's on a busy Saturday. It can be the instrument to firm up all the rest of his training. It's the easy dark horse winner of this whole list.

## **12. A STITCH IN TIME**

No surprises here. You could write this paragraph yourself because while you're saying, "he's too cute", or "She's too small", you know better. Don't wait until you have to call in the Marines. Do what's necessary now. Formal obedience work shouldn't begin until your puppy is four months old, six for group training. But sane play, teaching house manners, showing limits and stopping nipping should take place much earlier. A good, clear, loving but unsentimental look at your puppy will tell you what he can absorb and what he can't. Dogs aren't born bad. Given half a chance, your puppy can grow up to be the solid, gentle trustworthy and reliable dog you want. And he'll love you all the more for educating him.

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## DOG OBEDIENCE

Probably the one factor that will most influence your future relationship with your dog is his manners. A well-trained dog is a pleasure to live with; he will happily come when called, walk beside you on a leash instead of pulling you all over town, and will politely greet guests instead of jumping on them. He will bark to warn you of approaching strangers but will not bark all day or night, disturbing the neighborhood. He won't steal food from the coffee table, countertop, or trash can. He will lie quietly in his bed while you are having a dinner party. He will allow you to groom him, clip his nails, and clean his ears. He will be a dog who is invited anywhere because he is so well behaved. He will be the dog who is always welcome at the veterinarian's office because he is a pleasure to examine and treat.

The first step to a well-trained dog is to understand a little about dog behavior. In the wild, dogs are pack animals. In every pack, there is one member who is dominant to all others. When you bring a dog home, your family becomes the pack. It is crucial at this time that you establish yourself to be the dominant one. Under no circumstances should you ever let the dog assume this position. From the time you bring your puppy home, you should teach him that you are the boss. This means that while you are showering him with love and attention, you should also give him gentle guidance to let him know what you expect of him. The most important point to remember is that no dog is a behavior problem when he is 7-8 weeks old. But if you wait until you have a misbehaving six-month old, you'll have your work cut out for you.

The next step is the training itself. The first thing for you to do is to read a good book about puppy training. An excellent choice is Mother Knows Best by Carol Benjamin (Howell Publishers). Your local bookstore should be able to order it for you. In addition, several dog training schools offer Puppy Kindergarten classes for puppies that are 8-16 weeks old. Early socialization begins here, and the new dog owner is helped through the first difficult weeks of dog ownership. Often severe behavior problems can be avoided if they are detected early and nipped in the bud.

The next very important step is formal obedience lessons. No matter how good you may be at teaching basic commands, and even if you have no interest in having your dog learn specific obedience exercises, dog school should be a valuable experience for you both. First of all, your dog will learn how to learn, to listen more, and to pay attention to you. He will do all this with other people and dogs working all around him. In addition, you will have the benefit of a professional dog trainer's experience and expertise, and you'll have all the other students and dogs to compare yourself to.

Choosing a dog school can be like choosing anything else; it is important to select the one that best suits you and your dog. In general, it is a good idea to go and observe before you sign up. Make sure that the class is not too big, and that the instructor is respected and in control. There are several non-profit dog training clubs in this area composed of people who do competitive obedience training as a hobby. Most of these clubs offer beginner's training classes that are taught by a professional dog trainer. These are usually of a high caliber, since the instructors have had to prove themselves to other people who train dogs. In addition, many private trainers offer group classes, individual instruction, and will often train your dog for you if necessary.

## Tattooing and Microchipping Your Dog

Hopefully you will never lose your dog, but it does happen. Just visit your local SPCA. Every pet should have identification on at all times in the form of a collar with ID tag, tattoo, or a microchip implanted under the skin.

All too often, collars or tags can be lost or unworn when a pet becomes lost. A tattoo or microchip provides safe and effective permanent identification for your dog every day of his or her life.

Tattoos are placed on the inner thigh using a personal identification number registered to you and that pet. Most dogs tolerate the process well. All that is required is a call to Judy Kerton at our main telephone number (610-828-3054) for an appointment. The cost is \$35.00 for the tattoo and a separate \$15.00 to register your number with ID Pet. Tattoos can also be done when your dog is neutered (spayed or castrated) on days Mrs. Kerton is at **Hickory Veterinary Hospital**.

The process of microchipping your dog is relatively pain free (a simple injection) and can be done at any office visit. The chip is the size of a grain of rice and lasts for the life of the pet. The **American Kennel Club Companion Animal Recovery (AKC-CAR)** has a 24 hr, 365 days a year 1-800 telephone number to reunite microchipped animals with their owners. The AKC-CAR registers chips from dogs and cats, both mixed and purebred. The local SPCA's are being given universal microchip readers to identify pets, which have been chipped by different companies.

We use the **Home Again system** which provides an antimigration capsule around the microchip to ensure it remains in the area injected for ease of identification by SPCA readers. **Home Again** also maintains their own registry database. You are free to register with the service you prefer.

Please let us know if you are interested in either of these services.

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# PennHip

## Questions and Answers about PennHip

### A New Scientific Method for Early Screening for Canine Hip Dysplasia

**Canine Hip Dysplasia (CHD)** is the most common, heritable orthopedic problem seen in dogs. It affects virtually all breeds of dogs but is especially problematic in large and giant breeds. Clinically, the disease manifests itself in one of two ways:

- 1) a severe form that typically afflicts the younger animal and is usually characterized by marked pain and lameness, or
- 2) a more chronic form with more gradual onset of clinical signs such as mild, intermittent pain, stiffness and restricted range of motion in the hips as the dog ages. In many cases, the chronic form may be clinically silent.

Breeders and veterinarians have long sought a reliable method to determine the likelihood of a dog developing CHD and passing that genetic trait to any offspring. It was generally recognized that the current diagnostic methods of hip evaluation were associated with disappointing progress in reducing the frequency of CHD. In 1983, Dr. Gail Smith, a veterinary orthopedic surgeon and bioengineer from the University of Pennsylvania School of Veterinary Medicine, began to actively research and develop a new scientific method for the early diagnosis of Canine Hip Dysplasia. Research in his laboratory resulted in a diagnostic method capable of estimating the susceptibility for CHD in populations of dogs as young as sixteen weeks. The method has shown distinct advantages over the standard CHD diagnostic method that evaluates dogs at two years or older. The University of Pennsylvania Hip Improvement Program (**PennHip**) was founded as an extension of Dr. Smith's laboratory research. Below are answers to some commonly asked questions about the **PennHip** method.

### What Exactly Is PennHip?

**PennHip** is a scientific method to evaluate a dog for its susceptibility to develop Hip Dysplasia. The radiographic procedure involves a special positioning of the dog so that the dog's "passive hip laxity" can be accurately measured. In simple terms, passive hip laxity refers to the degree of looseness of the hip ball in the hip socket when the dog's muscles are completely relaxed. Research has shown that the degree of passive hip laxity is an important factor in determining susceptibility to develop Degenerative Joint Disease (DJD) later in life. Radiographic evidence of hip DJD, also known as osteoarthritis, is the universally accepted confirmation of CHD. **PennHip** is being marketed by International Canine Genetics, Inc. (ICG) of Malvern, PA.

### How Was PennHip Developed?

The development of **PennHip** has involved multiple disciplines including biomechanics, orthopedics, clinical medicine, radiology, epidemiology, and population genetics. The first phase of development involved sophisticated biomechanical testing to determine the optimal patient position for measuring hip laxity. By monitoring passive hip laxity in dogs as they matured, it was discovered that hip laxity was the primary factor in the development of the DJD characteristic of CHD. The radiographic expression of DJD was statistically significantly correlated with the degree of measured passive hip laxity. In addition, the CHD prediction was shown to be acceptably accurate in populations of puppies as young as sixteen weeks of age. Moreover the correlation between passive hip laxity and subsequent hip DJD was shown to increase over the four-month figures when hips were evaluated at six months and twelve months of age. In the same studies, it was shown that there was no statistically significant correlation between laxity and DJD

when the standard hip extended view was used. In addition, no other method used to evaluate for CHD has undergone similar rigorous testing through controlled scientific studies to determine diagnostic accuracy.

## **Orthopedic Foundation for Animals (OFA)**

OFA is another way of evaluating hips for breeding purposes. This also involves taking x-rays of the dog's hips under anesthesia. The films are then sent to be evaluated by the OFA. The hips are given grades based on the way the hip joint fits together and the amount of DJD present. Dogs must be at least 2 years old to be certified with OFA. In general, the **PennHip** evaluation gives a better overall evaluation of the hips, but because it is a newer method, some people prefer OFA for reasons of familiarity.

## **How Does PennHip Differ from Evaluation Methods Which Use the Hip Extended Position (OFA)?**

**PennHip** differs in some very fundamental and important ways. First, **PennHip** was developed and tested following strict scientific protocol and the results of these studies have been published (and continue to be) in peer-reviewed, scientific journals. More than a decade of research and analysis has produced a body of information in support of **PennHip**'s effectiveness. As with all diagnostic tests, **PennHip**'s accuracy is not 100 percent, but in direct comparisons it is far superior to any other available diagnostic method. Second, passive hip laxity is objectively measured and the resulting *Hip Evaluation Report* is not issued in a pass/fail framework. **PennHip** specifically measures passive joint laxity and includes the quantitative measurement in its report. Based on the degree of laxity, the individual dog is then ranked relative to other members of the same breed. (Note: Breed specific rankings are given when there are twenty or more evaluations. If there are fewer than twenty evaluations - ranking is made to the general dog population.) For example, a dog receiving a ranking in the 70<sup>th</sup> percentile means that thirty percent of its breed members have hips that are tighter. This allows breeders to easily identify those animals with tighter hips within each breed. As shown in our studies, dogs with tighter hips are less likely to develop CHD and pass that genetic tendency on to future generations. Third, because **PennHip** is measuring maximal passive hip laxity, the position of the patient is very different from the hip-extended position. The hip-extended position has been used for more than thirty years to screen hips for either DJD, laxity or both. Laboratory studies, however, have indicated wide diagnostic variability among radiologists in interpreting this view. Further, through biomechanical testing, the hip-extended view was found to mask the underlying true joint laxity and through direct comparison, the predictive value for CHD was shown to be inferior to the **PennHip** procedure. Most importantly, the heritability of the diseased phenotype scored in the hip-extended view has not been studied in most breeds of dogs. A knowledge of heritability is critical to determine whether selection pressure will produce genetic change. Estimates for the heritability of passive hip laxity drawn from analysis of full pedigrees for the breeds examined thus far in the studies show high values (for German Shepherd Dogs, heritability=0.61). Fourth, the **PennHip** method is based on strict quality control. To take **PennHip** radiographs, veterinarians must undergo training and a certification process to demonstrate competency. The data generated from **PennHip** undergoes regular review and statistical analysis so that useful information, by breed, is available to judge progress toward reducing CHD. For optimal validity, it is mandatory that all **PennHip** radiographs be submitted for analysis and inclusion in the **PennHip** database. This policy eliminates the practice of prescreening radiographs and sending only the best for evaluation, resulting in biased hip data for any given breed.

## **What Happens to My Dog During a PennHip Evaluation?**

To obtain diagnostic radiographs, it is important that the patient and the surrounding hip musculature be completely relaxed. For the comfort and safety of the animal, this requires sedation, however, some veterinarians prefer general anesthesia. Typically, three separate radiographs are made during an evaluation. The first is a compression view where the femurs are positioned in a neutral, stance-phase orientation and the femoral heads are pushed fully into the sockets. This helps show the true depth of the hip socket and gives an indication of the "fit" of the ball in the socket. The second radiograph is the distraction view. Again, the hips are positioned in a neutral orientation and a special positioning device is used to apply a harmless force to cause the hips to displace laterally. This position is the most accurate and

sensitive for showing the degree of passive laxity. Passive laxity has been shown to correlate with the susceptibility to develop DJD. A hip extended view is also included for the sole purpose of examining for any existing joint disease such as osteoarthritis. The **PennHip** procedure has been safely performed on thousands of patients.

### **What Is the Cost of Having My Dog Evaluated?**

The total fee for a **PennHip** evaluation is determined by the veterinarian providing the service. It is important to remember that the total service includes sedation/anesthesia, three radiographs, office consultation and all charges associated with mailing and film evaluation. You will not find it necessary to write a separate check for evaluation fees or mail your dog's films. The veterinarian performing the procedure is responsible for payment and film submission. The film evaluation charge (currently \$25.00) will be included in the total cost of a **PennHip** evaluation.

### **Is PennHip Going to Replace Other Commercially Available Systems?**

As technology advances, the veterinary professional community will offer and utilize improved methods of disease diagnosis. The dog breeding community will also endorse those methods that help them achieve their goals of reducing the frequency of hip dysplasia in dogs while maintaining other desirable traits and features. The **PennHip** technology and research have been, and will continue to be, fully presented to the veterinary medical community for its review. **PennHip** has been received enthusiastically as a major step toward reducing the frequency of CHD. We encourage and welcome continued scientific examination and comparison of **PennHip** to any available or new methods of canine hip dysplasia diagnosis.

### **Will AKC and Other Breed Registration Organizations “Recognize” PennHip?**

ICG is working with many organizations to present the **PennHip** technology and the positive impact it holds for reducing Canine Hip Dysplasia. It is conceivable that at some point a **PennHip** reference might be included as part of the dog's registry information. However, all hip evaluation reports are considered confidential medical information and are released only to the **PennHip** veterinarian and the owner of the dog (unless the owner requests otherwise).

### **How Does This Benefit Me as an Owner or Breeder of Dogs?**

Scientific data confirms that the **PennHip** method surpasses other diagnostic methods in the ability to accurately predict susceptibility to developing CHD. The method can be performed on dogs as young as sixteen weeks of age compared with two years using the standard technique. The ability to receive an early estimate of a dog's hip integrity is important whether the dog's intended purpose will be for breeding, for working or as a family pet. The data generated by **PennHip** will allow breeders to confidently identify the members of their breeding stock with the tightest hips. The **PennHip** interpretation will also permit breeders to assess the progress they are making with their breeding program as they strive to reduce the amount of hip laxity in their dogs. Pet owners are able to assess their pet's risk of developing CHD, and make lifestyle adjustments for their dog, if necessary, to enhance the quality of their pet's life.

## **How Can I Get the Name of a PennHip Veterinarian or Get Answers to Additional Questions?**

**PennHip** procedure can be performed at **Hickory Veterinary Hospital** by one of our trained veterinarians.

To obtain the name of a veterinarian near you, who is trained and certified to perform the **PennHip** procedure, call ICG at 1-800-248-8099. If there is not a veterinarian near you presently, additional veterinarians are being trained throughout the country. If your veterinarian would like to learn more about **PennHip**, please have him/her contact ICG directly.

(The above information on PennHip procedure is courtesy of International Canine Genetics, Inc. (ICG) of Malvern, PA.)

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## **BLOOD TYPING YOUR DOG AND THE CANINE BLOOD DRIVES**

The demand for blood transfusions in companion animals has risen dramatically. Specialties such as emergency medicine and surgery have demanded increased knowledge and usage of veterinary blood transfusion medicine. These blood transfusions mean the difference in saving the life of an anemic animal or a bleeding patient.

### **WHAT IS BLOOD?**

Blood is comprised of a liquid portion, plasma, and a cellular portion containing red blood cells, white blood cells, and platelets. These cells are made in the bone marrow and are then released into circulation into the plasma. The plasma acts as the carrier of the cells and important proteins such as clotting factors and albumin.

### **WHAT IS A BLOOD TRANSFUSION?**

A blood transfusion, like in humans, is a simple form of transplantation. Blood containing oxygen-carrying red cells, clotting proteins and platelets is transfused from donor to patient to temporarily correct a deficiency or dysfunctions.

### **WHY BLOOD TYPE YOUR DOG?**

Dogs have eight different blood groups, however, only one type (DEA 1.1) appears to be important regarding compatibility when transfusing a dog. The blood type DEA 1.1 negative is considered universal and dogs with this blood type may donate blood for transfusions. The donor and the recipient of blood products must be blood typed and/or crossmatched to ensure compatible transfusions and to avoid adverse transfusion reactions. We, at **Hickory Veterinary Hospital**, encourage all pet owners to blood type their dog earlier on. It is merely a two-minute test performed in our hospital that will verify your dog's blood type. If your dog is ever in a life threatening condition, knowing your pet's blood type can save valuable time.

### **CRITERIA TO BEING A CANINE BLOOD DONOR**

Healthy dogs between the ages of one and ten years that are a minimum of fifty pounds can be potential donors. These volunteers must be in good health, current on vaccines, not in estrus, and presently not on any medication other than heartworm preventative. Screening for transmissible diseases as well as blood type is necessary. Prior to donation, your dog will be blood typed and if determined to be a universal donor (Blood type DEA 1.1 negative) your dog will be accepted into the donor program. Specific disease screening for tick titers, and heartworm, complimented by a complete hemogram and biochemical screen will be performed by the PABB annually.

If you are interested in getting your animal blood typed and/or want to know more about the canine blood drives, please speak with our knowledgeable staff. We will gladly discuss the program with you.

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## HOUSE CALLS

Hickory Veterinary Hospital is pleased to offer a **House Call** service to our clients.

If one or more of the following apply, you may benefit from this service.

- Multiple pets
- A timid pet
- Dogs or cats that suffer from car sickness
- A busy schedule
- Lack of transportation

House Calls and Pet Pick-Up service are available by appointment only during most business hours.

Call **610-828-3054** to schedule your appointment!

### **Fee Schedule:**

#### **Visit fee:**

- within 5 mile radius: Call for current prices.
- 5 to 10 mile radius: Call for current prices.
- 10 to 15 mile radius: Call for current prices.

#### **Additional Charges for:**

- Office visit, vaccinations, lab tests, medications, and etc.



Have fun with your NEW PUPPY!!!