

Chapter 1

The Toy Neonate

If you think the Toy dog is small when he's full-grown, think about how tiny he is when he's first born. Breeding these fragile, palm-size handfuls of life is best left to experienced, responsible breeders, because the tiny size that makes them so irresistible also makes them so vulnerable. Breeding small dogs can often be heartbreaking.

Toy mothers usually have very small litters, and that presents its own set of problems. Puppies need other puppies to keep themselves warm and calm—and later to play and socialize with. Singleton pups are usually given a stuffed animal to cuddle with as a substitute littermate, but the pup's breeder must also work extra hard to socialize an only puppy.

Caring for the New Puppy

The newborn Toy weighs mere ounces. Their very small size means it's more difficult even for a veterinarian to treat them than to care for a larger breed pup who may weigh a pound. Weight is a factor in other ways, too. If a fourteen-ounce puppy begins to lose weight, it can certainly be serious but not immediately life-threatening. Toy puppies, however, don't have much extra weight to lose, and they dehydrate rapidly. A pup who is failing to thrive, or one



Cavalier King Charles Spaniels

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with fading puppy syndrome who is rapidly losing weight, doesn't have the extra ounces he needs to struggle back. Toys simply don't have the reserves that larger puppies have.

Responsible breeders are extremely vigilant with tiny puppies. Since weight gains are slight in small dogs, the breeder must set up a weighing program to check whether the puppies are growing sufficiently. One veterinary neonate expert recommends weighing Toy pups each day during the first week of life, every other day during the second week of life, three times a week during the third week, and two or three times a week thereafter. Weighing is the most sensitive indicator of how the young puppy is doing.

Although weighing is very important and should never be bypassed, experienced breeders can tell when puppies are failing to thrive just by handling them. Even though two pups may be the same size, when the puppies are in the breeder's hands, the one who isn't doing well will feel much lighter. This is one of many reasons why Toy puppies should be handled while they're in the nest.

They should, in fact, receive a great deal of gentle handling from the day they're born, from a variety of family members, so that they will learn the smell and feel of human hands and realize there are many differences among people. Generally, puppies who have had to be hand-raised and hand-fed are more people-oriented than those raised by their mothers who received little handling.

It's important to note, though, that hand-raised pups can grow more aggressive as they are weaned because mothers inhibit forceful sucking earlier than humans do when hand-raising. Humans inadvertently encourage a lack of self-control, so the dog is more likely to learn an inappropriate behavior of pulling and biting to get what he wants. The point is that puppies need a combination of both the mother's and the breeder's attention.

But if the mother falls ill or dies, the total responsibility for round-the-clock feeding (usually every two hours) and caring for these tiny scraps of life will fall to the breeder.

Problems Nursing

No two litters are alike, so it's always wise to expect the unexpected. Anticipating problems is part and parcel of breeding small dogs. The experience of knowing what's normal, what looks normal, and what feels normal is invaluable. There are general rules but not all puppies will follow them, so the breeder must use common sense.

For example, when the puppy is nursing, the breeder must be able to tell if he is actually getting nourishment or simply going through the motions. Sometimes a puppy is born with one or more physical defects that make it impossible for the pup to thrive. Because Toys are so small, it isn't easy to pry open the mouth of a three- or four-ounce neonate to see if he has a cleft palate. It requires good lighting, and probably an extra pair of hands holding a flashlight, to peer into that tiny mouth and look very carefully, because any defect is very difficult to see.

The really thriving puppy is robust, and is in constant motion. Invariably, when nursing, thriving puppies will go to the rear nipples where there's more room, will be aggressive in their nursing activity, and will grow very rapidly. The pup who is not as robust wastes a lot of time, takes forever to find the nipple, doesn't seem to nurse at a steady rate, and seems to fall behind the other littermates.

If a pup is being pushed aside by his littermates and doesn't have an opportunity to nurse, he will lose weight and lose ground. Often these puppies require supplemental



Cavalier King Charles Spaniels

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feeding with an eyedropper, bottle, or feeding tube. This, however, can create its own problems, such as aspiration pneumonia from inhaling milk into the lungs.

Care is needed with supplementation because many commercial puppy formulas tend to cause loose stools and don't provide enough calories for a small dog. One of the oldest tricks used by breeders is to supplement the formula with goat's milk because it's well tolerated by puppies with weakened stomachs.

Another old trick used by breeders during the first two or three days is to give a weaker puppy, and sometimes the mother, a few drops of "raw liver juice," the bloody liquid from raw liver. It contains erythrocyte (red blood cell) maturing factors, which the pups are lacking.

Low Blood Sugar

Toy puppies are predisposed to low blood sugar (hypoglycemia) and can go downhill with incredible speed. That's because tiny puppies, especially Toys, don't have a lot of fat stores and their liver isn't geared up to make glucose easily yet, simply because of their age. The classic signs of hypoglycemia are weakness and a drunken-type gait. If it gets progressively worse, the puppies will fall over and have small seizures.

Hypoglycemia is highly treatable; the key is recognizing it. The treatment is fairly easy: If the animal isn't conscious and can't eat, the next best thing is to lift up his lip and put sugar water, Karo syrup, or something similar right on his gums. It will be rapidly absorbed into the bloodstream. Feed the puppy once he's up. A veterinarian would give the puppy dextrose intravenously and then make sure he starts eating.

Hypoglycemia, while always serious, only becomes life-threatening when owners and breeders aren't paying attention to their dogs; the puppy's in trouble, they go off to work, and the pup can be dead by the time they get home. Or the blood sugar drops so low that brain metabolism is impaired, and there is irreparable damage. Is it any wonder that responsible Toy breeders are so vigilant with their pups?

A Healthy Environment

Breeders change their clothes and remove their shoes when they come home so they won't carry any germs to the puppies. Everything gets scrubbed and disinfected because sometimes puppies will pick up a viral infection.

The puppies must also be kept warm, because neonates can't regulate their own body temperature. Pups are kept in a small area so they can't crawl too far from their mother and get chilled. If a Toy puppy gets chilled, he can die, and these little ones shiver more because they're more often cold. To add a little warmth for the first two or three days, many breeders will put a heating pad underneath one corner of the whelping box. (The heating pad, however, must not be allowed to overheat and burn the puppies.) This allows the pups to move to another corner if they get too warm (this can be just as dangerous as getting too cold). Some breeders cover most of the whelping box with a blanket, as well.

A sick or injured pup can be wrapped in a blanket to keep him warm. When he is chilled, protective reflexes such as breathing may stop, since a pup's brain center is not fully

developed yet. Consequently, the breeder will have to know how to administer mouth-to-nose resuscitation.

Vaccines

Although puppy shots may seem like a routine procedure, in fact more and more controversy has been stirring up around vaccinations for all animals. Vaccines prevent deadly diseases, but they can also create problems. Occasionally puppies will have an allergic reaction to either their first or second vaccination, and pups have reportedly died after combination vaccinations. Sometimes the pup will get through the first shot just fine, but his face or paws will swell up after the second. This has led some breeders to insist upon giving the parvovirus shot separately from the combination that includes kennel cough, hepatitis, leptospirosis, and distemper.

But there's further concern regarding the combination vaccines. Vaccination schedules for both dogs and cats have been revised after extensive reviews by the American Animal Hospital Association and the American Veterinary Medical Association. These groups have concluded that vaccinations should be geared to the dog, the owner's lifestyle, and the place where they live, which will affect a puppy's exposure to various diseases. Rabies vaccine is required by law in the United States.

There are a lot of factors to weigh when you are trying to assess the risk of giving any vaccine. Whenever you immunize a dog or a cat, the animal, the vaccinating agent, and the environment all play a role in how the animal will respond. A vaccine may fail to immunize an individual animal because maternal antibodies are still present in his body. There are also genetic and health reasons why a vaccine may fail or even be dangerous. For example, the animal may be sick, and a sick dog doesn't respond as well to vaccination as a healthy one.

Then there's the animal's environment. If a dog is in a high-stress environment—for example, in a shelter where the volume of infectious agents is high—he can still become infected even after being vaccinated and immunized. Immunization can be overwhelmed by high concentrations of an organism.

As for the vaccine agent itself, is it a modified live virus or a killed virus vaccine? Is it a bacterin? Newest are the recombinant vaccines. Created from the organism's DNA, these don't require an adjuvant to activate them. All these factors affect the efficacy, and the

safety, of any vaccine. There are many other questions, as well, about how virulent the organism is and how the vaccine is prepared. All of these things are basically determined by the manufacturer of the vaccine.

For all these reasons, all vaccines should be decided with your veterinarian on a case-by-case basis, after careful discussion.

Leptospirosis

A major question in the vaccine debate concerns leptospirosis, a highly contagious disease that attacks the kidneys. Leptospirosis is a unique kind of bacterin similar to the spirochete organisms that cause Lyme disease and syphilis.

Because a killed leptospiro organism is used in the vaccine, it needs something to boost its immunizing power. To do this, a protein, usually called an adjuvant, is added to the vaccine. The adjuvant is extremely inflammatory and immunogenic—biochemically it can be toxic when given to a small dog. Very likely it's this adjuvant that's causing the problem with the lepto vaccine in small breeds.

In the United States the lepto vaccine is usually given as part of a combination to protect against distemper, adenovirus (hepatitis), parvovirus, and parainfluenza. In the old combination shot, the lepto vaccine comes in a liquid form and is mixed with freeze-dried forms of the other vaccines. It's a matter of convenience that veterinarians use it and breeders buy it that way; half the dosage is lepto plus diluent, the other half contains all of the freeze-dried material. To give the shot you have to use all the diluent, administering a whopping dose of adjuvant to the small dog. And while the little dog needs as much of the actual organism to protect against the virus as the big dog, all that adjuvant can be dangerous. The smaller the breed, the greater the risk.

If a small dog has a reaction to the leptospirosis vaccine, he will usually collapse within twenty minutes after getting the shot and go into allergic shock, called anaphylaxis. Unfortunately, this is usually when the dog and owner are in the car, headed home in traffic. The dog might recover on his own or he might not—it depends on the individual.

The recommendation of Dr. Richard Ford, a professor of Medicine at North Carolina State University's College of Veterinary Medicine, is to either skip the leptospirosis vaccine or to use saline to dilute it for the small breeds. Although Ford says he would not be concerned

about the vaccine if the adjuvant were not present, vaccines using killed organisms don't work very well without adjuvants.

So what is the risk of not using the vaccine? Actually, it's not all that great. Leptospirosis is spread via the urine of infected animals, usually wild animals. Certainly, urban dogs have a lower risk of contracting it.

In addition, there are more than two hundred serotypes of leptospirosis, yet veterinarians vaccinate for only a few of them. Half of the lepto cases in the United States are caused by serotypes for which veterinarians don't even vaccinate, and the duration of immunity probably isn't more than three or four months.

When considering environmental factors and leptospirosis, think about whether the dog is likely to be exposed to stagnant water, rodent urine, or wild animal urine. These are not common exposures for Toy breeds, which is why not many Toy dogs are seen with leptospirosis.

In cases where Ford would choose to give the vaccine, as a general guideline he would not administer it until the dog is older than 4 months. But all the variables discussed previously affect any risk assessment, which is why general veterinary guidelines are not always best for an individual animal. There are some animals who have minimal risk and would do just fine never being vaccinated; there are others who certainly should be vaccinated.

Occasionally, there are concentrated outbreaks of leptospirosis. This might be of some concern to the owner of a show dog or a show prospect puppy. Because lepto is transmitted from the urine of an infected dog through the mouth or broken skin of the susceptible dog, it's highly transmissible. With literally hundreds of thousands of organisms excreted in the urine of an infected dog, there's a very good opportunity for dogs who are infected to transmit it to other dogs, which is why veterinarians will suddenly see many cases where there hadn't been any. Such outbreaks are frequently transient. They are also generally not among show dogs who are well cared for and spend their lives predominantly indoors.

Most of the cases that are dealt with in an isolated outbreak are likely caused by a serotype for which the dogs are not being vaccinated, so there's probably very little value in rushing to immunize a dog, even if a few cases break out in your area.

Dogs are at risk of getting leptospirosis if they're kenneled outside, if they go on regular walks in the woods, or if they have access to stagnant water, rodents, and other dogs' urine that might be infected. For the show dog owner who would like to take added precautions,

it might be wise to avoid public exercise pens. Even though the risk is minimal, there's no harm in being cautious.

Other Vaccination Issues

You may be surprised to learn that very little research has been done on how long immunity lasts after any single vaccine. While annual vaccinations were long the default, nobody actually knows if dogs need yearly booster shots. Ford doesn't think it's right to vaccinate dogs for distemper every year because there's too much data that shows they're immune for at least three or four years following a single dose at 16 weeks of age. There is also some evidence that rabies immunizations are good for at least two or three years.

Another vaccination issue is who gives the shots. While the average pet owner is strongly advised to leave this to their veterinarian, experienced breeders can and often do vaccinate their own dogs. However, it must be done correctly or the dog will be in trouble.

Correctly means the right timing between all the puppy shots, plus the right technique in giving the injection, plus handling the serum correctly so that it does not spoil or lose its potency.

Vaccinations are recommended three to four weeks apart during the puppy series. Puppies only need to be vaccinated three times. The new vaccines have all been modified, and the veterinarian can stop giving them when the puppies are about 12 weeks old. Under absolutely no circumstances should a pup be vaccinated closer than two weeks apart, because the risk of an adverse reaction (also known as an adverse event) is significantly higher when you do.

Building the Bond

One veterinarian noticed in his practice that small dogs seem less opportunistic with their owners and more protective of them than other dogs. The Toys also seem to form unique bonds with their owners, while the bigger dogs seem more amenable to living with whoever will take care of them. This may come about as a result of the greater dependency small dogs have on their owners because of their size; while larger dogs might feel more capable

and self-reliant, small dogs always need the specific humans they have come to love and trust.

Small dogs go through the same developmental processes as other dogs, but they seem to be a little bit slower in their development, which is why they need so much more attention during the growth period. Breeders have observed, for example, that the motor skills of small dogs develop later than those of larger breed pups. On the other hand, small dogs tend to live longer than the giant breeds and to age slowly and gracefully—as opposed to larger dogs, who have a shorter middle age and tend to go downhill very fast.

There's no question that Toy puppies should go to their new homes at a later age. According to one veterinary expert, the longer you can wait to place a puppy in his new home, the better off the puppy is, as long as he's being handled daily.

Handling Toy puppies right from the start, when they're less than a day old, not only enables them to get used to human touch early on, but also builds the bond of trust between dog and human. This is the start of socialization.

As an adult, the well-socialized female raising litters of puppies will be a better mother and her puppies will readily accept being handled because they learn about that from their mother. It's not critical to handle the neonate pups for very long; very gently picking them up and putting them back down will be adequate in those first days. But it's extremely important to start handling them early and progressively increasing the time as they grow older. Dogs socialized this way are happier. You can see the spark in their eye, they'll prance when they run, they won't be snappy, and they won't try to bite people. They're so used to being handled that it's a normal, natural part of their lives.

A puppy sitting winsomely in a pet store cage, raised in a commercial breeding facility, and shipped to the store right after weaning, is unlikely to ever have experienced this early human contact. Consequently, he is unlikely to relate to humans in the same way as a dog who has had an early introduction to the human-animal bond.

The Start of Housetraining

Small dogs are notoriously difficult to housetrain, which is why I've devoted chapter 4 entirely to this subject. But the process can and should begin with very young pups, so we'll get started here.

Initially, breeders start housetraining their puppies by setting up their sleeping place in two sections: one with disposable bed pads or papers and the other with a soft towel or blanket. (Care must be taken, because puppies can injure or bury themselves in loose towels or blankets. They'll also wrap shredded edges of towels around themselves and choke.) Most puppies will begin to houstrain naturally when they're given a space that's big enough to move away from their sleeping area, because dogs naturally do not want to soil their nest. This is the true beginning of housetraining.

Puppies should not be allowed to sit or sleep in their own waste matter. When puppies are commercially raised in cages or by inexperienced pet owners, and are not given the opportunity to move to another area to avoid soiling their nest, they are likely to be more difficult to houstrain because they haven't had the opportunity to stay clean. Sadly, puppies raised under those conditions only learn to go on the paper, sleep on the paper, and live on the paper. They have no frame of reference for cleanliness.

Many Toy breeders believe the introduction to housetraining should start when the puppies are 3 weeks old. This is when Toy puppies are beginning to get their legs under them and are physically able to move to a separate potty area. It's also when the puppies are developing the instinct to relieve themselves away from the nest. Some breeders say if you don't start this process at the critical age of 3 weeks, housetraining will not be as easy when the puppy is older and the real housetraining process begins.

One thing is certain: When a puppy is ready to be housetrained, you will have to remember that he is a dog like any other. Many Toy dog owners don't seriously houstrain because they're not as upset by the small output from a small dog. They'd be a lot more likely to get down to serious business with the pup if he were a Great Dane leaving large piles and pools of waste around the house. But if you don't take the business of housetraining seriously, you'll always be finding upsetting accidents that can only end up making you angry at your dog—although you'll really have no one to blame but yourself.

More Socialization

All dogs benefit from thorough socialization, but the Toys fairly blossom. To facilitate the process, Toy breeders often move the puppy playpen to either the family room or the kitchen when the pups are 2 or 3 weeks old. This enables the pups to see a maximum

number of people. Most of those passing through the room will usually stop and talk to the pups and give them an extra loving pat, which gives the puppies added confidence around people. The sights, sounds, and smells of a more active area of the house will also stimulate these puppies socially and increase their sensory awareness.

It's important to spend as much time as possible with the puppies once they're on their feet. They need a lot of socializing from the twenty-first through the forty-fifth day, which seems to be a crucial time for socializing small dogs. Everything they see and do as puppies will remain with them for the rest of their lives, and it is imperative to make sure their experiences are positive.

Puppies should be raised to expect the unexpected. Virtually everything should seem normal and nothing should be terribly startling. If the household isn't noisy, then a radio or



Yorkshire Terriers

Courtesy of Linda Grimm

television should be playing so the puppy will experience various sounds. If the puppy is raised in a very quiet household and someone makes a loud noise when he's older or when he moves to his new home, the puppy will leap back because he is so startled. Small dogs should learn to calmly experience all phases of typical household life, and their senses should be stimulated as they begin to get up and walk away from the nest.

It's important to introduce them to a lot of different things, including contrasting colors and people of all shapes and sizes, to enable each puppy to develop into an outgoing dog who will see new things as exciting and want to explore them. For example, if the pup doesn't usually see people with beards or glasses, introduce him to someone who looks like that, even if you have to ask someone to wear a false beard or put on a pair of eyeglasses.

If the puppy is afraid of someone with a beard, rather than encouraging the pup to approach that person, go up and talk to the person yourself if you know him, perhaps pat the person and let the puppy see that you're not coming to any harm. Ignore the pup until he thinks this looks interesting and goes over to inspect the individual himself. The pup can be given a small food reward when he approaches the person.

While much of this socialization can be done by a puppy's new owner if the dog is a larger breed, with Toy dogs the responsibility falls to the breeder, because the Toys leave home so much later. The first 12 weeks of a puppy's life are considered a crucial socialization period, and all those weeks should be spent with the breeder.

In fact, research now shows that puppies of all sizes should, ideally, remain with mom and littermates until they're 12 weeks old. But the breeder must do the proper socialization during this time. If they don't, the puppy will never be as socially adept and as good a companion as he could be. Puppies who are not properly socialized can turn into fear biters later on in life. Additionally, the mother has much to teach her puppies when she is around to interact with them for a longer period of time. She will often initiate play and will teach them the intricacies of canine body language—skills they practice with their littermates.

Problems experienced in puppyhood can suddenly rear their heads once more in the adult or geriatric dog. A condition such as geriatric-onset separation anxiety can seemingly come from nowhere, yet just as a human may flash back to childhood, an elderly dog can develop an unwanted behavior from a negative early-age experience. The well-socialized puppy is on his way to becoming a well-socialized, well-adjusted adult.