



RABBIT CARE

Rabbits are intelligent, social animals, which can make affectionate and rewarding pets. They are quiet and most active in the early morning and evening (crepuscular behavior). Domestic rabbits differ little from their wild counterparts with respect to their behavior, social and dietary needs. Rabbits are a prey species and this should be kept in mind when trying to understand their behavior and care requirements. Many of the medical problems for which rabbits are routinely presented to a veterinarian are related to the way in which they are housed and fed.

INTERESTING RABBIT FACTS

- Rabbits are lagomorphs, not rodents. The primary anatomical distinction is that rabbits have a second row of “peg teeth” behind the upper incisors.
- The rabbits we keep as pets descend from the wild European rabbit and except in their outward appearance, have changed so little, that they are members of the same species, *Oryctolagus cuniculus*. The Latin name may be translated as “hare-like digger of underground passages”.
- The Romans kept rabbits in captivity, in walled enclosures called *leporaria*.
- Rabbits were brought to Britain by the Normans, and their presence is recorded in 1176. As early as the sixth century, efforts were made to select breeding stock for size and color.
- the modern rabbit comes in a variety of shapes and sizes, from the Flemish Giant (which may weigh 10 kg/22 lbs), to the Polish Dwarf (which weighs less than 1 kg/2.2 lbs). Ears range from the stubby upright, through the wild type upright, to the lop and English lop, who trail several centimeters of ear on the ground. Many of these extreme physical types experience disease conditions attributable entirely to the physical characteristics for which we have bred them.
- a female rabbit is a “doe”, a male is a “buck” and the young are called “kits”.
- sexual maturity is reached at 5-12 months. Please note that the rabbit’s reputation is well deserved, and the onset of sexual maturity is not to be depended upon.
- gestation (pregnancy) is 29-35 days, and does are able to conceive within 24 hours of giving birth.
- litter size is usually 4-12. To protect her young in the wild, the doe hides them, returning to the nest perhaps just once a day until the young are weaned. She needs to nurse them for just 3-5 minutes at that time, and they wean in 4-6 weeks. Most “orphaned” baby rabbits have not been abandoned, and excessive hand feeding is a common cause of death.
- life expectancy has increased dramatically in recent years, as our knowledge of rabbit medicine and nutrition have improved. Although 6-8 years may be average, 12-year old rabbits are increasingly common.



HOUSING

Rabbits can live happily in commercial wire or plastic cages, or in a homemade hutch. It is also possible to “rabbit proof” a room or part of a room, to use as an enclosure. Wire bottomed cages should not have holes small enough to allow feet to slip through or become trapped. Wire bottomed cages offer the advantage of allowing droppings and urine to fall into a tray. Spending all his cage time on a wire floor however, will predispose the rabbit to formation of sores on his feet, and so a section of the floor should be covered by a wooden platform or thick bed of hay. An aquarium is not recommended, as ventilation is poor. The cage should not be in direct sunlight.

The absolute minimum dimensions of an enclosure should allow the rabbit to stand, raised on his hind legs, to take three hops in one direction and to stretch out his full length. A larger enclosure is always best, and those designed with two levels, joined by a ramp can maximize available space. The more time a rabbit spends in his cage, the more room he should have. Similarly, rabbits kept in pairs or groups require more space.

There should be two areas in the cage; one in which to eat and play and a more private area, in which to sleep. “Bolt holes” or hide boxes are recommended. These mimic the protective nature of the burrow in the wild and provide a sense of security as well as privacy, which every animal sometimes needs. There should be as many private areas as there are rabbits in the group. Tunnels and toys are welcome additions to the environment.

Outdoor rabbits have all the requirements of the indoor bunny, but in addition, the hutch must be protected from the elements. It should be in a sheltered spot, water and wind proof while permitting ventilation. It should be well shaded, and secure from predators. Provide lots of bedding. Water should be checked at least twice daily in the winter for freezing. Even in colder climates, given a well-insulated hutch and lots of bedding, rabbits will do well kept out of doors. The hutch must be easily accessed for cleaning and feeding.

No matter the temperature, rabbits need exercise. They also need companionship and require regular attention to maintain a bond with the owner. Rabbits acclimated to the outdoor cannot be brought in to a warm house, which might be 20 C above the outside temperature. With a thick fur coat, and being unable to sweat, the rabbit is unable to tolerate significant or sudden temperature fluctuations. It is especially important to check outdoor animals regularly, as health problems may otherwise go unnoticed. Twice daily, the rabbits’ food consumption, droppings, appearance and general well-being should be assessed. See below for signs of health and disease.



Newspaper, including processed or pelleted type paper substrates can be used as bedding. Straw and hay also work well, and provide good digging opportunities. Corncob and wood shavings, especially pine and cedar are not recommended. Cat litter, if used, should be non-dusty, non-clumping and confined to a litter tray. Dust contributes to eye and respiratory disease, and the resins in many wood shavings have been associated with respiratory, skin disease, and liver damage. Artificial fur or towels work well as bedding for some rabbits, but caution must be used. Remove these if there is any question of the rabbit's chewing them.

Rabbits chew and dig. These are normal and instinctive behaviors. Providing safe, acceptable items for the animals to chew allows an outlet for energy and normal behavior, and so lessens what we may perceive as undesirable chewing behavior. Paper, untreated, non-toxic wood, twigs, branches and cardboard boxes can work well. A cardboard box filled with hay, fruit twigs or shredded paper makes a fine place to dig and chew. Sturdy plastic or rubber toys, such as those designed for dogs and large birds can work well. Outdoor rabbits also benefit from environmental enrichment, and should be expected to dig. Remember that as a digger of tunnels, the wire or walls, which surround the enclosure, may only present a challenge to your rabbit, and need to be sunk at least six to twelve inches into the ground.

If allowed easy access, rabbits will chew electrical cords, drywall, furniture, cushions, carpet and just about anything else into which they can sink their teeth or claws into. More than an inconvenience, this poses a serious health risk. Electrocutation, intestinal blockages and poisoning are not unusual.

Soiled bedding should be removed daily, and in most cases, a more thorough weekly soap-and-water clean of the cage is adequate. Most rabbits are easily litter trained to an acceptable degree. Start by confining the rabbit to a relatively smaller area, and provide him with a litter box. If he sleeps in his box, provide a second box, either for sleeping or as a litter tray. Note where in the cage the rabbit chooses to urinate and defecate, and try to accommodate him. When the rabbit is out of his cage, provide easy access to a box, as he is unlikely to hop to his litter tray if it is at the other end of the house, but if it is close by, he will likely oblige. At first provide several boxes, and gradually decrease the number. Accept the occasional pooh dropped outside the box, and expect more "mistakes" from younger rabbits and from animals in multi-rabbit households. Droppings may have been left strategically, to mark territory. Mature, spayed or castrated rabbits are easier to litter train. Castrated rabbits rarely, if ever spray. Spraying is not urinating. Use white vinegar to clean the box, cage and other areas of urine build up. Vinegar breaks down the crystals found in rabbit urine.

Rabbits need at least three to four hours of exercise every day. If not allowed to run and jump, they will quickly become overweight, their bones and muscles will weaken, and they will be bored. Outdoor exercise is recommended for house rabbits, even during the winter, as sunlight is necessary for good health. If not in a rabbit-proof room or run, they should be supervised when out of the cage. This gives you a chance to observe and interact with your pets, as well as to make sure that they don't get in to trouble. Rabbits can escape from a garden, get lost in the house or do an astounding amount of damage in a very short time.



Contact with cats and dogs is not recommended, but if allowed should be closely supervised. Do not house your rabbit next to an animal such as a ferret. Although his eyesight might not be keen, just the smell of a predator is terrifying.

Rabbits and guinea pigs should not be housed together. Many rabbits carry a bacterium, which is harmless to the rabbit, but potentially dangerous to the guinea pig. Rabbits and guinea pigs have different dietary requirements. Rabbits, particularly intact males, can be aggressive toward guinea pigs. In milder cases they will chew the pig's fur, but have also been known to kick and bite.

BEHAVIOR AND HANDLING

Always remember that your pet is a member of a prey species. They have evolved to live in communities, and when frightened will kick and run for a place to hide. A rabbit forced to stay in the open, without the security and privacy of a burrow is vulnerable to predation and can be expected to be nervous. The rabbit has very good peripheral vision, which alerts him to the possible presence of a predator, but he cannot see what is immediately under his nose. This is why he may startle at seemingly harmless movement and why he may nip fingers holding food to his mouth. Rabbits also bite as a form of communication and if we take the time to study their behavior, its complexity becomes clear. Among other things, rabbits assert dominance, remind you to pay attention to them and express likes and dislikes with their teeth. Given their powerful sense of smell, if you smell like something frightening (a strange dog, for example) or tasty (like strawberries) you may find yourself the recipient of an inadvertent nip.

All rabbits are territorial. Intact (non-spayed or non-castrated individuals) are more likely to fight, bite, grunt, honk, snort, circle their owners and mount their legs. Intact males and females are more likely to show unpredictable and undesirable sexual or territorial behaviors than their neutered counterparts. Intact males are more likely to fight. They often circle their owners incessantly and mount available legs. These expressions of dominance can quickly become tedious. Castrated male rabbits rarely spray urine to mark their territory, whereas this is a common behavior of intact males. Females are particularly likely to be aggressive toward their owners, as well as toward other rabbits. They have been known to bite, charge and snort.

Rabbits are seldom truly aggressive creatures. More likely when they bite, kick or try to escape, they have been improperly or roughly socialized, are frightened or believe themselves to be defending something. Rabbits are by nature territorial, and if not accustomed to being removed from the cage regularly for fun and positive interaction with humans or if they have had negative experiences, may understandably become defensive or appear aggressive. Rabbits will defend their nests, and intact (non-spayed) does will often show undesirable behavior. Most digging is done by does, especially if pregnant or false pregnant. Gentle, confident, quiet handling, and reinforcement through positive association (ie. with stroking and food) will usually succeed.

Generally speaking, most rabbits do not make good pets for most young children. They must be handled gently, but firmly. Never pick up a rabbit by his ears, always support his back end against your body. Rabbits have very strong muscles and comparatively fragile bones, so they can in fact, break their backs by kicking.



GROOMING

Rabbits do not need bathing, except under unusual circumstances, or if soiled by feces or urine. Toenails may need trimming, and once shown how, most owners can do this easily at home. As is the case for cats, dogs, birds and many of our other pets, a nail that is cut too short is painful and may bleed. Please note that if allowed to dig and exercise as he would in the wild, the rabbit would not normally need his nails trimmed. Many rabbits enjoy being groomed with a soft brush. Try the brush on your forearm, and if it is too rough for you, it is definitely too rough for your rabbit's thin skin. When shedding heavily, many rabbits benefit from daily grooming. Longhaired breeds, such as the Angora require daily coat maintenance.

DIET

Wild rabbits eat grass and are exposed to sunshine. They do not experience the diet related problems we see in pet rabbits. Grass has the correct calcium, protein, carbohydrate, calorie and, most importantly, the correct fiber content for the rabbit's digestive tract. The sun's rays allow their bodies to make vitamin D, which is necessary for calcium absorption. Seed and pellet based diets lead to diarrhea, obesity, dental disease, weak bones, and urinary tract disease. Make any changes to your rabbit's diet gradually, over several weeks. Feed the same amount of the same thing every day, no "occasional treats" or twice-weekly salad.

Hay: We recommend that your rabbit be offered unlimited amounts of grass hay. Until five to seven months of age, young rabbits will benefit from the higher protein content of alfalfa. After that age, the hay should be timothy or brome. Hay provides the fiber necessary for the normal function of the rabbit's digestive tract and the time spent chewing is necessary for the teeth to wear normally.

Pellets: Rabbits should receive no more than 1/4 cup of pellets per 5 lbs (2.2 kg) body weight. Pellets are high in energy, but don't take long to eat. Rabbits are designed to spend a large part of their time chewing, and without the roughage of hay to occupy them, they are more likely to turn to other things to chew. Behavioral and health concerns can arise. If they are there, rabbits will overeat pellets. Obesity is a common and serious health problem among pet rabbits.

Vegetables: One or more cups per day per 5 lbs (2.2 kg) body weight should be fed. Feed primarily dark, leafy greens, once or twice daily. Fresh foods should be fed on a regular basis, as sudden changes to the diet or "treats" can cause a digestive upset. Vegetables to offer include parsley, dandelion (must be free of pesticides, and too much is a laxative), broccoli, romaine, bok choy, mustard and collard greens, escarole, endive and watercress. Limit the feeding of kale, spinach, cabbage and Brussels sprouts.

Fruit: Fruit is very high in energy, and offered at all, should be fed regularly and limited to one tablespoon per day. This is one of the first things to be eliminated from the diet if a rabbit is experiencing loose stool, or if he is overweight.

Water: Fresh water should always be available. Bottles or dishes should be cleaned with hot soapy water and rinsed.



Vitamin and Mineral Supplements: These are not necessary, and can be harmful to rabbits.

Foods to avoid: Seeds, dried fruit, nuts, sugary treats, ice cream, chocolate, cookies, breakfast cereals, fatty foods, pasta, yogurt drops, bread, potato peelings and dairy products.

THE WELL RABBIT

Examine your pet and spend time with him daily. Because he is by nature a prey species, by the time he shows you that he is unwell, he may be very ill indeed. Rabbits feel pain, just as any other animal, but their instinct is to try to appear normal or to hide, so as not to be noticed by a predator. They don't have many ways in which they are able to show pain, so subtle signs must be taken seriously. Your rabbit should be active and curious, with bright, clear eyes and a healthy coat. Watch your pet as he eats. He should be enthusiastic and should be able to eat without difficulty or hesitation. His droppings should be firm and have a normal size and number. A rabbit should have clean, dry fur around his eyes, mouth and bottom. Check your rabbit all over, every day, for signs of a problem in these areas, and run your hands over him, to feel for any lumps or bumps. It is important to examine your rabbit's skin folds, around the bottom, or under the dewlap (chin) of those who have them for areas of moisture, urine scalding or fecal accumulation. These hidden areas are prime spots for infection and are particularly susceptible to fly strike. It takes less than three days from the time a fly lays an egg until the maggot hatches. Particularly in hot weather, inspect your pet closely.

NEUTERING

It is strongly recommended that rabbits not intended for breeding be spayed (an ovariectomy, for females) or castrated (males). Perhaps the most compelling argument to spay is that between 50 and 80% of female rabbits over the age of two will develop uterine disease, usually cancer. This is entirely preventable.

Spaying or castration will not dull your rabbit's personality. It will simply take the edge off several undesirable behaviors, and is undeniably a health benefit. Rabbits can be spayed or castrated after three to six months, following an examination to assess their health and fitness for anesthesia.



SIGNS OF DISEASE

The following signs warrant concern, and in most instances; veterinary advice:

- Not eating
- Decreased or fussy appetite
- Difficulty or reluctance to eat
- Saliva around the mouth or drooling
- Lethargy, sleepiness, unusually quiet or dull behavior
- Sneezing, runny nose or eyes
- Wounds, cuts or bite marks
- Reduction in the size or number of droppings
- Soft or runny stool
- Droppings sticking to the bottom, or urine staining of the bottom, even if the rabbit seems well in himself
- Red, moist or hairless patches, especially around the eyes, mouth, anus, genitals and under the chin
- Overgrown teeth: the front teeth or incisors are easy to see, by lifting the rabbit's lips.
- Swellings or pain around the jaw and drooling are some of the signs of molar problems
- Change in drinking habits
- Change in urination patterns, loss of good litter box habits
- Changes to the bottoms of the feet or toenails
- Lumps and bumps, be sure to check the chin, jaw and underside of your pet

THE NEED FOR AN ANNUAL EXAMINATION

A yearly examination with a veterinarian who is familiar with rabbits is recommended. This is an opportunity to review your pet's diet and general care. Your veterinarian will take this opportunity to make you aware of any changes in recommendations for rabbit care, and will perform a thorough physical examination, which includes an examination of the mouth. With any luck, no concerns will arise as a result of the examination, but your veterinarian will make a note of your rabbit's weight and by establishing a good relationship with you and your pet when he is healthy, will be better able to help you should he fall ill. New pets should be examined so that potential concerns can be addressed immediately. Fecal examination for parasites is recommended for new pets and juvenile animals, as well as annually for those rabbits kept out of doors. It is suggested that rabbits over five years of age have a blood test annually to screen for such things as liver and kidney disease or anemia, which may be addressed more effectively if detected early.