



## Rabbit Care

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We hope your pet will bring you many years of joy. The following information has been provided as a suggested guide for the care of your rabbit. This is intended to be a brief overview of basic care and medical conditions. Be sure to ask if you need further information regarding a specific aspect of your pet's care.

### Getting to Know Your Rabbit

Rabbits are social creatures that enjoy interacting with humans. A new rabbit, however, is often shy and wary. This is because rabbits are prey species with a natural fear of any animal (or human) that they perceive as a potential predator. For this reason it is important to be patient with a new bunny and work to build his/her trust. Move slowly around your rabbit and talk with a calm quiet voice. At first, offer treats (see nutrition section below) and gentle petting without trying to pick up or move the rabbit. As your bunny gets to know you, he/she will become more interactive and will be comfortable being lifted and carried.

### Cage Recommendations

In order to insure that your rabbit has proper space, we recommend that the cage be at least twice the length of your rabbit in all directions. As a rule, the more time that the rabbit spends inside his/her cage, the larger the cage should be. Bigger cages provide the room your rabbit needs to exercise. Horizontal cages (long and short) are better than vertical cages (narrow and tall). Cages with solid floors are best. Cages with wire bottoms or metal grates can lead to toe/toenail injuries and to ulcerations on the feet (a condition known as sore hocks).

Using a half inch to an inch of bedding material on the bottom of the cage also helps protect the feet. Hay and recycled paper beddings are two good choices. If using wood shavings, pine is best. Avoid cedar shavings as they can lead to respiratory problems in bunnies. Be sure to keep all bedding material stored inside in airtight containers to prevent contamination with parasites from outdoor rodents.

The cage furniture must also be considered. It is important to provide your rabbit with a hide box or hutch. Because bunnies are prey animals, they feel safest in a small dark enclosure when they are scared. Bunnies who do not have a safe place to hide suffer from illnesses caused by high stress levels. In addition to somewhere to hide, it is a good idea to provide your bunny with things to chew on. Apple and crabapple shoots and branches are ideal because the bunny can get the end of the branch in his/her mouth and chew it with the back teeth. This helps maintain proper dental health (see dental section below).

### Litter boxes and Litter box Training

Rabbits are naturally clean animals. Most choose an area of their cage or environment to use for elimination purposes. Some bunnies will return to their cage to eliminate during periods of uncaged play time if the cage is accessible and open. While bunnies do not have the instinct to eliminate in the sand or loose substrate of a litter box like a cat, they will use a litter box IF it is placed in the area they have chosen for elimination purposes. When setting up a litter box, be sure to choose an organic litter such as recycled paper, pine, or wheat. Bunnies re-ingest some of their stools, particularly droppings that they pass from their cecum very early in the morning. If

clay or sand is used in the litter box, the bunny may ingest this with the feces and become impacted.

When initially setting up the litter box, observe the rabbit's environment and place the litter box in the area of the cage or the room where most droppings are located. Over the next several weeks, make a point to move any droppings deposited outside the box into the box. Clean any areas of urine elimination with an enzymatic cleaner. Block off any other areas that the rabbit regularly chooses for elimination. Be prepared to clean up occasional "accidents," even in well-trained bunnies. While rabbits have a natural instinct for cleanliness, they do not have the instinct to bury their feces like a cat, and are therefore not as obligated by instinct to use the litter box 100% of the time.

## **Temperature**

Rabbits housed indoors have no special temperature requirements; however, some considerations must be taken to maintain a proper temperature for outdoor rabbits. Outdoor rabbits need a hutch to provide shelter from the wind and the weather. During winter months this hutch should be sufficiently filled with hay or other bedding to provide insulation and warmth for the rabbit. As long as rabbits are provided with shelter and adequate bedding, their winter fur will keep them warm enough except on the most bitterly cold nights. Summer heat is another matter. Rabbits easily become heat stressed when temperatures rise above 80 degrees. It is important that the bunny hutch be located in area that provides both good shade and air circulation. When temperatures rise above 80 degrees in the shade, ice bottles should be provided to keep the bunny cool. Fill a one to two liter bottle with water and freeze it. Put this frozen bottle in the bunny cage. Rotate frozen bottles several times a day to keep them cold. This will have a local cooling effect on the bunny's cage and allow the bunny to rest against the cold bottle if he/she becomes overheated.

## **Nutrition**

Many people make the mistake of feeding their rabbit only commercial pellets or a gourmet blend of pellets, seeds, and corn. This does not provide a balanced source of nutrition for your pet, even if the package claims that it is "complete and balanced." In fact, for most rabbits, 75% of the diet should be hay. Only 1/8-1/4 cup of pellets should be provided each day depending on the weight of the rabbit. An additional 1/4-1/2 cup of vegetables and dark leafy greens (carefully washed) should be provided daily. Corn, sunflower seeds, yogurt drops, and other nutrient-dense foods should only be provided in small amounts as an occasional treat. Too much of these rich foods can lead to hairballs and/or bacterial problems of the gastrointestinal tract that can cause grave illness or even death.

Clean, high-quality hay should be available for your bunny at all times. Timothy hay, orchard grass hay, or mixed grass hay are the best choices. Rabbits' bodies are not designed to handle large amounts of calcium. Alfalfa (used to make most rabbit pellets) is high in calcium. If both the hay and the pellets are alfalfa, the bunny may develop urinary crystals from too much dietary calcium (see section on urinary crystals below).

## **Uncaged Rabbits**

All rabbits should be allowed out of their cages for supervised play and exercise time. If you intend to allow your rabbit to spend time outside his/her cage unsupervised, it is important to follow a few precautions. All rabbits like to chew on things in their environment. This can be a hazard, particularly for bunnies who chew on electrical wires. Be sure that all wires in the

bunny's environment are either out of reach or protected in a casing. Run wires through PVC piping or baseboards designed for hiding wires. Bunnies should not be left unattended in rooms with throw rugs or shag carpeting as they may chew the fibers of the carpeting and ingest them. Also be aware that bunnies may chew on baseboards and other wood fixtures within reach. If you live in an older home where lead paint is a concern, the rabbit should not be left free unattended.

Outdoor, uncaged rabbits face a different set of dangers. Whenever possible rabbits should be confined in a large covered wire pen without a bottom. This provides protection from hawks, stray dogs, and other such predators while still allowing the rabbit to graze uninhibited. Avoid grazing in areas that are concentrated in white clover as this is toxic to rabbits (red clover is fine). Make sure the rabbit has access to both water and shade to prevent overheating, especially during hot weather. Finally, do not allow your bunny to dig or burrow in the ground as this can result in cuterebra (commonly called warbles), a parasite that lives in the rabbits skin.

## **Annual Examinations**

While rabbits do not require any annual vaccinations like a dog or cat, it is still very important that you bring your rabbit in at least once a year for a complete physical exam. This will help insure that your pet remains healthy. It will allow early detection of serious problems and diseases.

At each exam, our doctors will record your rabbit's weight, check the body condition, eyes ears, mouth, teeth, heart, lungs, legs, and palpate (feel for abnormalities) the abdomen (belly). For young bunnies, a fecal examination is routinely done at these visits. This test checks your bunny for intestinal parasites. Coccidia, a single-celled parasite that lives in your bunny's intestines, is the most common parasite seen in young rabbits. If left untreated, this parasite can cause diarrhea, bloody diarrhea and poor body condition. Please bring a sample of your rabbit's stool with you to your appointment so that we can run this simple fecal test.

## **Spay/Neuter**

The doctors at Clermont Animal Hospital recommend that all rabbits be spayed or neutered at five to six months of age. Unspayed females are at high risk for a form of uterine cancer known as uterine adenocarcinoma. In some breeds, up to 80% of females over three years old will be affected by this disease. Due to the lack of early signs and the fact that there are no screening tests available, this disease is too far advanced for successful treatment by the time that it is diagnosed. Spaying females at an early age is the only way to successfully prevent this disease. Spaying females also has the advantages of decreasing aggression and eliminating the risk of unwanted pregnancies. Likewise, neutering males decreases aggression and also minimizes urine spraying and other territorial issues. Both spays and neuters are done as out-patient procedures to help minimize the stress for you and your rabbit. There is no need to fast your rabbit prior to anesthesia, as rabbits are unable to vomit. In fact, it is best to allow your bunny to eat normally until he/she is admitted to the hospital and to bring along favorite food items for your bunny to eat after recovering from anesthesia.

**Clermont Animal Hospital**  
1404 Old State Route 74  
Batavia, Ohio 45103  
732-1730  
**[www.ClermontAnimal.net](http://www.ClermontAnimal.net)**



## Rabbit Health Concerns

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### Anorexia (failure to eat)

Anorexia is a very dangerous condition in rabbits. Rabbits are continuous feeders. Even short periods without food can cause drastic changes in the digestive system. **If your rabbit stops eating, it is important to seek immediate medical attention.** Rabbits have a very sensitive digestive system. If anorexia is not dealt with promptly and the underlying cause treated, severe (even fatal) gastrointestinal bacterial imbalances can result. Until medical care can be sought, it is important to force feed the anorexic bunny. Our doctors recommend that you keep a small amount of Herbivore Critical Care and a feeding syringe (both available through Clermont Animal Hospital) available for this purpose. In a pinch, human vegetable baby food can also be force-fed for short periods.

Anorexia is not a disease in itself, but is a sign of another (often more serious) medical problem. The causes of anorexia are many and varied, ranging from respiratory infections, to dental problems, to a variety of internal diseases. Because of this it is important that a veterinarian see your rabbit right away. Make an appointment as soon as you notice that your bunny is not eating. Do not leave a message and wait for the doctor to call you back. This is not a problem that can be diagnosed over the phone and this delay wastes valuable time in getting your rabbit treated.

### Dental Problems

The teeth of rabbits (both front and back) grow continually throughout life. In most cases, the teeth are properly aligned and will wear down evenly as the rabbit chews on roughage (particularly hay). In some rabbits, however, the teeth do not wear evenly and develop sharp points. These points cut into the tongue and the side of the mouth causing painful ulcerations. This leads to anorexia and, if left untreated, death.

Signs of tooth overgrowth include decreased appetite or anorexia, a shift in food preferences, grinding of the teeth (this can sometime be heard), drooling or a wet chin. If any of these signs are noted, schedule an examination at our hospital. We have a special speculum that allows us to examine the cheek teeth in the back of your bunny's mouth. These are the most commonly overgrown teeth, but they are not visible on external exam. Other dental problems including impacted roots and tooth root abscesses can also be identified during an oral examination, although these are much less common. Tooth overgrowth is treated by trimming and filing the teeth. This procedure is almost always done under anesthesia or heavy sedation.

### Trichobezoars (Hairballs)

Like cats, rabbits commonly develop hairballs; however, while a cat can vomit up the hairball to eliminate it, rabbits are unable to vomit. While hairballs were once an extremely common medical problem in rabbits, recognition of proper dietary needs has made this problem much less common. As long as rabbits are fed diets high in fiber and low in carbohydrates, ingested hair passes easily through the GI tract. Because hairballs can be deadly if left untreated and may require surgical treatment in severe cases, it is very important to prevent them with a proper diet of mostly hay and minimal carbohydrates (corn, sunflower seeds, etc.).

## **External Parasites**

Mites are a common problem in rabbits. Ear mites cause a crusty, waxy discharge from the ears along with redness and irritation. Several other types of mites cause hairloss with itchy reddened skin. Most frequently mites can be treated with a series of ivermectin injections, but topical treatments are available for certain conditions. If your bunny is experiencing hairloss, itchy skin, or problems with the ears it is important to schedule an appointment. Fleas can also cause similar problems in bunnies. If you see fleas on your rabbit, consult with our doctors on the current recommendations of flea control in bunnies. New flea products are regularly available on the market, but many are toxic to rabbits. Never use a flea product on your bunny without first confirming that it is safe for use in rabbits.

## **Upper Respiratory Infections**

Upper respiratory infections similar to colds in humans are fairly common in rabbits. Signs include sneezing, runny nose, water eyes, crusty discharge around the eyes, and/or congestion. While most human respiratory infections are viral, rabbits most commonly suffer from *Pasturella*, a type of bacteria that causes these signs. Most rabbits carry *Pasturella* in their systems and break with the disease during periods of stress. These infections require antibiotics for proper treatment and can lead to pneumonia if left untreated.

## **Head Tilt and Nystagmus**

It is not uncommon for bunnies to develop a head tilt and nystagmus (a rapid repetitive movement of the eyes). These conditions often go hand-in-hand. They can be secondary to an ear infection but are more commonly associated with a *Pasturella* infection or a parasite that migrates through the brain and spinal cord known as *E. cuniculi*. In severe cases, bunnies may show other signs such as circling toward the side of the head tilt or falling or rolling toward that side. Bunnies may also have a decreased appetite with this condition. Treatment depends on the underlying cause, and diagnostic tests are usually recommended to insure an accurate diagnosis.

## **Urolithiasis and Crystaluria (Bladder Stones and Crystals)**

Rabbits with too much calcium in their diet may develop urolithiasis (bladder stones) or crystaluria (calcium carbonate crystals in the urine). Some bunnies are genetically predisposed to these conditions. Signs of this include straining on urination, blood in the urine, a milky or chalky appearance to the urine, and/or the passage of visible stones or crystals in the urine. If you suspect that your rabbit may be having urinary problems, replace the bedding in the cage or litter box with flat white paper towels. This will make it easier to see the color, quantity, and qualities of the urine passed. Place the wet paper towels in a Ziploc® bag and bring them with you to the exam. This will allow the doctor to examine the urinary excretions. It may also be possible to do a urine chemistry or full urinalysis if enough urine is available (a teaspoon is needed for the full test). Treatment involves strictly limiting your rabbit's calcium intake and increasing water consumption. In some cases a secondary bacterial infection may be present. If this is the case, antibiotics will also be necessary. Rabbits with a history of urinary tract problems should not be fed alfalfa or other calcium rich foods. Ask our doctors for a complete list.

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