



## Caring for Pet Rabbits

**Nobivac**  **Myxo-RHD**

## Introduction

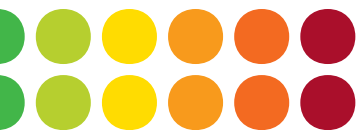
Rabbits make friendly, intelligent pets, but like all pets they require proper healthcare and attention. Although commonly thought of as good pets for children, they have quite complex needs so the decision to acquire one must always be made by an adult and viewed as a long-term commitment. Increasingly, they are being kept by families as an alternative to dogs or cats.

The average life span is 8-12 years, but many rabbits can live much longer if cared for properly. In general the medium sized breeds live longer than the dwarf or giant breeds. There are over 60 breeds of domestic rabbit, in a variety of shapes, sizes and colours.

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## Commonly asked questions

### What should I think about when considering a rabbit as a pet?

To care for rabbits properly you need to give them a suitable environment in which to live and behave normally; a proper diet and health care; and appropriate company. Rabbits are social animals, so if you're getting a rabbit for the first time, you need to appreciate that actually you're going to have to get at least two!

### What should I look for when selecting a new rabbit?

Rabbits can be bought from pet stores or through breeders. Alternatively, there are many rabbits in rescue centres looking for a new home.

When getting a new rabbit, there are certain things you should look out for. Don't be afraid to ask the seller questions.

- The eyes and nose should be clear and free of any discharge that might indicate an infection.
- The rabbit should be curious and inquisitive.
- It should not be thin. Run your hand along the backbone, hips and ribs to check this – the bones should not be too prominent and should be covered with a reasonable layer of muscle.

- Check for any wetness or caking of droppings around the anus.
- Check for the presence of parasites such as fleas or mites by parting the fur along the back, and check inside the ears for any redness or excessive yellow or brown wax that may indicate ear mites.
- If possible gently part the lips and examine the rabbit's front (incisor) teeth to check they are not broken or overgrown.
- Find out whether the rabbit has been neutered (spayed or castrated); most will not have been until they are approximately 6 months old.
- Ask whether it has been vaccinated against myxomatosis and rabbit haemorrhagic disease (rhd).
- Ask the seller if they offer any guarantee of health or a return policy.
- Finally, find out what the rabbit is being fed on, as you do not want to introduce a sudden change of diet when you get it home – this may provoke gut disturbance and diarrhoea.



## Choosing pairs of rabbits

All rabbits need the company of at least one other. They are naturally social, and will become stressed if kept alone. The rabbits need to be friendly with each other: good combinations are a neutered male and a neutered female, or neutered littermates of the same sex. If a mixed sex pair is planned you may need to discuss the need for earlier neutering with your veterinary practice to avoid unplanned pregnancy.

## What are the housing requirements for my rabbits?

Rabbits are intelligent, inquisitive, active and athletic animals and need to be able to hop, run, stretch out, dig, and stand fully upright on their hind legs. Although any housing should be as large as possible, rather than thinking about specific cage or hutch sizes, it is better to think about how to provide enough space and opportunities for your rabbits to perform all their normal behaviours. Rabbits can be kept inside or out, but must always be provided with a secure living area large enough to exercise freely. A shelter where they can rest and feel safe is also very important. Indoor rabbits make good house pets and can easily be litter trained. However, they love to chew and dig and can be destructive to furniture and carpets. It is best to supervise rabbits whenever they are loose in the house, and to have a secure cage or pen in which they can be kept at night or when you are out. It is also wise to take measures to prevent chewing of electrical cables – a potentially dangerous pastime! Old towels or blankets, or even a small sandpit filled with earth or bark chippings, can allow your rabbits to express their normal digging behaviour.

Although outdoor rabbits are traditionally housed in a hutch, this should be viewed only as a secure area that provides shelter from weather and a place to rest and feel safe. Your rabbits will also need a large exercise area, which can be a run or

fenced area of garden with access to grass. Within this you should provide boxes or tubes as “hides”.

House rabbits may be kept on soft towels, or shredded paper. Outside rabbits may be kept on wood shavings, straw or hay. Straw is a better alternative to hay for bedding, as hay is easily flattened and gives little warmth. Barley straw is recommended as it is softer than wheat or oat straw and there is less likelihood of it damaging the eyes. Avoid dusty or mouldy straw, as this can sometimes lead to respiratory problems. Sawdust should be avoided as it is even more dusty and can irritate the eyes. Bedding must always be dry and clean and soiled areas removed regularly.

It is important to provide your rabbits with many activities and toys to prevent boredom, but fortunately this is easy and inexpensive. Everyday household items can be used such as plant pots, boxes or tubes.

Rabbits can even be trained to jump and do agility courses, just like dogs!

## How do I litter train my rabbit?

Rabbits can be litter trained relatively easily, as they will naturally urinate in one place. Initially the trainee rabbit should be kept in a small area (either a cage or a blocked off area of a room), and a litter tray placed in a corner of the area that the rabbit has already used to soil. The sides of the litter tray must be low enough so that the rabbit can get in and out easily. Newspaper, straw or paper-based litter is best (certain types of cat litter can be harmful if eaten). It may help to put some droppings in the litter box, to encourage the rabbit to use it.



## How often should I clean my rabbits' enclosure?

It is essential that your rabbits are kept as clean as possible, particularly if the enclosure is outdoors in summer. You should check your rabbits twice daily, especially in summer, for any signs of matted droppings or maggots around their rear ends. Clean the enclosure at least twice weekly, and if possible remove any urine-soaked bedding each day. The hutch may be cleaned with a dilute disinfectant.

## What temperature should my rabbits be kept at?

Indoor rabbits indoors should be kept in the coolest and least humid part of the house. The optimum room temperature range for rabbits is 15-21°C. Rabbits cannot sweat or pant and if the environmental temperature rises above 27°C, a rabbit may get heat stroke. Outdoor rabbits must have access to shade in the summer. Do not place the hutch in direct sun if the rabbit is confined within, as it may overheat.

Outdoor rabbits must also be kept free from draughts, wind and driving rain, and should be protected from dogs, cats and other predators. Plenty of straw bedding in the winter and covering the front of the cage with a blanket at night will prevent them from getting hypothermia. Water bowls and bottles should be changed daily in the winter as they may freeze.

## How should I handle my rabbits?

Handle each rabbit every day from an early age, so they get accustomed to it. If it's frightened or feels insecure when being handled, a rabbit may kick out with its powerful hind legs and can easily damage its spine, which can result in paralysis.

When picking up a rabbit, always support its hindquarters, as this will prevent spinal injuries. Hold the front end of the rabbit under its chest

between the front legs with one hand, scoop up the hind end with your other hand, and hold the rabbit close in to your body so it feels secure. You can tuck its head under your arm.

**Never** pick a rabbit up by its ears or let its legs dangle freely. Often it is best to get down to the rabbit's level and stroke it, letting it come to you; or gently place it on your lap while you are sitting on the floor, rather than picking it up and lifting it off the ground.

Don't lie a rabbit on its back, even if it lies still and appears to be "hypnotised". This is in fact a stress response and is not pleasurable to the rabbit, but it may be useful in some specific situations for non-painful grooming or veterinary procedures such as nail clipping.

## Should I neuter my rabbit?

Routine neutering of both male (buck) and female (doe) rabbits is strongly recommended unless you wish to breed from them.

Rabbits become sexually mature between 3 months (in smaller breeds) and 6-9 months (in larger breeds). It is recommended that young rabbits be separated into single sex groups by 3 months of age.

Breeding is prevented by castration of male rabbits and spaying of the females at about 4-6 months of age (or as soon as the testicles have descended in males). If you have a mixed sex pair of rabbits it is best to have them both neutered at about 4 months of age to ensure that unplanned pregnancy is avoided. Having your female rabbit spayed dramatically decreases the chance of her developing uterine cancer later on in life. In some breeds the incidence of this cancer is over 80% in does of over 4 years of age. Spaying will also prevent the doe from becoming territorial, inclined to fight other rabbits or becoming aggressive to people.





Intact males are more prone to developing behavioural problems including fighting, biting and urine spraying. The urine may also become strong smelling.

However, neutered rabbits are more prone to obesity as they grow older, so care must be taken not to allow overeating, and to encourage plenty of exercise.

## Diet

A correct diet is fundamental to maintaining health, particularly of the teeth and the digestive system. Low fibre, high carbohydrate diets like rabbit muesli mix can lead to dental disease, facial abscesses, sore eyes and conjunctivitis, obesity, and intestinal upsets such as diarrhoea and gut stasis. So it is vital to feed mainly fresh grass,

good quality hay, and green leafy vegetables as a source of fibre.

## Grass and hay

The best diet for rabbits is one that mimics their natural grass-based diet in the wild as closely as possible. Grass is high in fibre (approx. 20-25%), Has moderate levels of protein (approx. 15%) and is low in fat (2-3%). The bulk of the diet of the pet rabbit should consist of grass (fresh or freeze-dried) and/or good quality meadow/timothy hay. This should be available at all times. Eating these fibrous foods throughout the day will keep your rabbits occupied and prevent boredom. Hay can be fed from racks or nets to minimise contamination and increase the time spent feeding. Good quality meadow hay should be sweet smelling and not dusty. Dried grass products that retain colour and are highly palatable are also available.



## Green foods

Leafy green foods are also important and a variety should be fed daily to rabbits of all ages. New plants should be introduced gradually to weanling rabbits. Examples are broccoli, cabbage, chicory, chard, parsley, watercress, celery leaves, endive, radicchio, dock, basil and other herbs, kale, carrot and beet tops. Wild plants such as bramble, groundsel, chickweed, and dandelion can also be given if available. All green foods should be washed before feeding.

## Commercial feed

When presented with mixed feeds (coarse mix or muesli mixes), many rabbits will only eat certain components. Picking out the bits they like, and leaving the bits they don't, means they get a very unbalanced diet, with an insufficient intake of fibre, protein, calcium and phosphorous. This can lead to many problems, the main one being dental disease.

Overfeeding dry foods to adult rabbits is also a common cause of other problems such as obesity, heart and liver disease, chronic diarrhoea, kidney and bladder disease.

High quality nuggets, where all the nutrients are present in each individual nugget, are therefore to be preferred. Never feed commercial foods *ad libitum* by constantly topping up the bowl. A good general rule is to feed a maximum of 25g of pellets per kg bodyweight per day, and it must be emphasised that that hay or grass should always be available and make up the bulk of the diet. However, always check the manufacturer's instructions. Many adult rabbits do not actually need commercial feed, especially if they are overweight. Seek advice from your veterinary surgeon about your rabbits' diet if you are unsure what to feed.

Baby and growing rabbits require higher protein levels to that of adult rabbits. Special feeds for

baby rabbits are available, but the bulk of the diet should still be grass or good quality hay.

## What about treats?

High fat or starchy treats should be avoided completely as they can lead to obesity and digestive upsets. These include honey sticks, beans, peas, corn, bread, breakfast cereal, biscuits, nuts, seeds, crisps and chocolate. Fruit should also be regarded as a treat, and only fed in limited quantities, as it is high in simple sugars and can lead to gastrointestinal disturbance and teeth problems.

The best treats to feed are healthy treats such as small amounts of a favourite vegetable or herb. If the correct treats are chosen, they provide your rabbits with an extra source of fibre. Be very careful with feeding treats as they can lead to obesity and digestive upsets.

For some tooth wear and mental stimulation, you can provide your rabbits with twigs or tree branches. They enjoy gnawing and stripping the bark. A general rule is that you can offer the branches of any tree from which we eat fruit. Examples are apple, pear, plum, hawthorn, whitethorn and wild rose. Be sure the tree has not been sprayed with chemicals.

## Other considerations

Sudden changes in diet must be avoided. Any change in diet should be made gradually over several days or weeks, starting with small amounts of the new item and gradually increasing them, at the same time making a corresponding decrease in the unwanted item if necessary. Hay should always be available.

It is especially important to ensure that weanling rabbits eat plenty of hay. A sudden change in diet and a lack of fibre, combined with the stress of movement, is a significant cause of disease and

death in young rabbits over the period of weaning; for example, when moving to a pet shop or a new owner. When purchasing a rabbit it is important that you be informed of the rabbit's past diet, so that any changes can be introduced gradually.

Frosted or mouldy food and lawnmower clippings should not be fed as these can lead to severe digestive disturbances.

Dietary supplements consisting of vitamins and minerals are not generally necessary if the correct diet is fed. They should be used only under the direction of a veterinary surgeon.

Fresh drinking water must be available at all times. Drinking bottles are easier to keep clean than water bowls, and avoid wetting the dewlap (the fold of skin under the chin in females), which can lead to a moist dermatitis. However bowls are easier to drink from and may in fact be preferred by the rabbit, especially in hot weather and for those individuals eating a lot of hay. Whatever method is used for providing water, strict attention to hygiene is needed and bottles need to be checked they are functioning properly every day.

## Summary

It's simple to feed rabbits. Provide unlimited good quality hay or grass, some leafy green vegetables and herbs, and you can supplement this with a small measured amount of nuggeted or pelleted feed in an amount recommended by the manufacturer. Always provide fresh clean water. Treats should be kept to a minimum, but if they are fed they should be healthy and natural.



## Vaccinations and health checks

Rabbits should be vaccinated routinely against rabbit haemorrhagic disease (rhd) and myxomatosis. Both these viral diseases can be rapidly fatal in an unvaccinated rabbit, and there is no specific cure for either disease once established. The only protection you can give your rabbits is through vaccination.

Rhd is spread by direct contact between rabbits (both wild and domesticated) but also via indirect contact with people, clothing, shoes, other objects and fleas. Myxomatosis is commonly spread by fleas and other biting insects, and can often be transmitted in this way from wild rabbits to pets. A combined myxomatosis-rhd vaccination can be given from as early as 5 weeks of age.

Boosters are given every 12 months and cover both diseases. Your vet will provide you with further advice on vaccination, as well as flea control.

### Regular health checks

The best way to avoid many medical problems in your pet rabbits is to have regular veterinary health checks at least annually, which can coincide with vaccinations. Your rabbits will be given a full medical examination and the teeth can be checked (particularly the back teeth) for any evidence of 'malocclusion' (when upper and lower jaws don't fit together correctly). Malocclusion can lead to spikes and tongue ulceration.

Rabbits with known tooth problems should be checked much more frequently – every 6 to 8 weeks at least. A thorough dental check will require the rabbit's sedation.





## Common medical problems

### Overgrown teeth or dental malocclusion

This is the most common problem, as rabbit teeth grow constantly throughout life and need to be worn down by eating to stay at the correct length. If there is not enough fibre in the diet, or if the teeth are not aligned properly (malocclusion), they will overgrow. Overgrown teeth become spiked and will start cutting into the side of the mouth and the tongue, causing severe pain, mouth infections, ulcers and the inability to pick up food and eat it. Clinical signs include anorexia, weight loss, dribbling and abscesses around the face and jaw. Eye infections and matted droppings around the tail base may also be an indication of dental disease.

In some breeds of rabbit, malocclusion of the incisor (front) teeth is congenital (present from birth). These rabbits will need either regular lifelong treatment or tooth removal. Your vet can advise you of the best option for your particular rabbit, and affected rabbits should not be bred from. Acquired malocclusion occurs in older rabbits and is thought to be primarily diet-related. A correct diet is essential to every rabbit's wellbeing (see earlier section on feeding). Problems occur particularly if your pets are not eating enough fibre in the form of hay, grass and leafy plants to wear down the teeth at a sufficient rate. Problems can also arise if a rabbit refuses to eat the pelleted part of a muesli mix diet, since the pellets contain calcium and phosphorus essential for good bone and tooth growth.

Rabbits need regular teeth checks and these can be carried out at the time of vaccination or more frequently if advised by your vet.

### Skin diseases

Ear mites are small parasites that live in the ear canals of rabbits. They may stimulate excessive wax production that can lead to clinical signs such as head shaking, ear scratching and blood around the ear canal. They are seen most commonly in the lop-eared breeds.

Different mites can infect rabbits on the back and shoulders, causing dry skin and dandruff. These can also cause a mild rash in humans, so it is important to treat affected rabbits.

If bedding is not changed regularly (at least once a week), rabbit feet can become ulcerated and infected, particularly if the rabbit is also overweight. Feet should be checked regularly and toenails clipped if necessary. With the correct technique this is not a difficult job, but it is wise to get your vet to show you how to clip toenails the first time.

### Eye problems

Rabbits can develop eye infections that may be difficult to treat. These present as a milky white discharge from the corner of the eye and may result in sore reddened skin just below the lower eyelid. Tear ducts often become blocked and need to be flushed. This occurs most commonly when tooth roots grow abnormally.

### Gut stasis

Many factors can cause gut stasis, where the rabbit's gut stops moving food through and digesting it properly. The rabbit stops eating and passing droppings and has abdominal pain, so will become quiet and depressed. If you detect these signs take the rabbit to a vet immediately as the situation can rapidly become life-threatening. Common causes are stress and lack of fibre in the diet.

## Diarrhoea

Diarrhoea is a common problem in pet rabbits. It can be a very serious condition and veterinary advice should be sought immediately. Some gastrointestinal infections that result in diarrhoea can be fatal in less than 24 hours. Rabbits with diarrhoea become rapidly dehydrated and need fluid replacement. A high fibre diet (hay or grass) has a protective effect against diarrhoea and soft droppings.

Obese rabbits, older rabbits with back or leg problems and rabbits with dental disease can occasionally become matted with droppings around the tail base. It is normal behaviour for rabbits to produce softer droppings at night, which they then eat – this is an important part of the rabbit's diet. If very overweight, or if it has a painful mouth or back, a rabbit may be unable to reach round to clean these droppings away. In

the summer diarrhoea or matted soft droppings may attract flies, which lay their eggs around the tail base. These hatch out into maggots which eat into the skin and underlying tissue (also known as "fly-strike" – a very serious problem which can prove fatal or necessitate euthanasia unless caught early). You should check your rabbits twice daily in the summer and always make sure that bedding is clean and dry. Various products are available from your vet which may help to prevent this nasty problem, but attention to hygiene and rapid attention to any related health problems is paramount.

## Respiratory infections

Many rabbits have bacteria living in their nasal sinuses called *Pasteurella*. These bacteria will not cause clinical problems in any rabbit with a healthy immune system, but in certain situations





a rabbit may become stressed, in which case these bacteria multiply rapidly to cause a disease known as pasteurellosis or 'snuffles'.

This disease may affect the respiratory tract, uterus, skin, kidneys, bladder, tear ducts, middle ear or spine. Clinical signs include discharges from the eyes and nose, loss of appetite, lethargy, head tilts, loss of balance, hind limb paralysis and laboured breathing. The infection cannot be eliminated but it can sometimes be controlled with antibiotics and you should consult your vet at once if you suspect this problem. Other bacterial infections can also cause respiratory disease.

### Encephalitozoon cuniculi (*E.cuniculi*)

*Encephalitozoon cuniculi* is a microscopic parasite that can cause a number of diseases in rabbits, including neurological and kidney disease. A


common illness caused by *E. cuniculi* is the sudden onset of a head tilt, although this can also be caused by bacterial infection of the middle ear. In some cases the rabbit can only lie on one side with its head twisted round. *E. cuniculi* can also damage the internal structures of the eye causing loss of vision or even blindness.

However, not all rabbits that carry *E. cuniculi* show signs of illness. Many are apparently healthy, although they can infect other rabbits that live with them. The parasite is spread by infected urine or from mother to babies. It can live in the environment for several weeks, so any places that house large numbers of rabbits can easily harbour infection, despite good hygiene.

Your vet can carry out tests to show whether your rabbits have been exposed to the parasite, and







tests on faeces or urine can see whether they are excreting it. *E. cuniculi* may also affect other species such as guinea pigs that live with rabbits. Although *E. cuniculi* does not affect healthy humans, severely immunocompromised people should avoid exposure as it can cause health problems. *E. cuniculi* is treatable, although severe cases may not respond to treatment. You should seek advice from your vet, who may suggest routine treatment of all new rabbits or other testing or treatment regimes.

## Obesity

Obesity is often found in pet rabbits, especially in females. It can lead to problems such as matted droppings and maggot infestation, fatty liver syndrome, arthritis, osteoporosis, urine scalding and metabolic disease. Prevention is important, so strict attention to diet and plenty of exercise is essential. Seek veterinary advice before putting any rabbit on a diet.

## Anaesthesia of rabbits

Many owners worry about the risks of anaesthesia in rabbits. In the past, rabbits have had a reputation for being difficult to anaesthetise safely. However, neutering rabbits is now routine and with modern drugs and veterinary expertise there is no reason to be unduly concerned. All anaesthetics carry a small risk, whatever the species; but every effort is made to make a rabbit's anaesthetic as safe as possible.

## Summary

Rabbits can make wonderful pets – quiet, clean, inquisitive, entertaining and responsive. The main keys to good health are:

- Feed a correct diet that is high in fibre – this will help to prevent many of the common diseases
- Have regular veterinary check-ups. During these check-ups, be sure to discuss when to come back for your rabbits' next vaccination; and ask for advice about flea control, the main insect that transmits myxomatosis
- Vaccinate your rabbits regularly
- Have your rabbits neutered (especially females)

If cared for properly, your rabbits will give you many years of companionship and rewarding pet ownership.

**Nobivac**   
Essential protection for essential bonds

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