

Rabbit health and welfare: vaccination and prevention

Author : Lesa Thompson

Categories : [Exotics](#), [Vets](#)

Date : May 9, 2016

In 2015, 48% of UK households were reported to own a pet, with rabbits the fourth most popular (after dogs, cats and fish). In total, 3% of homes keep a rabbit, estimated at 1.2 million rabbits.

This article will discuss two aspects of rabbit health and welfare: in the home and by veterinary clinicians.

Health care at home



Figure 1. Offer only a small amount of pelleted food. Muesli mixes should not be given to pet rabbits as they permit selective feeding.

Assessment of rabbit welfare is difficult. They are not a vocal species and don't respond to owners in the same way as dogs or cats.

A PDSA report (YouGov, 2015) assessed pet welfare based on several categories, with results from pet owner interviews (1,200 owners) rated against an ideal index score based on professional advice and Government codes of practice for companion animal species.

As with caring for any animal, the most important aspects are good husbandry and diet. Many people still believe housing a rabbit in a hutch and feeding a store-bought muesli-style diet is sufficient. However, it is well-known such conditions may predispose the rabbit to many medical problems; for example, dental disease and gastrointestinal dysfunction are associated with selective eating of grains from muesli mixes.

The good news is attitudes regarding rabbit diet are changing – the percentage of rabbits eating muesli mix as their main source of food fell from 49% in 2011 to 29% in 2015.

Commercial extruded pellets are an improvement as they prevent the selection of grains high in carbohydrates, but are still not a complete diet (**Figure 1**). Rabbits require a diet high in fibre and, therefore, it should comprise mostly of good quality hay (**Table 1**).

Pet owners score highly when asked about their rabbits being able to express normal behaviour – helping to keep rabbits mentally stimulated.

| Table 1. Recommended diet for rabbits | |
|---|--|
| Food | Comment |
| Good quality fresh hay or growing grass | Available ad lib. As a guide, the daily amount of hay should be roughly the same as the rabbit's body size. Not grass clippings. |
| Fresh greens | Includes spring greens, carrot tops and dandelion leaves. |
| Pelleted feed | One tablespoonful once daily (twice daily if more than 3.5kg bodyweight). |

Table 1. Recommended diet for rabbits.

Space for exercise is important. Rabbit hutches on sale commercially are frequently too small – rabbits should be able to lie down, stretch out and stand on their hindlegs without their ears touching the top. The hutch area should be long enough for the rabbit to perform three hops from one end to the other, but a run area – large enough for the rabbit to run – should be accessible at all times.

Increasingly, rabbits are permitted free run of the house (19%) or garden (17%). Providing toys (**Figure 2**) can encourage exercise and the opportunity for digging is an important natural behaviour.

Despite being a social species, many pet rabbits lack companionship, as 57% of owners keep a

single rabbit. Rabbits should be neutered and housed together, ideally in a neutered male/neutered female relationship. Care should be taken during introductions to monitor for signs of problems and check for compatibility.

An assessment of pet rabbit health – “the need to be protected from pain, suffering, injury and disease” – in the PDSA study left much room for improvement. Although veterinary clinicians can advise owners on several areas of welfare, perhaps it is in this category they can help owners most (**Table 2**).

Veterinary health care



Figure 2. Toys containing treats, such as pelleted food, can be used to stimulate the pet rabbit and encourage exercise.

Although there have been improvements, PDSA has reported, compared to dogs and cats, rabbits still fare least well with regard to veterinary care and 35% of rabbit owners are not registered with a vet.

Like dogs and cats, vaccinations are available for rabbits. However, only half of owners reported having their rabbit vaccinated. The two diseases with vaccines available are myxomatosis and rabbit haemorrhagic disease (RHD). Both indoor and outdoor rabbits may succumb to these diseases.

Myxomatosis has been present in the UK since 1953 and is usually fatal in unvaccinated individuals, although mortality is lower in less virulent strains. Prevention involves vaccination and control of vector insects – mosquitoes, fleas and fur mites (*Cheyletiella*). Vaccinated rabbits may still develop disease, but good nursing care and treatment of secondary infections usually results in a successful outcome.

RHD has been in the UK since 1992. It is a rapidly fatal disease without treatment. Rabbits less than eight weeks old appear resistant, but may become chronic carriers. Preventive care involves biosecurity measures, such as preventing contact with other rabbits and vermin (the virus may be transmitted by wild birds, rabbits, rodents or insects) and keeping hutches/runs clean.

Due to the severe nature of these diseases, euthanasia is generally recommended for infected, unvaccinated rabbits. Manufacturer guidelines should be followed regarding vaccination protocols. If vaccines from different manufacturers are administered, leave two weeks between that for myxomatosis and RHD.

| Table 2. What should an owner check? | |
|--------------------------------------|--|
| Category | Comment |
| Appetite and thirst | Assess quantity of both, also which types of foods are eaten/left (for example, a shift in preference to less hay may indicate oral pain). |
| Urine and faecal output | Assess particularly if there is a change in quantity or colour (for example, blood in urine may originate from the urinary or reproductive tracts; soft/muroid faeces may be uneaten caecotrophs). |
| Demeanour | The owner sees the rabbit every day and is, therefore, generally better able to assess this than the veterinary clinician. |
| Motility | Monitor the general level of activity and if certain movements change (such as reduced grooming). |
| Signs of disease | <ul style="list-style-type: none"> ● Ocular/nasal discharges (Figure 3). ● Wounds/swellings. ● Matted fur. ● “Clagging” of faeces or urine scald in the perineal region (Figure 4). ● Fly strike – eggs/maggots; check daily in the summer months, particularly the perineal region. ● Overgrown or curling nails. ● Difficulty breathing or noisy breathing. |

Table 2. What should an owner check?

The frequency of booster vaccination may depend on the presence of an outbreak locally, but boosters should be given at least annually. The possibility of different viral strains may affect the effectiveness of vaccines and manufacturers should be informed if vaccinated individuals become infected.

Ectoparasites, such as rabbit fleas, are of major significance in disease transmission among

rabbits. Particularly in areas with high mosquito or wild rabbit populations, consider fitting insect screens around outdoor hutches/runs and using licensed products for treatment during seasons with high insect numbers. These parasites may also result in dermatoses.

The presence of an infestation may also indicate underlying disease, such as reduced grooming due to dental disease.

In general, routine worming is not necessary in pet rabbits. The *Passalurus ambiguus* nematode is considered non-pathogenic in adults, although clinical signs may develop in young animals with heavy infestations. Rabbits are the intermediate host for tapeworms, including *Taenia pisiformis*, *Coenurus serialis* and *Echinococcus granulosus* – control is usually by regular worming of pet dogs and keeping the rabbit's pasture area clear of dog and fox faeces.

The microsporidial organism *Encephalitozoon cuniculi* is found throughout the UK and results in neurological and renal signs, in many cases. Transmission is via spores in urine and faeces from infected individuals, or in utero.

Routine control is not necessary for all rabbits – consider the risk of exposure (especially contact with new rabbits), serological status and possible adverse effects of medication.

Neutering is recommended where breeding is not intended. Compared to other pets, neutering in the UK is less common among pet rabbits (50%). Uterine adenocarcinomas have been reported in 50% to 80% of does more than three years of age. Neutering prevents unwanted pregnancies and spread of venereal diseases, but also reduces territorial aggression and urine spraying.

It is wise to incorporate these discussions into rabbit health checks; for example, when administering vaccinations. Six-monthly checks are advisable for dental checks and other conditions may require more frequent monitoring.

Panel 1. Highlights of veterinary physical examination during a rabbit health check

- Observe general demeanour and movement.
- Weigh using digital scales.
- Palpate the body, including limbs, for swellings and/or discomfort. Assess body condition score.
- Superficially, check for ectoparasites and matted fur (poor grooming may indicate underlying illness, such as dental disease or back pain) or overgrown nails (which may indicate an inappropriate substrate in the enclosure).
- Check the eyes, ears, nares and oral cavity – check for incisor malocclusion. An otoscope can be used in a well-restrained rabbit to do a preliminary assessment of the cheek teeth.
- Palpate the abdomen. Auscultate both the thorax (heart and lungs) and abdomen.
- Check the rectal temperature (normal range is 38.5°C to 40°C).

Panel 1. Highlights of veterinary physical examination during a rabbit health check.



Figure 3. Nasal discharge in a rabbit may be seen on the fur. Note the dried discharge also on the forelegs.



Figure 4. Urine scald is a serious condition in rabbits. Skin infections are painful and fly strike is common.

At the time of health check, the clinician should take a history, which includes details about the rabbit's diet and husbandry, and perform a full clinical examination (**Panel 1**). This will provide an opportunity to assess the patient's general condition. Ideally, have an experienced nurse restrain the rabbit during the examination. It is useful to describe some procedures for owners to emulate on a regular basis – for example, checking for urine scald and fly strike (**Figure 4**).

The veterinary health check is an ideal time to discuss the rabbit's home care and advise the owner on improvements or checks he or she can make. Well-informed owners are key to optimising preventive health care in pet rabbits.

References

- Meredith A and Lord B (2014). *Manual of Rabbit Medicine*, BSAVA, Gloucester.
- Rabbit Awareness Week, www.rabbitawarenessweek.co.uk (accessed 6 March 2016).
- Rabbit Welfare Association and Fund, www.rabbitwelfare.co.uk (accessed 6 March 2016).
- Varga M (2013). *Rabbit Medicine* (2nd edn), Butterworth-Heinemann Elsevier, Edinburgh.
- YouGov (2015). PDSA Animal Wellbeing Report 2015, www.pdsa.org.uk/get-involved/our-current-campaigns/pdsa-animal-wellbeing-report (accessed 6 March 2016).