



Rabbit Welfare & Behaviour: Low-Stress Management to Optimise Health

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The information provided here is aimed at reducing stress and optimising welfare in rabbits that need veterinary treatment or other types of health-related management such as being given oral or other medication or if needing to be groomed. If stress is low, in turn this can optimise health. It is generic advice given from a behaviour perspective, which may need adapting for individual patients and their health needs. If ever you have concerns about your rabbit's health or you wish to implement the following, first liaise with a Veterinary Surgeon.

Essential considerations

Rabbits are a prey species adapted to avoid predation or perceived threats. If they perceive something to be dangerous, they are likely to become fearful and may use signalling such as tensing, freezing, fleeing to sanctuary, lunging, grunting, growling, thumping their hind-legs, displaying tonic immobility (appearing dead to encourage the predator to loosen its grip) or biting. With choice, rabbits typically avoid a stressor rather than aggressing towards it.

Rabbits naturally mask signs of disease or pain, as this can increase their predation risk. Owners should observe their rabbit's behaviour so that they can spot deviations from the 'norm'. This may be huddling, drooling, grinding teeth, leaving caecotrophs on the ground (a type of faecal pellet which rabbits naturally eat to strip nutrients from), reduced co-ordination, head-tilt or change to activity, sociality or grooming. If pain is queried, owners can discuss this with their vet and consider validated pain assessment tools such as the Rabbit Grimace Scale - if their vet feels this appropriate.



As rabbits typically find invasive handling or restraint to be highly-stressful, it can become very difficult if handling or administering medication becomes necessary on a one-off or regular basis. The following information is aimed at reducing your rabbits stress, so that their welfare and the safety of people involved in their care is as protected as possible. If the rabbit is minimally-stressed, their health outcome is also likely to be better.

Recognising an emergency

The following could indicate that your rabbit is in an emergency situation and may require urgent veterinary help: If your rabbit has collapsed or has head-tilt or seizures / if they have breathing difficulties including if they are mouth-breathing or their nostrils are flaring / if there is heat-stress, fly-strike, trauma or bleeding / if there is paralysis or abdominal bloating / if there is a slow labour in the case of a pregnant rabbit / if your rabbit is not eating voluntarily / if there are changes to faecal consistency, including diarrhoea, or if your rabbit is not passing faeces (if there are faecal changes, check your rabbit's perineum for soiling or fly-strike).

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If any of the above situations occur or if you are unsure whether your rabbit may be in an emergency situation for other reasons, please liaise with your vet urgently. If you have any other health concerns or queries with your rabbit, please liaise with your veterinarian.

Preparations for veterinary visits

In non-emergency situations where a rabbit needs to be seen by their vet, it may be helpful for owners to take some video-footage of their rabbit under normal home conditions, using i.e. a smart phone, so that this can be assessed at the veterinary clinic. Owners could also count their rabbits breathing rate (based on visible chest movements) over a minute, under normal home conditions, and share this information with their vet. These may be beneficial as the rabbit may be too stressed in a veterinary environment for the vet to know what is normal for them. If relevant, owners can also place some of their rabbit's faecal pellets in a container and take that to their vets, in case the vet would like to assess faecal health.

Rabbits should always be transported to their vets in a secure carrier rather than 'in arms'. This should ideally be one which is part of their normal environment, rather than only being used for stressful events, which opens easily and quietly, with a door at the front and which can also have the top lifted so that it separates into two parts. The pet carrier should contain familiar hay, water and towels which allow partial-hiding and traction, and which absorb car vibration and allow the rabbit to be lifted out within the towels if needed. The pet carrier and towels should **not** contain scents of stressors or other animals besides the rabbit and any bonded companions, nor that of prior stress pheromones. To remove these, the pet carrier can be cleaned in advance with a minimally-scented enzymatic cleaner or a 10% solution of biological washing liquid dissolved in hot water, before being rinsed and allowed to dry. The pet carrier should be secured in the car on the way to and from the vets, and unnecessary stressors such as having a radio on or slamming car doors, should be avoided. Rabbits are vulnerable to heat stress and should therefore never be left in a hot car. The rabbit should travel in its pet carrier with any bonded companions if possible, with the pet carrier partly covered with a towel so that the rabbit feels less exposed but still has adequate ventilation.

Once at the vet practice, the rabbit and pet carrier should be placed in an area away from predatory species such as dogs and cats. Alternatively, vet staff may feel it best for the rabbit(s) and pet carrier to remain in the owner's car until the vet is ready, if the car is not too hot. The veterinarian should ideally ensure that the consultation room table, floor, weighing scales and other equipment, and their own hands and ideally their clothing, do not contain the scent of predatory species. The table, scales or floor that the rabbit may be examined on should be covered in a rubber mat or towel so that the rabbit does not slip and panic.

Veterinary examinations and treatment

Veterinary examinations and treatment should occur in the quietest room available - ideally well away from the sight, sound and scent of predatory species, and away from bright lights,

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sudden movement or loud noises including sonic and ultrasonic. Staff trained in low-stress handling should assist if possible, and handling should be gentle for the rabbit. The rabbit should be predictably approached from in front rather than above (the latter would mimic a predator) if possible, avoiding their 60-degree caudal blind spot. This could be via the front of their pet carrier, or predictably from above (at an angle), with the top part of the pet carrier removed. Care must be taken to avoid the rabbit causing injury to itself by jumping from a height or physically struggling. They should be examined and treated from within their pet carrier if possible, or placed on a non-slippery surface. If needing to be held, they should be picked up with one hand under their chest and the other, scooping up their bottom. Their body should then be supported securely against their handler's chest. Picking a rabbit up by its ears or scruff, or laying it on its back to induce a dorsal immobility response, must be avoided. If the rabbit is struggling or aggressive despite gentle and predictable handling attempts, it can be wrapped snugly in its towel for essential examinations or treatment.

Rabbits can benefit from being given a degree of choice where practical; including with investigating the environment or equipment and having stress-reducing pauses if needed. Food could be offered as a distraction from stress and to promote good associations. When treatment is complete, the rabbit should have access to their familiar pet carrier again.

Being admitted to the veterinary clinic

If needing to be admitted to the vets, rabbits should be placed somewhere quiet and dimly-lit if possible (their sight is adapted for dawn and dusk light intensities). This should be an ideal area in terms of ventilation and shelter from extreme temperatures, as it is unlikely the rabbit will have the environmental complexity such as cool soil to adjust their body temperature. They should be located away from predators and stressors (visual, sound and scent-based), ideally with their bonded companion and familiar objects that carry home scents. If bonded rabbits need separating at any time, owners must be aware of the need for scent-swapping prior to supervised reintroductions in neutral territory. This can be achieved by gently rubbing each rabbit with the same cloth or swapping each rabbit's bedding. Veterinary interventions can alter the scent and behaviour of rabbits, which may disrupt recognition and social bonds.

Rabbits benefit from having environmental choices at all times. Their housing in a veterinary environment should be partly covered if possible, and have non-slippery flooring and contain a sanctuary area to hide in or behind; ideally with more than one entrance and exit area. A wide tunnel such as a drain pipe cut-off, or a cardboard box with the base and two large holes cut out, can offer this. Rabbits also benefit from having access to an elevated platform, such as on top of a cardboard box. The height of the overall housing should be such that the rabbit can sit or stand fully on their hind-legs to periscope and scan the environment. They should ideally have horizontal space to make at least three continuous hopping movements.

Rabbit owners may be asked about their rabbits preferences for bedding and toileting substrate, so that this can be replicated at the vets if advisable and feasible. A small amount

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of the rabbit's soiled toileting substrate provided by owners can provide the rabbit with familiarity and encourage use of a specific latrine area. When it is necessary to clean the latrine area, some soiled substrate should be transferred back to this.

In general, good quality unlimited forage including hay should be provided. Caregivers may be asked to provide their rabbit's favourite hay and other food-types; particularly if appetite is poor. The rabbit can be provided with food enrichment whilst in the vets, including scattered food to encourage foraging and puzzle feeders made using toilet or kitchen roll cardboard tubes which are tightly packed with hay, herbs and food treats - with the ends folded over.

Bringing an outdoor rabbit indoors during periods of health treatment

If a rabbit normally lives outdoors, being brought indoors can be highly-stressful. This may be necessary though for health reasons or monitoring. Indoor stressors may include limited sanctuary, heat-stress, other household pets, slippery floors, household appliances, noises, vibrations, scents, bright lights, complete darkness or shadows. To limit stress, locate your rabbit away from other household pets and noisy appliances, and keep your rabbit in an area which is not too hot and not exposed to draughts. Their flooring should be non-slippery, and they should have access to hiding areas, tunnels or tubes and/or cardboard boxes which are large enough for them to fit inside, with the base and opposite entrance and exit areas cut out. Having sanctuary areas including tunnels or boxes with more than one entrance/exit area increases a rabbit's environmental control and avoids risk of them becoming 'blocked in'. They should have access to unlimited hay and fresh water, as well as other suitable vegetables, herbs or small amounts of fruit, and enrichment such as activity feeders. See the FAB Clinicians YouTube channel for a rabbit enrichment video, and see the Rabbit Welfare Association and Fund website for information on what foods are safe for rabbits.

Be aware that there can be additional hazards indoors for rabbit's, such as electrical wires. Ensure that your rabbit's housing area is secure, with no access to hazards.

Regarding interactions with your rabbit, if possible give your rabbit the choice to initiate these or not. For example, passively sit on the floor at some distance from your rabbit whilst *gently* tossing tasty food in their direction or drop the food - so that they learn to associate you with good outcomes. Do this whilst your rabbit has access to sanctuary and hiding areas, so that they have the choice to interact or not. Give them space if they do not initiate an interaction.

Giving oral medication to rabbits



If needing to give your rabbit one-off or regular oral medication, aim to make this stress-free but check that your vet is happy with the following methods before pursuing them. Often oral medication can be mashed into a small amount of banana, or placed between two wafer-thin slices of apple or between rose petals that have not been treated with pesticides or chemicals. Alternatively, liquid oral medication can be placed on a dozen or so commercial grass rabbit pellets, along with equal parts of a pineapple juice and water-mix. If the pellets are then put aside for 10 minutes, they absorb the liquid and are touch-dry (which can be good for longer-haired or lion-head



rabbit's whose hair may otherwise get sticky or matted). Most rabbits like the sweetness of pineapple juice and it can be a good appetite stimulant. Giving this mixed with water may also be helpful if needing to dilute medication so that it is less harsh on a rabbit's stomach.

Administering eye or ear drops to rabbits

If needing to administer eye or ear drops to your rabbit, this is likely to involve them being restrained to some degree so that the medication can be applied precisely. If treatment allows this incremental approach, their emotional response to being handled and restrained should therefore be improved if it isn't already good. Consider handling and restraint on a gradient-scale from your rabbit's perspective, with aspects of this that they are likely to cope *best* with through to the aspects they cope *least* with. Then start to expose them to your presence on a least-intensity basis, just for 10 seconds and whilst you offer them tasty food treats. When they have consistently coped well with your presence on this basis (for at least three separate days if treatment permits), incrementally increase the intensity of the handling; always pairing this with good outcomes such as tasty treats and only moving onto the next incremental stage as your rabbit copes well for the previous stage. Aim to apply the least amount of restraint possible when applying eye or ear drops. If necessary to avoid risk of your rabbit struggling and potentially hurting themselves, you may need to snugly wrap your rabbit in a familiar towel to gently apply the eye or ear drops; in which case apply only necessary handling and restraint and offer your rabbit sanctuary and tasty treats afterwards.

Bathing rabbits

As a prey species, rabbits do not like to be in water; as this is unnatural for them and it can make them feel more vulnerable. Getting wet can also be problematic as their hair may clump together and if they are left damp, they may be prone to respiratory infections or hypothermia. However, there may be times when bathing is necessary such as if their anal or urinary areas are dirty with caecotrophs, loose stools or urine which may otherwise create fly-strike or urine-scalding risks. This is more likely to occur in rabbits with underlying health conditions such as dental problems, spinal or arthritic pain or being overweight. Owners should therefore consult with their veterinarian if they haven't already done so.

If you *need* to bath certain body areas on your rabbit, ensure that the shampoo and water do not get into your rabbits eyes or ears. Place your rabbit in a sink or bowl with a non-slip mat or towel on the bottom. This helps the rabbit grip so that they are less likely to slip, panic or thrash around and potentially injure themselves. If necessary, have a helper so that one of you holds the rabbit securely and the other bathes them. Use a jug of warm water (ensure it is not cold or a scalding risk to your rabbits delicate skin), and start at the bottom area and work your way forwards as far as is essential. Avoid wetting the head unless otherwise advised by your vet. If using shampoo, lather it in before rinsing it off thoroughly with the jug of warm water. Allow the water in the sink to drain away rather than accumulate, as your rabbit will not like to be in any depth of water. Complete the bathing exercise as quickly as possible to avoid your rabbit getting too cold, and then wrap up and blot your rabbit dry using a warm towel as well as highly-absorbent paper towels if needed. If it is cold outdoors, your rabbit may need to stay indoors overnight until fully-dry, or they can be given a heat source such as a snuggleSafe® disc which can be heated in a microwave.

Rabbits should not be routinely bathed if not necessary for health reasons, as this is too stressful for them and because they naturally keep their coats maintained and clean.



Brushing and grooming rabbits

If needing to brush or groom your rabbit due to their hair length, texture, matting or due to them experiencing arthritic change and being less able to groom themselves, make this as least-stressful as possible. Consider being brushed or groomed on a gradient-scale from their perspective, with aspects of it they are likely to cope *best* with through to the ones they cope *least* with. Consider the area groomed, the duration and the equipment used. Then buy a soft baby's brush and use this for future grooming if it is effective for your rabbits coat.

To introduce the new brush, sometimes let your rabbit see it around the time that you give them tasty food such as herbs. The author uses a small amount of a rabbit muesli-mix when brushing her arthritic rabbit, as this is irresistible for her rabbit and as a result, being brushed in one of her rabbit's favourite things! The aim is that the rabbit's emotional response to the brush is a good one, as they learn to associate seeing it with treats. When your rabbit is consistently coping well with seeing the brush on this basis, start to introduce least-intensity grooming just for a few seconds whilst your rabbit is enjoying some food treats. This may be around your rabbit's cheeks or nose area, which are areas associated with social grooming. Be aware of the blind spot immediately in front of your rabbit's eyes, and avoid taking them by surprise there. Make the grooming session predictable for your rabbit rather than taking them by surprise. Aim to end the session 'on a good note' whilst they are still coping well. Over weeks, the duration of grooming and the areas groomed can gradually increase in intensity; with you moving onto the next stage when your rabbit has consistently coped well at the previous stage for at least three separate sessions. If ever your rabbit doesn't cope well, go back to the previous stage. You can also then consider introducing different brushes or grooming procedures if necessary. Your rabbit should ideally have the ability to engage in the grooming session or not, and should have access to their sanctuary and hiding areas.

Trimming your rabbits nails

Rabbits have five toes on their front feet and four on their back feet. Their nails are tough as they are adapted for digging burrows. Wild rabbits nails stay short due to digging and moving on hard surfaces, but for pet rabbits there is less to wear nails down. As such they may sometimes need a trim to avoid getting snagged or torn, or causing toe or joint wear due to the unnatural way the feet may be positioned if their nails are overgrown.

If your rabbits nails need trimming and you are not confident doing this yourself, ask your vet or vet nurse to do this. Your vet or vet nurse may be able to show you how to do this at home in the future, in a safe way which avoids risk of the quick being cut (a vein and nerve that inhabits part of the nail). If your rabbit has dark nails and it isn't clear where the quick ends, shine a torch *at the nail* to see if this allows you to see it. You could then sit on the floor with your legs in front of you, if comfortable for you, and hold your rabbit with its bottom supported on your lap and your rabbit facing away from you. Place a hand in front of their chest and hold each leg in turn so that you can see the nail and where the quick ends, and then trim the nails with nail-clippers. Alternatively, place your rabbit on a towel on a surface (not too high in case they jump down) and very gently pull each foot slightly to the side in turn and trim the nails. Make this minimally-stressful for your rabbit, offering them food treats during and after nail-trims. If you accidentally catch their quick and it bleeds, dab the nail with cornflour if your vet agrees; to stem bleeding. Liaise with your vet if there is bleeding.

Stress within the home environment

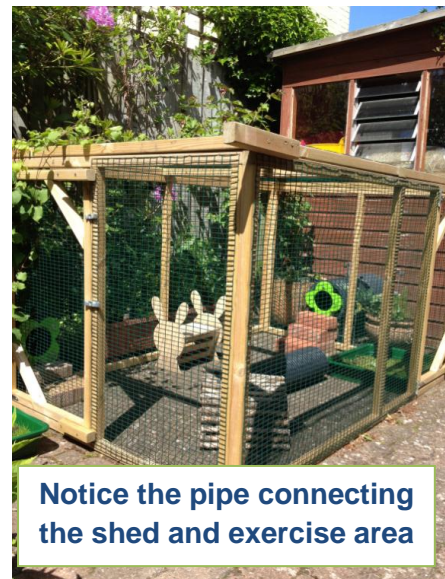
If you notice signs of stress in your rabbit at home, ensure their environment and resources are optimal so that they feel secure and have outlets for species-specific behaviour. The



Enriched rabbit housing

housing should be as spacious as possible, but as a minimum should allow your rabbit to stand fully and make at least three continuous hopping movements. They should also have an exercise area; ideally with the housing and exercise area integrated or linked via a tunnel system so that your rabbit can go between them as they wish. They should be sheltered from extreme temperatures and draughts, and be secure from predators and away from

stressors such as noisy appliances. The rabbit should have access to complexity including non-hazardous elevated platforms, pipe cut-off's or other tunnels, and cardboard boxes large enough to fit inside and which have the base and opposite entrance/exit areas cut out. They should ideally have soil to burrow in or turn over to expose a cool area to lie in. Diet should be appropriate regarding nutrients and activity budgets, with unlimited access to good quality hay and activity feeders considered. See the Rabbit Welfare Association and Fund website, or the Fellowship of Animal Behaviour Clinicians YouTube channel for more feeding and enrichment information. A rabbit's social needs should be met through appropriate rabbit pairings (neutered males and females, ideally and carefully introduced, tend to be the best combination) or ideal and abundant human company.



Notice the pipe connecting the shed and exercise area

Normal behaviour or problem behaviour?

A rabbit's behaviour is an expression of how they are feeling regarding their physical state (i.e. pain, disease or hunger) and emotional state (i.e. anxiety, fear, frustration or pleasure). Problem behaviour can therefore be a normal response to a short or long-term situation that the rabbit is unable to cope well with. As a prey species, rabbits are vulnerable to stress. If owners are concerned about their rabbit's stress and/or behaviour, they should first consult with their Veterinary Surgeon to have their rabbit assessed for health issues. If health is not implicated, it is necessary to know *why* the rabbit is behaving as it is and to implement a treatment plan. A qualified accredited Clinical Animal Behaviourist can help (see the resources section below).



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Integrated housing &
exercise area**

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Information Resources

Rabbit diet, housing, introduction and enrichment advice:

Rabbit Welfare Association and Fund (RWAFF) (www.rabbitwelfare.co.uk)

Wood Green Animal Rescue and Re-homing (<https://support.woodgreen.org.uk/>)

Fellowship of Animal Behaviour Clinicians (www.fabc.org)

Registers of Clinical Animal Behaviourists:

Fellowship of Animal Behaviour Clinicians (www.fabc.org)

CCAB Cert Ltd-registered Certificated Clinical Animal Behaviourists (<https://www.ccab.uk/>)

ABTC-registered Clinical Animal Behaviourists (www.abtcouncil.org.uk)