



Dr Jonathan Down BVetMed GP Cert ExAP MRCVS

Dr Jonathan Down BVetMed GP Cert ExAP MRCVS is a veterinary surgeon with nearly 30 years' experience working in practice. He ran his own small animal practice for 20 years and more recently has been providing educational material for the Burgess Vet Club and VetWriter practice newsletters.
Email: john@vetwriter.co.uk



Dr Suzanne Moyes MVB MRCVS

Dr Suzanne Moyes MVB MRCVS is veterinary innovation manager for Burgess Pet Care. She graduated as a veterinary surgeon from University College Dublin in 2005 and provides support and training to the staff, veterinary surgeons and nurses associated with the company. She is developing a research and educational plan and building relationships with the veterinary community.
Email: suzanne.moyes@burgesspetcare.co.uk

Helping your clients understand optimal rabbit care

Dr Jonathan Down BVet Med GP Cert ExAP MRCVS
VetWriter, Rushup Farm, Sparrowpit, Buxton, Derbyshire, SK17 8ES, UK

Dr Suzanne Moyes DrMVB MRCVS

Burgess Pet Care, Cherry Tree Mill, Snaith Road, Pollington, Goole, East Yorkshire, DN14 0AT, UK

ABSTRACT: Veterinary nurses play a vital role in practice, examining and treating animals. Rabbit welfare can be improved by educating our clients to understand the key problems their pets encounter, and by giving practical advice on how to prevent common conditions. Nutritional and dental care, weight management and behaviour are important areas that must be discussed with clients. This article provides a guide to what to discuss and how to present your thoughts to ensure optimal rabbit care.

Keywords: Rabbit; nutrition; obesity; dental disease; malocclusion; veterinary advice

For too many years rabbits have been second-class companions, treated as disposable children's pets with minimal needs. More recently, our awareness and understanding of the needs of these wonderful animals is increasing. Veterinary surgeons, nurses and rabbit owners should all have high expectations of their ability to provide the best in health and welfare, and the level of service and advice that veterinary practices strive to offer should reflect this.

Following ground-breaking research by Meredith, Prebble, and Shaw (2015) in recent years, we are now equipped with an extensive understanding of the special needs and requirements of rabbits and other fibrevores, so there should really be no reason for us not to deliver!

In this article we try to summarise the key advice we should be offering our clients to ensure the very best of care is given throughout their rabbit's lives.

Key aims of the rabbit consultation

As with all veterinary consultations there is so much to talk about but never enough time. In an average 10- or 15-minute

consultation it is important to ensure that the key aims are covered without rushing.

Try to cover most, if not all, of the five welfare needs – Health, Diet, Companionship, Housing and Behaviour, as these will provide a useful prompt for topics to cover:

Diet – the nutritional needs and variety of diets available, with your practice recommendations

Dental care – understanding, identifying and preventing disease

Weight management – measurement and control at home

Behaviour, companionship and enrichment – As important as diet

Communication is key to delivering the message so:

- **Know the facts** – evidence-based discussions give greater credence to your advice
- **Be organised**, clear and concise – don't confuse the client by throwing lots of information about different subjects at them

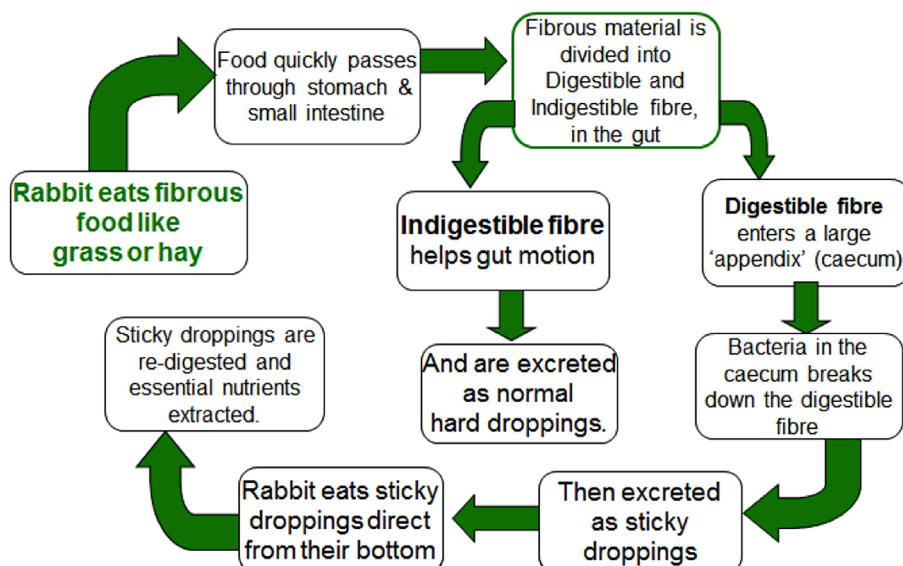


Figure 1. Understanding the rabbit digestive cycle
© Burgess Pet Care

- **Talk openly** and find out what they already know
- **Set a clear plan** of what to expect and achieve

Diet

You can't underestimate the importance of talking about rabbit food. Key areas we suggest you cover include the points below.

Importance of good nutrition

Poor nutrition is the cause of most of the medical and surgical issues facing rabbits under our care. It leads to dental, gastrointestinal, ocular, behavioural, weight and skin problems. If you get the diet right, you'll avoid most of the common pitfalls.

Understanding rabbits as fibrovores

The term 'fibrovores' refers to the group of small mammals who rely on their gastrointestinal tract (GIT) being maintained with high-fibre diets.

They are hindgut fermenters, using caecal bacteria, protozoa and yeasts to process short-length digestible fibre into nutrients that can be absorbed. The caecum has an optimal pH of 5–6 that helps prevent the proliferation of pathogenic bacteria (Figure 1).

Fibrovores also require longer, indigestible fibres such as lignin to maintain normal gut motility. Without this fibre rabbits are at considerable risk of gut stasis. This indigestible fibre also helps to stimulate the appetite and maintain healthy dental wear.

Meeting the nutritional needs of rabbits

It is important to talk about the different food sources available (Figure 2).

- **Grass:** Plenty of natural grazing, with variety, should be available as often as possible. Grazing will satisfy a rabbit's behavioural needs as well as providing a balanced fibre diet. Never allow rabbits to access grass cuttings from a lawn mower, as the crushing of the grass accelerates fermentation and risks gastrointestinal complications.
- **Herbs and plants:** A wide range of easy-to-grow herbs, weeds and flowering plants can be offered. Typical examples include basil, coriander, dill, dandelion, parsley and rosemary to name a few. It's important to avoid certain foods such as soft fruits and lettuce, which are too high in sugars or low in fibre. Many owners love the challenge of growing a herb garden or window box just for their pet rabbit, and it can be rewarding, healthy and surprisingly affordable.
- **Hay:** Hay is the mainstay of rabbit nutrition. However there is good hay and bad hay. Buy fresh, green, sweet smelling, mould- and dust-free hay. The grasses and time of year, as well as the weather, can affect the quality of what's available. Mixed grass hay, with rye grass, timothy, meadow, cocksfoot and fescue are great combinations. Encourage your clients to think about the differences, and buy the best they can afford.

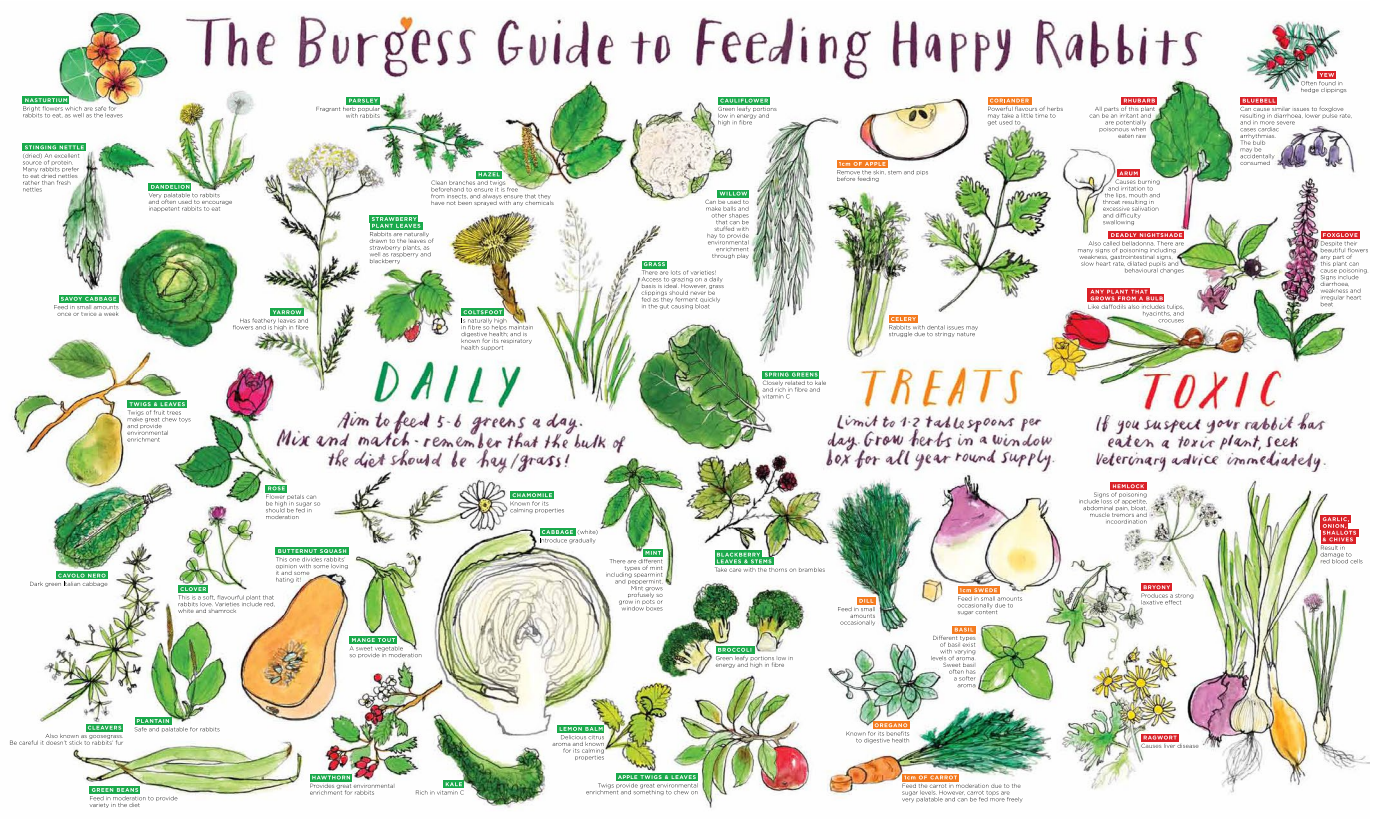
Understanding what affects hay intake is also important. Low levels of hay will be eaten if it is allowed to become soiled, damp and moldy. If a rabbit that has underlying dental problems is offered too much concentrated food or is just too young, it will tend to eat inadequate quantities of hay. Using litter trays to avoid food contamination, only feeding measured amounts of concentrates and offering the hay stuffed into containers, racks and raised feeders will prevent these problems.

- **Say no to muesli:** Rabbits are known to be selective feeders, and if offered muesli diets will tend to choose the flaked peas and maize in preference to higher-fibre pellets and stalks. The result of this selective feeding is dramatic and compelling (see dental care below). There should be no excuses!
- **Concentrated pellet/extruded diets:** These have become increasingly popular in recent years, with several of the larger manufacturers producing complete diets for rabbits of all ages. Many rabbits won't initially recognise these foods as being edible, but will with time. Only feed a measured amount each day to avoid overfeeding and weight gain. A good rule of thumb is to feed no more than 25 g/kg per day.

There are also some concerns that feeding nugget foods results in a different mastication movement, which may play a role in the development of dental disease. Rabbits will normally move their lower jaw in a 'figure of eight' movement with hay and grass, but this can be different with concentrates, which is why they should be fed as a supplement to hay.

Evidence from feeding trials presented at BSAVA Congress demonstrated that rabbits fed just hay, or hay with extruded nuggets, fared the best. Rabbits fed muesli diets had reduced gut activity and smaller final faecal pellets. Fewer caecotrophs were eaten and dental disease was significantly more prevalent, with curved cheek teeth, dental spurs, splayed dental apices and a reduced ability to eat (Meredith, 2013).

The amount and type of faecal pellets produced was an excellent indicator of gut health and function. This advice needs to be passed on and can be used as a monitoring tool for overall health.



THE EXCEL FEEDING PLAN



FEEDING GUIDELINES

Never make sudden changes to your rabbit's diet and introduce new foods gradually

Ensure all plants are carefully washed and keep your rabbits' vaccinations up to date

This is not an exhaustive list so check with your vet if you are unsure about any plants not included on this poster

For more information and advice visit burgesspetcare.co.uk

DAILY
Aim to feed 5 - 6 greens a day

TREATS
Limit treats to 1 - 2 tablespoons per day

TOXIC
If you suspect your rabbit has eaten a toxic plant, seek veterinary advice immediately



Figure 2. The Burgess feeding guide poster © Burgess Pet Care



Figure 3. Caecotrophs © J. Down

Rabbit droppings

• **Caecotrophs:** The function of the caecotroph needs to be understood. They are generally passed once or twice a day, often around four hours after feeding, and almost always when the rabbit is resting at night. They are soft, sticky and covered in mucus (Figure 3). They contain partially digested food, bacteria, vitamins, protein and fibre. The healthy rabbit will eat them directly from its anus. Let your clients know that if they see lots of caecotrophs around the housing there may be a problem.

• **Normal rabbit droppings:** The second passing of droppings is the true rabbit pellet. These are smaller, hard and spherical, containing the indigestible fibre and waste. You would normally expect to find hundreds per rabbit per day so an absence of droppings indicates a problem.

Dental health

Rabbit teeth grow continuously, and the normal biting, cutting and chewing of abrasive hay and grass, containing high levels of silicate phytoliths, maintains their normal shape and length. The continuous wear of the cheek teeth is compensated for by an equal amount of growth of around 3 mm per month. Illustrate this to your clients by showing them images and drawings of normal and abnormal dentition, including X-rays. Make sure to look out for long crowns, curving teeth, stepping, ridging or spurs.

Problems occur when the rate of eruption exceeds the rate of wear and teeth become elongated, causing all the associated problems of malocclusion.

Rabbits fed low-fibre and high-carbohydrate diets have reduced wear and elongated curved crowns. Elongated cheek teeth result in increased pressures at the base, allowing the teeth to eventually intrude further into the jawbone and form palpable apical bony swellings. The normal chewing pattern becomes affected; spurs become prominent and cut the tongue and cheek. A spike as small as 0.1 mm can cause significant discomfort, hence reducing appetite. Incisor growth is affected as the cheek teeth force the mandible and maxilla apart, so separating the bite. The incisors then become fully maloccluded, with quite dramatic consequences (Figure 4).

All rabbits, even young ones, should have their incisors checked regularly. Look for normal bite, with a healthy chisel-like occlusal surface. At rest the tips of the mandibular incisors should fit neatly between the first and second maxillary incisors.

Discuss the long-term life-threatening complications if dental problems are



Figure 4. Dramatically overgrown incisors © J. Down

allowed to develop. In many situations, radiography and surgery will be required.

Signs of dental disease

- anorexia
- weight loss
- ocular discharge
- facial swellings, particularly along the ventral mandibular edge
- sticky dirty bottom from caecotroph accumulation
- flystrike
- unkempt coat through lack of grooming

Discuss weight management and control

Obesity is a problem for all of our pets. Rabbits are no exception and many significantly overweight pets are seen in consulting rooms all over the country. The main contributing factors include both lack of exercise and excessive or unbalanced feeding.

Get your clients to watch for the signs, including scalding from urine and faeces, fly strike, caecotrophs not being eaten, tachypnoea and exercise intolerance. We should also be looking for signs of fatty liver disease.

Obesity clinics are an ideal opportunity for any practice to introduce close monitoring of weight loss programmes.

Help your clients to recognise the normal shape and body condition for their pet. Use photos as well as some excellent resources such as the rabbit-size-o-meter

produced by the Pet Food Manufacturers Association, http://www.pfma.org.uk/_assets/docs/weigh-in-wednesday/pet-size-o-meter-rabbit.pdf (Figure 5).

Behaviour and enrichment

Rabbits are crepuscular, spending anything up to 70% of their waking time eating. Left restricted in a small enclosure there is a tendency to gorge on pellets resulting in obesity and boredom. Ideas to encourage a more active ‘foraging’ behaviour include filling items such as old cardboard rolls, paper bags, cardboard boxes, suspended hay balls and racks with fresh hay.

Encourage an awareness of the social needs of rabbits by ensuring they live in small social groups. Emphasise to your clients the benefits of having two or more suitably bonded rabbits living together, helping to reduce stress. Always advise clients that guinea pigs do not make suitable companions for rabbits.

This year, Rabbit Awareness Week (RAW) will aim to educate pet owners on the need for suitable companions for rabbits and encourage re-homing from welfare centres. Sign up to receive RAW veterinary support packs for your practice at www.rabbitawarenessweek.co.uk.

Conclusion

Veterinary nurses and veterinary surgeons play a vital role in looking after the health and welfare of pet rabbits. A key role is to educate rabbit owners to be mindful of the common problems they face and ways to avoid preventable diseases, and a summary of points to be covered during a rabbit consultation can be seen in Box 1.

Box 1. A summary of points to be covered in a rabbit consultation

- **Diet** – Your number one recommendation: ensure a continuous, source of good hay; never feed muesli and only feed a small measured amount of a complete high-fibre diet; provide fresh water in both a dropper bottle and bowl.
- **Monitor weight and body condition** – Use scales and body condition scoring; keep a record
- **Accommodation** – Discuss the needs of rabbits: emphasize the need for enough space to move and exercise; a small hutch in the garden is not enough.
- **Companionship** – Discuss the importance of their rabbit sharing its space with a suitable rabbit companion – rabbits are social animals.
- **Regular veterinary checks** – Recommend a check-up at your practice at least twice a year.

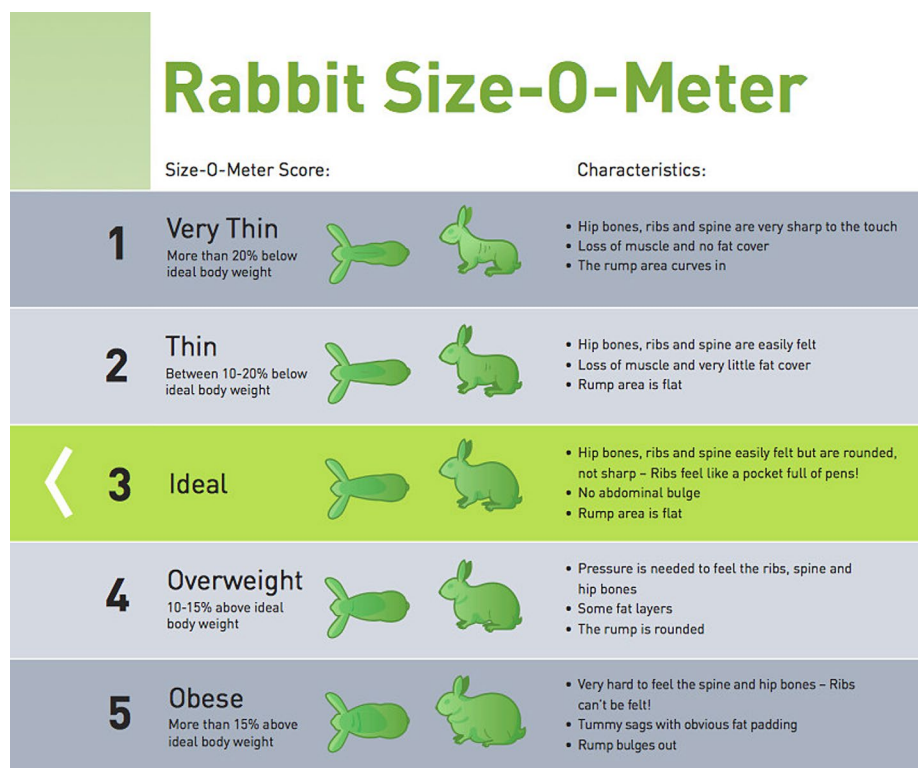


Figure 5. The rabbit size-o-meter poster © PFMA

- **Vaccinations** – Excellent vaccines are available covering both myxomatosis and rabbit viral haemorrhagic disease.
- **Neutering advice** – Encourage ovariohysterectomy in female rabbits to reduce the incidence of ovarian and uterine neoplasia; male behaviour can be improved as well.
- **Dental check-ups** – Teeth should be checked at home every week, and twice a year by the vet.

- **Insurance** – Encourage affordable insurance to ensure cover medical and surgical emergencies.

By using your consulting time efficiently to cover nutritional and dental care you will provide effective and lasting help to this wonderful pet species.

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