



Dental disease

Contributors: Claire Speight, Elisabetta Mancinelli, Jennifer Hamlin



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Rabbit teeth are open-rooted, meaning that they continuously erupt and grow throughout the rabbit's lifetime. If a rabbit has congenital or acquired dental disease, then the teeth may overgrow or grow distorted, which can cause life-long problems. This factsheet aims to discuss the common causes and treatments for dental disease in rabbits.

How many teeth do rabbits have?

Rabbits have four upper incisors and two lower incisors, which are used to slice and cut food into smaller pieces that are then transported by the tongue to the premolars and molars for chewing. Rabbits also have "peg teeth", which are the small teeth that sit directly behind the upper incisors. Unlike dogs and cats, rabbits do not have any canines, but have a gap where the canines would be, called a diastema.

The upper jaw has six cheek teeth, consisting of three premolars and three molars on each side. The lower jaw has ten teeth, consisting of two premolars and three molars on each side. It is not possible to distinguish between premolars and molars, and they form a row of teeth which are all used for grinding.

The incisors grow approximately 2-3 mm per week with the cheek teeth growing approximately 2-3 mm per month. Growth rate and dental wear is variable; dental wear is affected by the abrasive nature of the diet and duration of grazing.

How do rabbit's teeth function?

Wild rabbits live on a grass-based diet, which is naturally abrasive. It is this constant abrasive chewing action that allows wearing down of the constantly growing teeth and maintains normal occlusion.

Domestic rabbits are adapted to a different diet, but their teeth work in the same way and require fibrous foods to keep the teeth worn down. Head shape can affect how the teeth function. Wild rabbits have long slender heads, and evolution has resulted in a skull anatomy with well aligned teeth that are not overly pre-disposed to dental issues. In contrast, many breeds of domestic rabbits are brachycephalic, which means they have a short-nosed face; this compressed skull anatomy can affect proper alignment of the teeth in the mouth and result in numerous dental issues.

If the rate of eruption of the teeth is not balanced by correct attrition from wear, as can happen if the diet is not appropriate, eg rabbits fed only a pelleted diet, then dental disease may result from overgrowth of the teeth.

What can go wrong?

There are several things that can go wrong with your rabbit's teeth. Firstly, dental disease can be congenital and/or inherited, this means breeding rabbits that have genetically caused dental problems, may pass these traits on to their offspring.

Congenital malocclusion is normally apparent by the age of 9-18 months and normally requires life-long treatment in order to keep the rabbit comfortable and eating normally. Incorrect or poor diet is the most common cause of malocclusion. Rabbits need a high fiber, abrasive diet in order to help ensure adequate gut function and sufficient dental wear. If rabbits are fed a diet low in abrasive particles, their teeth can quickly become overgrown.

Trauma is another potential trigger for dental disease. Rabbits that are dropped and bang their mouth or pull on the wire of their hutch/enclosure, are prone to traumatic dental disease. Any factor that alters the position of the teeth may, in fact, result in their elongation and malocclusion. This type of malocclusion can sometimes be cured through burring the teeth (normally the incisors) at regular intervals, with appropriate instruments, until they grow correctly again. This may take several months, and often, despite this repeated treatment, it is not possible to solve the problem completely.

How does diet affect dental health?

A rabbit's diet should consist of at least 80% good quality grass hay, which should always be available. Most rabbits will consume their body weight in hay each day. A variety of fresh greens and vegetables (10% of the diet) should be fed daily (one handful in the evening). A small amount (only 5% of the diet) of good quality high-fiber commercial pellet should be fed to ensure provision of the necessary vitamins, minerals and proteins. Healthy treats such as muesli or low sugar fruits can also be added but must comprise no more than 5% of the diet. This high fiber diet is the best way to prevent dental disease from occurring.

Rabbits have evolved to survive in areas with low quality vegetation and will attempt to ensure good health by seeking out the foods richest in nutrients. This behavior can be a problem for a domestic rabbit because if they are fed tasty foods, they will avoid the bulk high fiber foods that help to keep their teeth and guts healthy. This is known as selective feeding.

It is therefore imperative that the rabbit only has access to hay for the majority of the time. When treats, vegetables and pellets are fed, these should only be limited amounts, carefully measured out.

What are the signs of dental disease?

Rabbits may suffer from malocclusion (misalignment) of the incisor teeth, in which case burring or filing down the teeth can be sufficient to manage the problem. Never allow anyone to clip your rabbit's teeth with nail clippers or any other type of clipper. The pressure that is put onto the tooth during clipping is likely to crack and split the tooth down to the root; this can potentially result in a tooth root infection, which can be very difficult to treat.

Overgrown incisors are a hindrance to many rabbits, and in the majority of cases, they are better off having them surgically removed. Rabbits adapt perfectly well to having no incisors, as they begin to use their lips to hold and pick up their food.

Molar and premolar malocclusion is more complicated. Often a rabbit may begin with incisor malocclusion and as the jaw is pushed out of alignment the molars and premolars will overgrow as a consequence.

Common clinical signs of dental disease include reduced appetite (the rabbit goes off certain foods, sometimes hard foods, sometimes softer ones), may salivate profusely and have a wet chin, or matted fur, at the front paws where they have been wiping their mouth. Weight loss may occur if the problem develops slowly and the rabbit may become depressed. Discharge from the eyes may be evident when elongation of the upper tooth roots is responsible for impinging on and blocking the nasolacrimal ducts. The upper tooth roots can, in severe cases, even grow into the eye sockets.

How is dental disease diagnosed?

A thorough examination must be performed assessing the face, oral cavity, and taking a complete history including dietary habits. Radiography of the skull is recommended in any case of suspected dental disease, in order to assess the status of all the tooth roots which can be overgrown or distorted. The x-ray will also allow assessment of bone involvement and will show how extensive the problem is. The nasolacrimal ducts can also be evaluated at the same time.

Can my rabbit be treated?

Rabbits with dental disease affecting the cheek teeth require general anesthesia, often on a regular basis, in order to appropriately assess the teeth, remove any sharp edges and restore a more normal occlusal plane. This may need repeating as often as monthly for the rest of the rabbit's life, so it is also a serious financial commitment for the owner. The welfare of the rabbit has to be, in any of these situations, of primary concern.

In more advanced cases surgery may be necessary to remove cheek teeth if they are not stable in their socket, or if they are infected. Your rabbit may be referred to a specialist for this type of surgery.

What about abscesses?

Facial abscesses are common in rabbits and may be associated with the teeth and bony structures in the skull. Abscesses often carry a poor prognosis since it can be impossible to surgically remove and completely clear the infection. Systemic antibiotics are often ineffective, especially if not combined with surgery, in reaching the site of infection due to the poor blood supply.

Surgery is the only available option in many of these cases. Beads containing antibiotics can be implanted into the infected site during the surgical procedure which slowly release antibiotics directly to the abscess over a period of time.

If, with appropriate treatment, your rabbit is pain free or its pain can be managed successfully, and it has a good quality of life, it can live happily for many months or years, however, if the rabbit's quality of life, at any point, cannot be maintained, then euthanasia may be the kindest option.

Conclusion

Dental disease in rabbits is a complicated and often preventable problem. Always ensure you feed your rabbit a good diet to try and prevent problems arising. If you are concerned about your rabbit's teeth, consult your veterinarian as soon as possible.

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