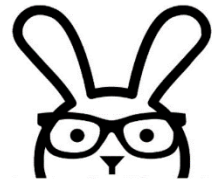


Ear Disease in Lop-Eared Rabbits

A lop-eared rabbit refers to any rabbit whose ears do not stand up erect - they droop on either side of the head. Some rabbits have one ear that is lopped and the other erect, these are often referred to as “helicopter” rabbits.

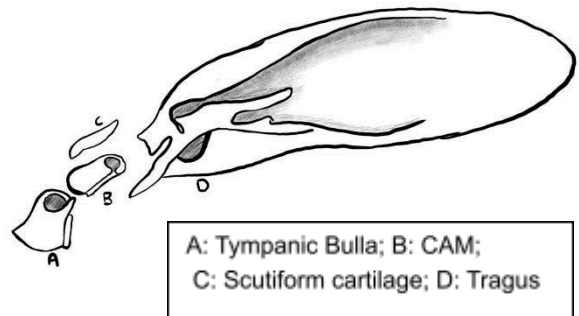


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Why does the ear “lop” and what does this mean for a lop-eared rabbit?

Lop-eared rabbits have been selectively bred with these characteristic ears as they are seen as “cute”, however, this predisposes them to severe ear disease.

In a non-lop rabbit, the external ear is composed of 3 cartilage structures that interlock to hold the ear up. These are the tragus, the scutiform cartilage, and the cartilage of the external acoustic meatus (CAM). The ear canal is a tube that runs through these cartilages, connecting the eardrum to the outside world.



Just like people, rabbits produce ear-wax (cerumen). Their ear-wax is white, thick, and often mistaken for pus. Normally, the ear-wax is naturally exfoliated from the eardrum to the opening (rabbits will also help to clear the ear-wax using the nails from their back feet).

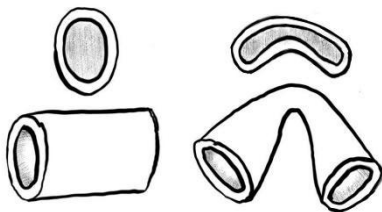


Figure on left: representation of normal ear canal.

Figure on right: representation of lop ear canal

In lop-eared rabbits, there is a defect causing a gap between 2 of these cartilage structures (the tragus and the CAM), causing the ear to flop over in the lop position. When the ear flops over, this causes a flexion point in the ear canal (similar to a bent hose pipe), creating a very narrow canal. This means that the normal ear-cleaning mechanisms are unproductive and wax begins to accumulate at the base of the ear canal. Over time, the wax build-up becomes very irritating to the ear, leading to inflammation inside the canal.

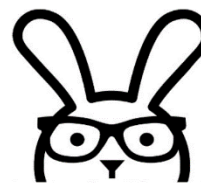
Ear disease is a very uncomfortable condition for the rabbit, and can lead to more severe disease, including disease of the middle ear. Often the disease associated with lops is sterile (i.e. not infected), however some rabbits with moderate to severe disease can develop secondary infections.

How will I know if my rabbit has ear disease?

Unfortunately due to the anatomy of their ear(s), all lop-eared rabbits are likely to have some degree of ear disease, compared to non-lop rabbits. Many of these are mild forms and can be detected via otoscopic examination during a routine health check by your veterinarian.

Rabbits often do not show signs of ear disease until it is moderate or severe. Signs that may be noticed at these stages may include:

- Pain on otoscopic examination
- Persistent itching at the ear or shaking their head
- Change in personality i.e. increased aggression, shyness, affection, etc.
- Changes in food intake
- Recurrent episodes of GI stasis
- Ear base swelling
- Head tilt
- Changes in facial symmetry



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Ear disease can be classified as mild, moderate or severe. There is no formal grading system so this is often a subjective assessment by your veterinarian.

How do we know when to treat ear disease?

There are many factors that need to be considered when deciding when to treat ear disease. Such factors may include the degree of ear disease, what part or the ear(s) are affected, the individual rabbit and whether there are secondary infections involved.

For mild cases of ear disease, it may be appropriate to simply monitor.

For moderate cases of ear disease, a treatment trial with anti-inflammatory pain relief may be recommended. This will help to determine how seriously the ear disease is affecting the rabbit. If an improvement is observed with the medication, then further treatment may need to be considered.

For severe cases of ear disease, further treatment and/or investigation is warranted. This includes determining if the white material in the ear is just wax, or if it is pus. Your veterinarian will take a sample of the material and examine it under a microscope for signs of bacteria, yeast, or cells that are associated with infection.

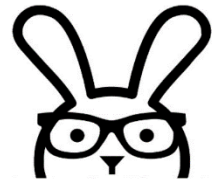
What needs to be considered before treating ear disease?

A very important step before considering treatment, is determining *what* part of the ear is involved.

There are 3 parts to the rabbits ear:

1. The external ear (this is the part we can see)
2. The middle ear.
 - This is behind the eardrum, within a round structure called the tympanic bulla. Here, there are nearby nerves including the vestibular nerve (associated with balance) and the facial nerve (associated with muscles of facial expression).
3. The inner ear.
 - Located inside the skull
 - Involved with balance

As both the middle and inner ear are inside the skull, imaging is recommended to determine if the ear disease has extended to these parts of the ear.



Unfortunately, X-ray imaging is not a sensitive diagnostic tool for investigating ear disease as both fluid and air appear the same colour.

CT (computer tomography) imaging is the recommended diagnostic approach as it is significantly more accurate, particularly for the detailed internal structures of the rabbit's ear.

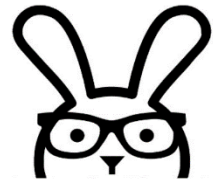
What is the treatment for ear disease?

Possible treatment options for ear disease include:

1. Pain relief management.
 - This usually involves an oral anti-inflammatory medication that also provides pain relief.
2. Flushing the ear.
 - In cases of mild or moderate ear disease, regular cleaning at home may be suitable, however, there is a risk of pushing the wax further down and potentially worsening the ear disease.
3. Antibiotic therapy.
 - If there is a sign of infection, a medicated ear solution will be prescribed for you to apply into your rabbit's ear until the infection has cleared.
 - If the infection is more severe, oral or injectable medications may be considered instead.
4. Flushing the ear under anaesthetic.
 - This route may be considered in some cases, however it is a short-term management technique as it does not address the underlying anatomical problem. There is also the risk that wax is pushed further down into the middle ear.
5. Surgical repair.
 - This is generally the recommended treatment choice as it addresses the underlying anatomical problem, preventing recurrence of ear disease.
 - The procedures considered are usually:
 - Partial Ear Canal Ablation (PECA)
 - ◆ This involves the removal of the side of the ear canal down to the eardrum. This is an appropriate approach when there is only external ear disease present.
 - Lateral Bulla Osteotomy
 - ◆ This involves cleaning out and removing part of the tympanic bulla (inside the skull). There is a greater risk of nerve damage (both temporary and/or permanent) with this procedure.
 - ◆ This procedure may be performed alongside a PECA in cases of middle ear disease.

What can I do to prevent ear disease?

Unfortunately, there is no real way to prevent ear disease in lop-eared rabbits.



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Weekly cleaning of ears from a young age may help to remove build-up. If you are interested in learning to do this please talk to one of our lovely vet nurses. If you notice your bunny is painful when cleaning their ears it would be best to book a vet visit.

Careful monitoring and management with your veterinarian team will help to optimise your rabbit's outcome. If you begin to notice any symptoms of ear disease, or you have any questions or concerns, please contact your veterinarian right away to discuss the best step forward for you and your rabbit.