Common diseases and conditions of pet rabbits
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This booklet is designed to assist veterinary surgeons and veterinary nurses in describing common disease conditions to rabbit owners and others involved in rabbit husbandry, by presenting clear images, diagrams and brief descriptions of normal rabbit anatomy and appearance alongside those of rabbits affected by common diseases.

It is hoped that this will be a useful resource in educating and assisting rabbit owners and carers to recognise and understand the main causes of these common disease conditions and how to prevent them. By distinguishing what is normal and abnormal in their pet, and being able to detect any changes at an early stage, owners should be able to improve the health and welfare of their pets by seeking timely veterinary advice and treatment.

Owners should be encouraged and taught how to examine their rabbit regularly, in addition to regular veterinary checks and vaccinations. Advice on correct diet, husbandry and social needs is also vital to rabbit health and welfare and forms a major part of the comprehensive health care of pet rabbits.
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Body condition

Keeping your rabbit at the correct weight is vital to health. Obesity can lead to many disease problems.

To condition score your rabbit, as well as looking at it, you need to get “hands on” and gently feel over the body, especially over the ribs, hip bones and spine.

Condition Score 1: VERY THIN.
Hip bones, ribs and spine very sharp and prominent. Poor muscle and fat cover. Rump area curves in. Seek urgent veterinary advice – may be disease or inadequate feeding.

Condition Score 2: THIN.
Hip bones, ribs and spine easily felt. Poor muscle and very little fat cover. Rump area is flat. Seek veterinary advice – may be disease or inadequate feeding.

Condition Score 3: IDEAL.
Hip bones, ribs and spine easily felt but feel rounded and not sharp. No abdominal or neck bulge. Rump area is flat.

Condition Score 4: OVERWEIGHT.
Need to press to feel hip bones, ribs and spine due to layer of fat. Rump is rounded. Abdomen and neck bulge slightly. Seek veterinary advice, major health implications.

Condition Score 5: OBESE.
Cannot feel ribs, difficult to feel hip bones and spine due to thick fat layer. Abdomen bulges and sags and neck bulges. Seek veterinary advice, serious health implications.
Normal faecal pellets are dry, rounded and contain undigested fibre. They should have minimal odour. The average rabbit (2.5-3 kg body weight) passes approximately 150 faecal pellets a day. Decreasing number or size of faecal pellets is a sign of digestive disease (gastrointestinal stasis). If they stop completely this is a serious sign and needs immediate veterinary intervention.

Caecotrophs are packets of partly digested food material that the rabbit passes at regular intervals from a specialised part of its large intestine (the caecum) and eats directly from its anus. This is an essential part of normal digestion and enables the rabbit to extract the maximum amount of nutrients that it can from its food. Caecotrophs are dark green or brown, covered in shiny mucus and have a strong, but not unpleasant “vinegary” odour. They should not be seen on the ground or stuck to the rabbit’s bottom if the rabbit is normal and healthy and eating a good diet.

Caecotrophs stuck around anus

Common reasons for a rabbit being unable to eat its caecotrophs and them accumulating around its bottom include obesity, musculoskeletal pain e.g. hindlimb or spinal pain or dental pain. If normal faecal pellets are also seen it can easily be distinguished from diarrhoea.

Uneaten caecotrophs may also be seen on the floor if the rabbit is being fed a very rich diet that is high in concentrates and low in fibre.

Uneaten caecotrophs on the floor

Diamhoea

True diarrhoea is a serious problem requiring urgent veterinary attention as the rabbit will be very ill. Young rabbits around the weaning period are much more prone to diarrhoea than adults. Diarrhoea can be caused by bacterial or viral infections, or toxins produced by Clostridial bacteria in the gut that overgrow when the balance of normal gut bacteria is severely disturbed. This can be caused by severe dietary disturbances, stress and the inappropriate use of certain antibiotics.

True diarrhoea. No normal droppings will be seen.

If you see worms in rabbit’s droppings you should consult your vet for advice on treatment.

Uneaten caecotrophs on the floor

Droppings with worms
Teeth

Rabbit teeth grow continuously throughout life and need to be worn down by a high fibre diet consisting of mainly hay, grass and leafy greens to keep them at the correct length. Lack of fibre and wear, and/or deficiencies or imbalances in calcium, phosphorus and vitamin D can all lead to overgrowth and malocclusion, a major cause of pain and suffering.

Incisors can be easily viewed by gently retracting the lips—they should be vertically straight with smooth, even enamel. A central groove is normal on the upper incisors. The cutting edge should be horizontally straight, chisel-shaped and sharp. The smaller peg teeth lie directly behind the main upper incisors.

An uneven enamel surface (ribbing) is abnormal and can indicate infection or dietary deficiencies. An uneven or flattened cutting edge indicates abnormal occlusion.

Diagram of teeth and root position.

Normal skull radiograph showing teeth.

Normal incisors from front and side, and showing peg teeth behind upper incisors.

Abnormal incisors – ribbing.

Abnormal incisors - uneven cutting edge.
Malocclusion of the incisors can be a primary congenital problem (i.e. the rabbit is born with the abnormality), or secondary due to abnormal elongation of the cheek teeth. Maloccluded incisors can be removed completely or will need to be trimmed using a dental burr at regular intervals, as they continue to grow and will prevent the rabbit eating.

Cheek teeth are used for grinding the food and cannot be viewed easily without anaesthetising the rabbit. Palpable bumps on the ventral border of the mandible indicate overgrowth of the cheek teeth and the rabbit will not be able to move its mandible easily from side to side to chew normally. Sharp, painful spikes can penetrate the tongue and cheeks and prevent the rabbit eating.

Instead of being situated just behind the upper incisors, the lower incisors lie in front of the upper so they cannot meet to bite food normally, and will continue to grow rapidly unimpeded. Eventually this will stop the rabbit being able to eat, and the overgrown teeth can dig into the soft tissues around the mouth causing severe damage and pain.

Abscesses are also a common result of dental disease and can become very large, causing destruction of diseased teeth and surrounding tissue and bone. Rabbit abscesses contain very thick pus and have a thick fibrous capsule and need to be surgically removed.
Skin, fur and nails

Normal skin and fur is free of any swellings, scaling, crusting or itching. It is normal for rabbits to have a circular hairless area on the point of the hock, visible by parting the coarse hair in this area, but this can easily become inflamed and ulcerated if the housing is poor or if the rabbit is overweight.

Normal fur coat parted to show normal skin

Long haired rabbits such as Angoras are prone to matting if they are not groomed daily.

Matted fur

Rabbits are best adapted to be on soft ground, where the nails will naturally sink in slightly and provide grip. Rabbit nails are naturally quite sharp and they can scratch if incorrectly handled, especially if they are too long. Rabbits generally keep their nails at a correct length by digging. On hard surfaces especially, overlong nails can distort the foot position and cause abnormal pressure points which can lead to sores. Nails can be trimmed using standard cat or dog nail clippers.

Normal nails
The hock joint is particularly prone to ulceration and infection (pododermatitis) if the rabbit is overweight or kept on wire floors or in wet and dirty conditions.

Fur mites generally cause scaling and mild itching, but in some cases they can cause a hypersensitivity reaction.
Myxomatosis is an important viral disease that is usually fatal and can be spread by biting insects. It causes swelling of the eyelids, face and genital area, and often also swellings elsewhere on the body. It is vital to vaccinate rabbits against this disease to protect them.

Rabbit syphilis is a bacterial infection (Treponema cuniculi) that is spread mainly by mating and can cause ulcerated and crusting lesions around the genitalia, which can spread onto the face and limbs due to grooming. Rabbits can also be infected at birth and develop disease later in life in the absence of a mate.

Syphilis causes crusting and ulceration around the genitalia and face
**Perineal area**

Rabbits can be sexed by examining the shape of the genital opening, being round in the male (buck) and slit-like in the female (doe). Two large pouch-like scent glands (inguinal glands) are situated either side of the genital opening and contain a normal brown waxy secretion.

**Normal male genitalia including normal inguinal scent glands**

**Normal female genitalia including inguinal scent glands**

Urine scalding is a common sign of disease and can occur for many reasons including neurological problems, urinary tract infections, a build-up of calcium deposits or stones (uroliths), kidney disease or failure, or a painful back or hindlimbs. Once the skin is inflamed (urine scalding) the rabbit finds it painful to adopt a normal position to urinate which can further exacerbate the problem.

**Urine scalding**

**Radiograph of bladder showing a solid round urolith**

**Fly strike**

Flies are attracted to urine or faeces accumulating in the perineal area and will lay eggs that hatch into maggots, causing a condition known as “flystrike”. This can happen very quickly in warm weather and the maggots eat into the skin and flesh, causing major wounds and shock that can rapidly kill the rabbit.

**Radiograph of bladder with sludge due to build-up of calcium crystals into a semi-solid mass**
Eyes

Eyes should be clear and free of discharge.

Normal eye

Entire male rabbits normally have an enlargement of the Harderian gland behind the third eyelid in the breeding season which makes this third eyelid appear more pink and prominent. However, this gland can also prolapse.

The nasolacrimal duct drains tears from the eye down into the back of the nose where they are swallowed. If this duct is blocked by infection or, commonly, overgrowth of the cheek tooth roots due to dental disease, tears will overflow from the eye causing redness and inflammation of the skin. The duct can also become infected.
Severe dacryocystitis showing purulent discharge and ulceration of periocular skin

Bulging of the eye can indicate a tumour or abscess behind the eye, or if both eyes are affected it can be due to a mass within the chest that is preventing adequate blood drainage from behind the eyes. Abscesses can also occur within the eye.

Exophthalmos unilateral

Exophthalmos bilateral

Intraocular abscess/granuloma

Cataracts (increased opacity of the lens of the eye) are not uncommon in rabbits and can have several causes, including ageing changes and infection with the parasite, Encephalitozoon cuniculi. Unlike many other species, cataracts in rabbits are not related to diabetes as this is extremely rare in rabbits. Surgery to remove the cataract is possible in rabbits.

Cataract: increased opacity of the lens
Ears

Rabbit ears are large and depending on breed are either upright or lopped. They are highly sensitive and used for heat regulation as well as hearing. Lopped breeds are prone to ear infections which will cause pain and irritation and can progress to middle ear disease and a head tilt.

Images via otoscope of a normal ear canal and one with otitis externa showing the presence of pus

▲ Ear mite - Psoroptes cuniculi. Thick crusts can fill the entire ear if left untreated ▲
Respiratory system
Rabbits can normally only breathe through their nose so any discharge that blocks the nasal passages can interfere with breathing. They will also groom away any discharge using their front paws, so crusting on these can indicate respiratory disease.

In very severe respiratory disease the rabbit may even have a bluish tinge to its mucous membranes due to lack of oxygenation – this is an emergency.

Nasal discharge can be unilateral or bilateral.
Neurological disease

The commonest neurological sign in rabbits is a head tilt. This is usually due to a middle or inner ear infection but can also be due to brain infections, for example due to the parasite *Encephalitozoon cuniculi*.

Head tilt

Middle ear infections may also cause paralysis of the face making it appear lop-sided.

Facial paralysis

Severe neurological disease with inability to stand and rolling

As well as a head tilt rabbits with brain or middle/inner ear disease may lose their balance and be very disorientated and unable to stand.

Hind limb paralysis unilateral and bilateral

Weakness or paralysis of the hindlimbs is also a common sign of neurological disease and can be quite subtle. Common causes include infections of the central nervous system and trauma to the spine.
Rabbits are very good at hiding the signs of pain and disease and it can be difficult to detect these. Often a rabbit that is quite ill will just appear a little more quiet than normal. Decreased or total lack of appetite and decreasing production and size of droppings are other important signs that a rabbit is sick. Signs of severe pain include a hunched posture, pressing the belly against the floor, grinding of the teeth, excess drinking and uncharacteristic aggression.
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