

Rabbit Health Care

Dental Disease

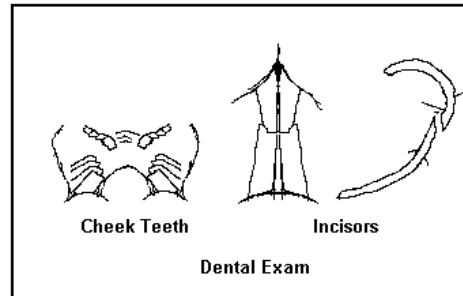
In rabbits, all teeth are elodontic (the teeth are open-rooted and grow continuously throughout the life of the rabbit). Rabbits have this type of arrangement because they are designed to eat tough fibrous foods that wear down the teeth. Dental malocclusion is common in rabbits and can occur due to poor diet, shape of the head and jaw, and poor breeding. When the teeth do not line up properly and get worn down regularly overgrowth of the crown or root occurs.

Molar malocclusion leads to spurs/points on the crowns of the teeth that can penetrate the soft tissues of the mouth, such as the roof, cheek, or tongue, causing painful lacerations. In addition, the tooth roots can overgrow and penetrate the jawbone causing extreme pain. Incisor

malocclusion occurs as a result of trauma or secondary to molar malocclusion. With incisor malocclusion, the upper incisors curve backwards into the roof of the mouth and the lower incisors will grow upwards like tusks. Affected rabbits will exhibit reduced appetite, weight loss, drooling, inability to eat, swelling of the face or jaw, abscesses, nasal and/or eye discharge and other signs of pain.

If your rabbit is exhibiting any of the signs listed above, we recommend you see your vet **immediately**. Your veterinarian may recommend

skull radiographs in order to fully evaluate the extent of the dental disease. Treatment of malocclusion usually requires trimming/filing the affected teeth under anesthesia. Additional treatments may include antibiotics, pain relief, fluids and nutritional support. There is often no permanent solution for this problem. Regular recheck exams are required to prevent serious complications associated with dental disease and periodic trimming/filing is usually necessary.



Intact female rabbits have a high risk of uterine cancer. Spaying can prevent this disease and other reproductive disorders.

Reproductive Disease

If you do not intend to breed your rabbit, then we strongly recommend spaying and/or neutering between the ages of 4-6 months old. The spay procedure (ovariohysterectomy) involves removing the uterus and ovaries. Intact females have a high risk of uterine adenocarcinomas (cancer of the uterus). Adenocarcinoma is a malignant disease, which means it can spread to other

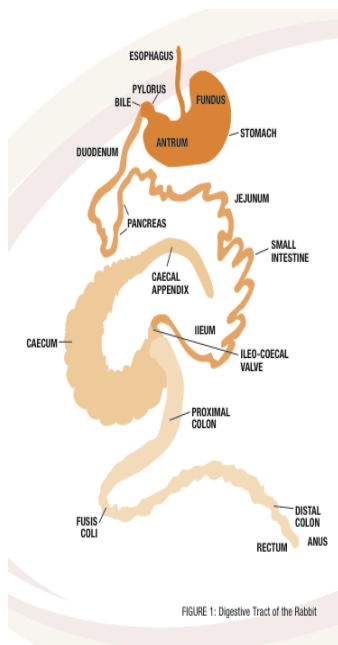
areas of the body. Spaying also prevents breast cancer, pyometra (infected uterus), uterine aneurysm (life threatening bleeding into the uterus), and false pregnancy. In addition, spaying a rabbit will may help reduce aggressive behavior.

Intact male rabbits may become more aggressive when they reach maturity. They may spray urine outside the litter box. The

urine usually has a very strong odor due to the presence of male hormones. Some male rabbits may not groom themselves well, developing stained and messy tail areas. Castration, surgical removal of the testicles, may help to prevent these behavioral problems as well as preventing orchitis (inflammation of the testicles) and testicular neoplasia.

Gastrointestinal Disease

Rabbits with anorexia or reduced feces should be seen by a veterinarian immediately.



The gastrointestinal tract is unique in rabbits and rodents. Diseases of the gastrointestinal tract are common and have been associated with infectious diseases, parasites, toxins, and neoplasia. The cause of gastrointestinal disease can be multifactorial, including dental malocclusion, inappropriate husbandry, inappropriate diet, sudden diet changes, poor hygiene, antibiotics, and stress.

Rabbits and rodents are strict herbivores and their gastrointestinal tract has some obvious differences with the gastrointestinal tract of carnivores and omnivores. The first obvious difference is their teeth, as discussed in the section on dental disease. The esophagus, stomach (monogastric) and small intestine are similar to that in other animals. However, the large intestine is very different. Rabbits and rodents are hindgut fermenters and depend on their large intestine for digesting cellulose into volatile fatty acids and resorbing water. The microbial population of the rabbit's large intestine is primarily comprised of anaerobes. Any changes in this delicate microflora population can have devastating effects.

A rabbit will lose its appetite for a variety of reasons. The

most common cause is pain. While dental disease (discussed separately) and gastro-intestinal (GI) diseases are the most common causes of pain, pain anywhere in the body can be associated with decreased appetite or complete loss of appetite (anorexia). Other conditions that can lead to anorexia include bladder and kidney disease, uterine disease, abscesses, respiratory infections, inner and middle ear infections, strokes, parasitic diseases, stress and toxin exposure.

Hairballs are commonly cited as the reason for rabbits to stop eating. If the rabbit is on a high fiber diet and has access to plenty of water this condition is rare. While gastric impactions with hair, carpet fibers, food or foreign material are common, the problem is primarily a GI *motility* disorder with accumulation of hair or other material occurring secondarily.

A high fiber diet is essential to the health of the GI tract. A low fiber diet, small particle diet (pellets as an exclusive diet), excessive carbohydrates (fruits, nuts, and grains), reduced water intake, lack of exercise, or any medical condition that causes the rabbit to eat or drink less may result in reduced motility of the GI

tract. When this happens, the stomach contents become dehydrated and compact. Reduced GI motility also leads to accumulation of gas and toxins and can start to compromise the blood flow to the intestinal tract. The less the rabbit eats or drinks, the more compacted the contents become until the rabbit stops eating entirely. When the rabbit stops eating, the intestinal tract stops moving and the problem escalates.

Since rabbits cannot vomit, affected rabbits will exhibit anorexia, weight loss, reduction in stool volume and numbers, and abdominal pain. A rabbit with these signs should be seen by your veterinarian **immediately**. Rabbits will deteriorate rapidly when they go without food for extended periods of time. Early diagnosis and treatment is essential to saving your pet's life.

Your veterinarian may require radiographs and blood work to efficiently evaluate the rabbit's condition. Medical therapy may include fluid therapy, forced feedings, medications to stimulate GI motility, and pain relief. Depending on the severity of the disease, your rabbit may need to stay in the hospital for treatments until its condition is stabilized.

Neurologic Disease

Signs of neurological disease, such as head tilt, circling, rolling, paresis/paralysis, seizures, and muscular weakness, are commonly encountered in pet rabbits. The cause of neurologic disease in rabbits includes infectious disease (bacterial, viral, fungal, and parasitic), toxin exposure, degenerative disease (arthritis), neoplasia, stroke, metabolic disease (glucose and

electrolyte abnormalities, major organ disease), and hereditary. Localization of lesions and finding a definitive diagnosis can be challenging. A thorough physical exam and diagnostics are necessary to determine a treatment plan.

Treatment is usually long-term (weeks to months) and involves medications and

supportive care. If the rabbit is alert, active, and is able to eat on its own, the prognosis is guarded to good. If, however, the rabbit is weak, lethargic, unable to walk on its own, the prognosis is guarded to poor. If your rabbit is experiencing any of these clinical signs, see your veterinarian **immediately**.



Upper Respiratory Infections

Ocular and nasal discharge and sneezing are relatively common signs in rabbits with respiratory infections. Normal tears exit the eye through the nasolacrimal duct (NLD) into the nasal cavity. The NLD can become clogged with a combination of exudative material and duct inflammation due to overgrown tooth roots, ocular infection, or anatomical abnormalities. This causes the tears to drain down the side of the face. If the discharge is excessive, a skin infection can develop around the eyes. Chronic NLD disease can lead to secondary stricture or narrowing of the nasolacrimal duct. Your veterinarian may recommend flushing the nasolacrimal ducts as well as oral or ophthalmic

antibiotics.

Other causes of ocular discharge include conjunctivitis, keratitis, and corneal ulceration. The normal lateral positioning of the rabbit eye can render the cornea vulnerable to traumatic injury. Once the regular causes of ocular signs have been ruled out in a general eye examination, then other underlying problems need to be considered such as tooth root disease and retro-bulbar abscesses.

Sneezing with clear or purulent nasal discharge can indicate an upper respiratory infection or tooth root disease.

Pasteurella multocida is a bacterium that lives in the respiratory tract of most rabbits. Rabbits with a healthy immune system usually do not have a problem. However, rabbits under stressful conditions such as new home, poor environmental conditions, and poor diet, can develop upper respiratory infections. While *Pasteurella* is commonly associated with respiratory disease in rabbits, other bacteria and some viruses can also cause severe infections. Lower airway disease, such as pneumonia, is also seen. Any rabbit with labored breathing or difficulty breathing should be seen **immediately** by a veterinarian.

While Pasteurella is commonly associated with respiratory infections, other bacteria and viruses can cause severe infections.

Abscesses

Rabbits tend to form abscesses associated with infections. An abscess is an area that is walled off and filled with a thickened, purulent material. Abscesses can occur anywhere in the body. The most common cause of abscesses in rabbits is due to overgrown tooth roots. Severe dental disease can lead to

abscesses associated with the jawbone or tooth roots. Bite wounds from other animals can also lead to abscesses. For example, *Pasteurella* is a part of the normal flora in the mouth of cats, which is why we do not recommend owners allow their rabbits to play with their cats. Abscesses are very difficult to cure and reoccurrence is

common. Treatment usually involves surgical removal and debridement of the abscess and long-term antibiotics. Therefore, multiple visits to your veterinarian, with or without surgery and hospitalization, and intensive wound therapy are required for success.

All Creatures Animal Hospital

*Quality Medicine in a
Caring Environment*



2001 N Linview Ave
Urbana, IL 61801

Phone:
217-328-4143

Fax:
217-337-3068

E-mail:
staff.allcreaturesah
@outlook.com

Website:
allcreaturesah.com

Cecotrophy

Rabbits have a well-developed hindgut with a functional cecum and a colon capable of particle-dependent separation. The proximal colon separates the ingesta into digestible and indigestible parts. Fine particles and solutes are selectively retained by the proximal colon then delivered to the cecum for microbial fermentation, while indigestible fiber proceeds to the distal colon and is formed into hard fecal pellets and expelled. While long, indigestible fiber provides no nutritional value, it plays a key role as the stimulus for normal GI motility and for maintenance of normal cell regeneration, secretion, digestion, absorption, peristalsis, and excretion.

The cecum acts as a fermentation vat where digestible fiber and starch are broken down by microbial action. Cecal microorganisms produce volatile fatty acids (VFAs),

which provide up to 40% of the rabbit's maintenance energy requirement, vitamins, amino acids, enzymes, and microbial protein. Some of these nutrients are absorbed through the wall of the cecum, but most of these nutrients are inside the bacteria which are expelled and ingested as cecotropes. The production and consumption of cecotropes (soft feces, night feces, cecotrophs) contributes significantly to rabbit digestive efficiency by allowing it to utilize all these important nutrients. The rabbit eats the cecotropes directly from the anus.

Only one type of feces is excreted at a time, following a marked circadian rhythm, alternating between a hard-feces phase which coincides with feeding activity, and a cecotroph phase which usually coincides with rest four or more hours after feeding. Normally, owners never see the cecotropes. However,

sometimes cecotropes, appearing as clusters rather than as single pellets, are often mistaken for diarrhea when attached to fur around the anus. True diarrhea (all stool being passed in liquid form) is not common in the adult rabbit and is a very serious condition and should be seen by your veterinarian immediately. Various parasites and bacteria can result in true diarrhea.

Seeing undigested cecotropes occurs for a variety of reasons. The most common cause is a diet that lacks sufficient fiber and has excessive amounts of protein and energy. Obesity, flaps of skin over the anal area, spinal disease, painful abdomen, or pain in general are some other conditions that can lead to this problem. We recommend an examination by your veterinarian if your rabbit is leaving excessive amounts of abnormal cecotropes in the cage.

Urinary Tract Infections

The color of a rabbit's urine can vary from clear, yellow to reddish-orange. These changes in color are due to pigments in the urine, called porphyrin. Calcium precipitate in the urine causes the urine to be cloudy to almost white. The amount of calcium in the urine directly relates to the amount of calcium in the diet. Rabbits eating diets high in calcium (alfalfa, spinach, etc.) tend to have cloudier urine.

Occasionally, rabbits present with signs of urinary tract disease, including

cystitis (bladder infection), calciuria (excessive urinary calcium), and urolithiasis (bladder stone). Rabbits on diets high in calcium and less than adequate water intake may develop calciuria which can lead to stones or thickened urine. When the bladder is unable to empty completely or there is a stone present, a bacterial infection in the bladder can develop. This can be a fairly painful condition for the rabbit. Rabbits usually present with signs of weight loss, decreased appetite, frequent or painful urination,

or blood in the urine. (Note: Be aware that these signs could also indicate a reproductive disorder.)

We recommend rabbits with any of these signs be seen by your veterinarian immediately. Your veterinarian may require a urinalysis, radiographs, and/or blood work. Surgery may be necessary if a bladder stone is present. Otherwise, fluid therapy, antibiotics, and improving the diet are the treatments of choice.