

Companion Animal Hospital: Exotic Animal Care



Dental Disease in Rabbits and Caviomorphs

Rabbits and caviomorph rodents (including pet species such as the chinchillas, guinea pigs, and degus) have unique dental anatomy adapted to a plant-eating (herbivorous) lifestyle. Wild representatives of these species naturally eat large volumes of plants that contain *phytoliths*, which are tough silicate deposits that abrade and wear down the ever-growing tooth structure. Their teeth are characterized as *elodont*, meaning that unlike other species whose teeth develop and their structure does not grow; elodont teeth are open-rooted and continue to grow throughout the animal's life.

This always-growing feature of rabbit and rodent teeth is what predisposes them to problems. Pet animals may not be eating enough tough plant “roughage” to wear the ever-growing teeth down. If these teeth are not being worn, we see a multitude of problems develop involving dental and skull anatomy.

In some cases, animals may be born with an abnormal tooth conformation or skull structure, termed *congenital malocclusion*, which is different from *acquired malocclusion* where there is some other cause as described above. These animals typically require regular dental procedures throughout their life.

Guinea pigs are unique amongst small mammal pets in that they need a dietary source of vitamin C. Vitamin C deficiency will lead to scurvy, a condition where a lack of vitamin C interferes with the formation of collagen, an important connective tissue in our bodies. Without adequate collagen metabolism the ligaments that hold teeth in place are weakened, and teeth will become unstable or fail to erupt.

What does dental disease do to my pet?

When rabbit and rodent teeth do not experience enough abrasion to wear down normally, a number of problems can occur. The tooth enamel may grow into spikes or spurs, causing painful abrasions or tongue entrapment. These spurs contribute to further abnormal growth, and cause the actual roots to grow or displace themselves from their normal position. Tooth roots may invade the eye socket and cause serious damage. Any kind of tooth overgrowth is painful and may cause significant stress.

What are the signs of dental disease?

We often see very vague clinical signs occur in early dental disease. Patients may experience a

reduced appetite, weight loss, hypersalivation (drooling), and may not be able to close their mouths. Swelling of the jaw may or may not be obvious. Where a tooth root has invaded the eye socket, we may observe increased tear production and bulging of the eye. Abscesses may also occur. Some patients will chatter or grind their teeth from oral pain.

How do we diagnose dental disease?

Diagnosing and characterizing dental disease in a small mammal starts with a physical exam. Most patients will allow limited examination of the oral cavity while awake. We use specialized equipment to illuminate and examine the mouth. The oral cavity in these species is long and narrow, and they rarely stop chewing-- oral exams are challenging in these species compared to dogs and cats.

If there is any indication that dental disease could be present, the next step is dental radiographs (x-rays) that are taken under sedation or general anesthesia. Radiographs allow us to see the whole structure of the skull and teeth, which can reveal changes in the root structure. Small mammal pets will not allow themselves to be safely positioned for radiographs to be taken, and the veterinarian will use this opportunity to thoroughly examine the mouth using a speculum (a medical tool used to examine bodily orifices), which these animals will not tolerate awake. If there is any corrective dental surgery to be done, we will often perform it the same day at the radiographic assessment.

How is dental disease treated?

Treatment depends of the character and severity of the disease. Spurs or spikes are treated with coronal reduction: A high-speed dental drill is used to burr away the abnormal growth to create a more normal tooth surface. Teeth that are severely deviated from their normal growth may require extraction (removal).

Because of the inherent danger of using these tools in a tiny animal's mouth, most tooth correction procedures are safest under general anesthesia. It is important to note that there is always an inherent risk to anesthesia, even in human patients. Like in our canine and feline patients at Companion Animal Hospital, we have a number of safety protocols in place to ensure that your pet's anesthesia is as safe as possible, including use of monitoring equipment to carefully assess your pet's anesthesia, and staff experienced in small exotic mammals care and medicine.

Follow-up dental radiographs may be recommended for your pet to ensure that the teeth are returning to a normal growth pattern. These may be performed with a sedation in place of anesthesia depending on the patient.

Correction of dietary factors contributing to dental disease is key. Rarely, very mild dental disease may be corrected by changing to an appropriate diet; unfortunately this is a rare occurrence as dental disease tends to be quite advanced once the patient has presented at the veterinary practice. Our staff will make recommendations for your pet's diet at home to help prevent reoccurrence of dental disease.

How do I prevent dental disease in my pet?

Congenital dental disease cannot be prevented, only managed. Regular checkups every 6 to 12 months are recommended to monitor your pet's dental health.

Providing an appropriate diet for your small mammals pet will help to prevent acquired dental disease, and can help manage congenital dental disease. Please see our species-specific care handouts for appropriate diet information for your pet. Offering safe chewing opportunities like wooden toys, Nylabone® toys, rattan chews, etc., can help wear incisor teeth.

In summary:

- Rabbits and caviomorph rodents have specialized teeth that grow throughout their entire lives (called elodont teeth). Elodont teeth are adapted to eat large amounts of rough plant material, which keeps the ever-growing enamel worn down and in good condition.
- There are two types of dental disease: Congenital (genetic or hereditary) and acquired (caused by other factors). Animals with congenital dental disease require frequent monitoring and treatment throughout their lives.
- Diagnosing dental disease requires radiographs to fully assess the teeth from root to tip.
- Treating dental disease typically requires general anesthesia to safely perform procedures in the mouth.
- Providing an appropriate diet and chewing toys helps to manage and prevent dental disease.