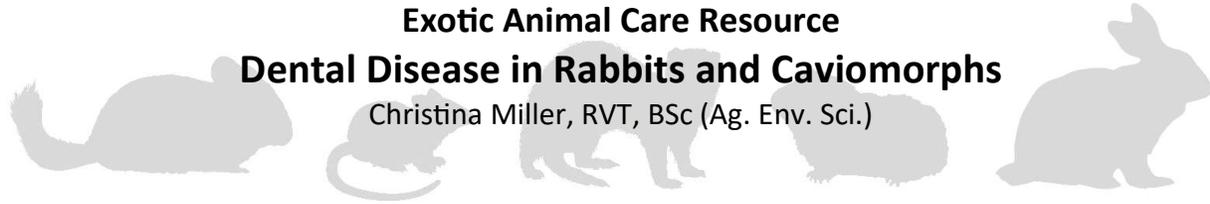


Exotic Animal Care Resource

Dental Disease in Rabbits and Caviomorphs

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Rabbits and some rodents (including pet species such as the chinchillas, guinea pigs, and degus that all belong to a group called caviomorphs) have a unique dental structure adapted to eating tough plants. They have open-rooted teeth that continue to grow through the entire life of the animal to account for the wear and tear of this type of diet.

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” in the form of grass hays (such as Timothy, oat, and orchard grass hays) to wear the always-growing teeth down. Wild animals of these species naturally eat large amounts of plants that contain **phytoliths**, which are tough mineral deposits that abrade and wear down the ever-growing tooth structure.

Some animals may have teeth that do not meet each other properly when the animal is chewing, called a **malocclusion**, and this can also result in uneven wear of the teeth. 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 such as diet. Some pets experience age-related dental disease, but the exact cause of this is not well understood. When a malocclusion is present, regular dental procedures are typically necessary to manage this condition.

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 the ligaments that hold teeth in place are weakened, and teeth will become unstable, painful, and grow abnormally.

What does dental disease do to my pet?

When rabbit and rodent teeth do not experience enough wear to wear down normally, several problems can occur. The teeth may grow “spikes” or “spurs,” which can poke or cut into cheek and tongue tissue, resulting in pain and infection. The lower teeth may also grow inwards and entrap the tongue, making it very difficult for the animal to eat.

More advanced dental disease happens below the gumline. The section of the tooth below the gumline called the reserve crown (like a tooth root in other species) can grow or displace themselves from their normal position. Reserve crowns will “back up” into the wrong spaces, growing downwards into the bone of the lower jaw and upwards into the upper jaw, causing significant pain and even abscess formation. Upper jaw (maxillary) reserve crowns may put

pressure on tear ducts and cause eye problems and can even invade the nasal cavity and eye socket and cause serious damage.

Any kind of tooth overgrowth is painful and may cause significant stress. These animals are masters at hiding signs of pain because of their instinct to hide illness. We call this **masking phenomenon** and it is important to understand the subtle signs of pain so that dental problems can be addressed as early as possible.

What are the signs of dental disease?

We often see very vague signs in early dental disease. Patients may experience a reduced appetite, weight loss, and hypersalivation (drooling). Some patients will chatter or grind their teeth from oral pain, a behaviour called bruxism. Some pets will experience “gut stasis” episodes from dental pain. Many pets will be reluctant to eat hay because of their jaw pain, which unfortunately results in worsening dental disease as there will be less wear to the teeth.

Swelling of the jaw can occur but this is not always obvious. Where a tooth root has invaded the eye socket, we may observe increased tear production and bulging of the eye. Blocked tear ducts may result in discharge from the eye since the tear duct is not draining appropriately. Nasal discharge may occur if the nasal cavity is affected. Abscesses anywhere in the skull affected by reserve crown overgrowth may also occur.

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 diagnostic imaging to see what is happening below the gumline. **Dental radiographs (x-rays)** are taken under sedation, or general anesthesia as small mammals will generally not allow for safe positioning for imaging while awake. Radiographs allow us to see the whole structure of the skull and teeth, which can reveal changes in the root structure. **Computed tomography (CT scan)** can be recommended to obtain a 3-dimensional image of the skull to better localize problems. While a pet is sedated or anesthetized, a thorough oral exam can also be performed. ***Imaging is an important step in grading the severity of dental disease.***

How is dental disease treated?

Treatment depends of the character and severity of the disease. Spurs or spikes, and overgrown crowns, are treated with a specialized dental equipment that is used to burr away

the abnormal growth to create a more normal tooth surface. This procedure is called an **occlusal adjustment**. Teeth that are severely deviated from their normal growth may require extraction (removal).

Because of the danger of using these tools in a tiny animal's mouth, most tooth correction procedures are safest under heavy sedation or general anesthesia (depending on how extensive of a procedure is needed). It is important to note that there is always a risk associated with anesthesia, even in human patients. 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 exotic mammal care and medicine.

Follow-up imaging may be recommended for your pet to ensure that the teeth are returning to a normal growth pattern. These may be performed with 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 scenario 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 re-occurrence 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; some pets may have teeth checks recommended every 8-12 weeks depending on the severity of the disease.

Providing an appropriate diet for your small mammal pet will help to prevent acquired dental disease and can help manage congenital dental disease. Most patients with acquired dental disease are not facing a lack of hay, but instead are offered too much food that does not provide wear, such as pellets.

Please see our species-specific care handouts for appropriate diet information for your pet.

In summary:

- Rabbits and caviomorph rodents have specialized teeth that grow throughout their entire lives (called hypselodont teeth). Hypselodont 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.

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