

# Rabbit Dentistry

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## Normal Anatomy and Physiology

The rabbit has a large mandible with a deceptively small oral cavity. The dental formula is: I 2/1, C 0/0, P 3/2 M 3/3 with all teeth continually growing and open-rooted (aradicular hypsodont or long-crowned without an anatomical root). The second pair of upper incisors are small "peg teeth" that sit behind the upper incisors and may be difficult to see in the normal dental arcade. Some rabbits do not have this second pair of incisors. Unlike most rodents, rabbits do not have pigmented enamel.

The rabbit uses its chisel-like incisors for lateral slicing movements that cut or crop grasses before being chewed by the "cheek teeth", which are the teeth in the back of the mouth. The cheek teeth are arranged in parallel rows and have a flat chewing surface. The jaw can move up and down, forward and back, and side to side for chewing. The cheek teeth in the back do all the chewing work.

## Oral examination

Because of the small oral cavity and large tongue of most rabbits, a thorough oral examination may be difficult without anesthesia. For a quick exam, a speculum with a light source can be inserted alongside the tongue and the cheek teeth. This quick look may be obscured by salivation and food in the oral cavity. For a complete oral examination, sedation or anesthesia will be needed in most individuals. To perform a complete dental evaluation, dental radiographs (XRAY's) are necessary (just like in people). This is especially important in those cases that present with clinical signs of malocclusion (drooling, grinding, e.g.) but have no obvious dental points on oral examination. Radiographs are important for evaluating the chewing surfaces as well as the roots.

## Symptoms

Symptoms of dental disease is what one might expect: salivating, tooth grinding, selective appetite or complete anorexia. Face fur can become matted from saliva and the forepaws are often matted from facial grooming. Bad breath can be a problem in cases with infection. Tearing eyes can be caused by upper teeth root extension into the tear duct area. In severe upper teeth root problems, there can be breathing problems, especially in obligate nose breathers like the rabbit or prairie dog.

Patients with dental disease are still bright and alert initially and appear to be hungry. In long-standing cases, however, these individuals can become very debilitated and suffer from secondary problems like dehydration, emaciation, chronic pain, and hepatic lipidosis (fatty liver).

## Common Dental Diseases

Malocclusion (latin for "abnormal chewing surfaces") is the most common dental condition seen in rabbits. The incisors and/or cheek teeth can be involved. Incisor malocclusion in rabbits is often the result of brachygnathism ("short jaw" like in dwarf breeds) or some other genetic problem. Poorly aligned incisors often become "tusk-like" in severely overgrown cases. Some individuals will break off these teeth on the cage bars. Improper alignment results in uneven wear of the cheek teeth and sharp spikes can form in the enamel resulting in pain. Incisor malocclusion is not always accompanied by points on the rear teeth, all teeth should be checked.

Treatment involves trimming of the sharp edges or overgrown teeth. Care should be taken with incisor cutting. Splitting and shattering is common with certain instruments and can lead to pain and less likely, root infection. Antibiotics are used for tooth root abscesses, which is very serious and carries a very guarded prognosis for full return to function. Owners should be aware of the likelihood of recurrence and the need for regular dental care (every 6-8 weeks).

In some chronic cases of incisor malocclusion in the rabbit, extraction may be indicated. Incisor extraction is performed under sedation. All incisors are removed. The bunnies are given pain meds before recovery and oral antibiotics for 10 days post extraction or longer if tooth root infection is present.

Tooth root elongation is seen sometimes in rabbits. Pellets, grains, and most vegetation do not provide enough chewing to wear down the cheek teeth and root extension can occur. The roots can form bumps on the lower jaw and are readily seen on radiographs and CT scans. Upper tooth root extension is difficult to feel but may be associated with ocular problems (tearing, e.g.) or sinus problems. Oral examination may show a somewhat normal crown surface and lack of points, or the crowns may appear elongated. This condition is irreversible and may result in chronic weight loss and painful chewing. These individuals are usually on syringe feedings and pain meds, which exacerbates the lack of wear on the crowns. Euthanasia may be indicated for these chronically painful individuals.

Tooth root abscesses are a serious problem in any animal. Some of these abscesses cannot be totally excised and recurrence is possible. Treatment consists of extraction of affected teeth and aggressive surgical debridement. There is usually long-term follow-up care in these patients with second and third surgical procedures common. Radiographs must be taken before surgery to assess the extent of tooth root involvement and evaluate for osteomyelitis (bone infection) of the mandible or maxilla.