

Dental Disease in Guinea Pigs

What is 'dental disease'?

Guinea pigs are hystricomorph rodents, meaning they have both continuously growing incisors and molars.

This continual growth allows them to eat fibrous and abrasive foods in their natural environment. Normally, the alignment of the teeth causes each side to wear down the opposite side, keeping everything in good balance.



Any disruption of this balance can lead to overgrowth of the molars, resulting in sharp hooks and spurs that push into the cheeks or tongue. In advanced cases, the molars can actually grow over the tongue and make swallowing almost impossible.

As dental disease progresses, the molars grow at different rates. The tooth roots also become swollen and expand into the bone of the jaws, leading to pain and increasing the risk of infection developing.

A number of other conditions can occur secondarily to dental disease and these include osteomyelitis (infection of bone), abscesses, pneumonia, gastrointestinal problems and even eye problems.

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What are the causes?

Insufficient dietary fibre

This is the most common cause of dental disease in guinea pigs. Vegetables, fruits, grains, pellets and chaff require less chewing than hay and this leads to inadequate wear on the continuously growing molar teeth. It is recommended to feed a diet that consists of 80% hay (Timothy, Oaten, Barley or Grassy types) or thick, broad long stemmed grass (not Buffalo or other normal lawn types).

Vitamin C deficiency

Vitamin C is a particularly important vitamin for healthy bones, gums and the periodontal ligaments. The periodontal ligament acts like glue, holding teeth tightly within the sockets. Diets deficient in Vitamin C can cause to weakening of this ligament, leading to loosening of the teeth in the sockets. Guinea pigs with loose teeth don't chew properly, resulting in overgrowth and misalignment of the molars.

Vitamin D and/or ultraviolet (UV) light deficiency

Guinea pigs with poor access to any or all of these factors can develop softening of the bones. Normal chewing pressure can lead to changes in the anatomy of the jaws and then molar overgrowth and mis-alignment.

'Satin syndrome'

Guinea pigs of the Satin breed appear to be over-represented in a rare disorder similar to fibrous osteodystrophy. This condition leads to significant abnormalities in all bones of the body. Dental disease is commonly associated with this disorder.

Any conditions that lead to inadequate chewing

Medical illness, pain or trauma to the jaw may cause guinea pigs refuse food, leading to poor wear of the molars. Fractures of the teeth can also set up dental disease as well as infections in the tooth roots.

How is dental disease diagnosed?

Diagnosis of dental disease can be difficult. Some symptoms can be subtle and may not be specific to dental disease. It is very difficult to see the molar teeth without specialised equipment and in some cases, a general anaesthetic is required to assess all of the molar teeth for abnormalities. In other instances, the molars above the gumline appear normal but x-rays or even CT are needed to confirm disease in the roots, jaw bones or jaw joints.

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Dental procedures

Dental procedures are performed under general anaesthesia. This is important to avoid stress, pain and be able to carefully restore the normal chewing surface slope. A dental burr is used to gradually remove all molar overgrowth and achieve as close to normal crown anatomy as possible. Clipping the teeth often leads to fractures in the teeth and subsequent infections in the soft tissues and bone. It is possible for some guinea pigs to cope with the extraction of individual molars, but removal of many teeth often leads to an inability to eat and digest food properly.

X-rays of the skull are taken during the anaesthesia to assess the bones of the skull and roots of the molar teeth. CT is a more advanced method for evaluation of the skull, which may be recommended after the initial physical examination. X-ray and CT images provides us with information on the prognosis for your pet and enables us to tailor the dental procedure to each individual case.

During a dental procedure your pet will receive fluid support, active warming and two types of pain relief.

Dietary changes

Correction of the diet is an important part of managing dental disease. If your guinea pig is not used to eating hay or rough grass, making this change needs to be carefully balanced with ensuring they are eating enough. Many guinea pigs need to be provided with supportive feeding during this transition and is especially critical following a dental procedure.

Vitamin C supplementation is also very important during the recovery process and we recommend vitamin C support for the remainder of your guinea pig's life.

What to expect after diagnosis?

The short and long term prognosis will vary between individual cases. Unfortunately, there is no cure for dental disease and in the great majority of cases it is considered a terminal condition. It is important to be

aware that the symptoms of dental disease will ultimately recur. The molars, roots and skull become progressively more abnormal over time, even despite intensive and appropriate treatment. The aim of management is to control discomfort, restore the ability to eat and minimise secondary complications associated with dental disease. Osteomyelitis, pneumonia, abscesses and other secondary conditions can significantly impact on the prognosis.

Frequently asked questions

How quickly will they recover from a dental procedure?

Unfortunately, it is difficult to predict how each guinea pig will react to any dental procedure. In the first few days after a procedure, they may be quiet and more tired than normal due to the sedatives and anaesthetic.

Their appetite should gradually and steadily improve. Many regain a normal appetite within a few weeks, while others have difficulty for longer. It is possible that they continue to deteriorate after dental restoration.

How often will they need the procedure?

In many cases, a repeat dental procedure is required within the first month after the initial restoration. After this, the time frame between procedures varies between individuals from 2 weeks to 12 months. An average frequency is 1-3 months. Over time the need for dental procedure increases as the disease progresses.

