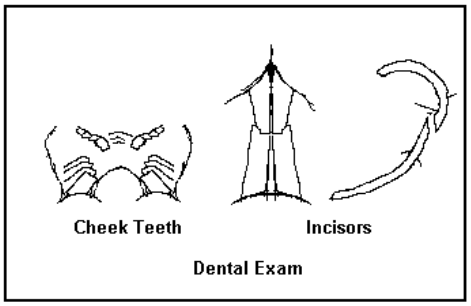
ALL CREATURES ANIMAL HOSPITAL

Guinea Pig Health Care

Dental Disease



In guinea pigs, all teeth grow continuously (elodontic). These teeth serve an important function in that they can tear and shear grasses. Malocclusion of the cheek teeth (premolars and molars) is common in guinea pigs. Incisor overgrowth can occur due to trauma or secondary to the malocclusion of the cheek teeth. Dental malocclusion can occur due to poor diet, lack of the proper amount of vitamin C in the diet (see section on Hypovitaminosis C), shape of the head and jaw, and poor breeding.

Molar malocclusion leads to abnormal wear and sharp painful points on the teeth. The lower teeth angle medially. If the alignment is not correct, they can grow into an arch that entraps the tongue. The upper teeth angle outward toward the cheek. Overgrowth causes spurs that puncture the cheek mucosa. Affected guinea pigs will exhibit reduced appetite, weight loss, drooling, inability to hold food (picks up the food and then drops it), and other signs of pain.

Incisor malocclusion can also occur with similar signs. However, please note that the normal length of the lower incisors is 3 times the length of the upper incisors.

If your guinea pig is exhibiting any of the signs listed above, we recommend you see your vet **immediately**. Treatment of malocclusion usually requires trimming/filing the affected teeth under anesthesia. Additional treatment may include antibiotics, pain relief, fluids and nutritional support. There is no permanent solution for this problem. Regular rechecks are required to prevent reoccurrence and periodic trimming/filing is usually necessary.

Hypovitaminosis C

Vitamin C deficiency, hypovitaminosis C (Scurvy) is common in guinea pigs not fed the proper diet. Guinea pigs cannot synthesize vitamin C because they lack an enzyme needed to convert glucose to vitamin C. Vitamin C is a critical nutrient in collagen synthesis. Signs of hypovitaminosis C include bleeding, swollen, painful joints, poor hair coat, lameness, anorexia, delayed wound healing, secondary infections, and diarrhea. Hypovitaminosis C predisposes the guinea pig to molar malocclusion as the teeth loosen and shift (refer to section on Dental Disease).

Treatment of hypovitaminosis C involves supplemental vitamin C, antibiotics, pain relief, fluids, and nutritional support. Refer to the Diet Handout for further information on vitamin C requirement.

Gastrointestinal Disease

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 guinea pig to eat or drink less may result in reduced motility of the GI tract.

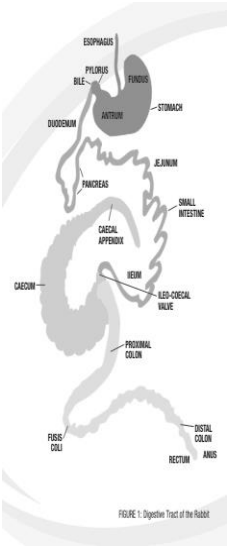


FIGURE 1: Digestive Tract of the Rabbit

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 large intestine is primarily comprised of anaerobes. Any changes in this delicate microflora population can have devastating effects.

A guinea pig 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 infections, uterine infections, abscesses, respiratory infections, inner and middle ear infections, strokes, parasitic diseases, stress and toxin exposure.

The problem is primarily a GI *motility* disorder, which is common in all of the hindgut fermenters. 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 guinea pig 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 guinea pig eats or drinks, the more compacted the contents become until the guinea pig stops eating entirely. When the guinea pig stops eating, the intestinal tract stops moving and the problem escalates.

Since guinea pigs cannot vomit, affected guinea pigs will exhibit anorexia, weight loss, reduction in stool volume and numbers, and abdominal pain. A guinea pig with these signs should be seen by your veterinarian **immediately**. Guinea pigs 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 guinea pig'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 guinea pig may need to stay in the hospital for treatments until its condition is stabilized.

Reproductive Disease

Dystocia (difficult birth) is common in guinea pigs when their first pregnancy begins after 6 months. Guinea pigs have an open pubic symphysis until they reach 6-7 months old. After that, the symphysis fuses making the birth canal too small for parturition (birth). If this happens a cesarean section (surgery) will be required.

Overweight females are highly susceptible to another disorder called pregnancy toxemia. Sows that are overweight and suddenly stop eating will develop ketoacidosis as they start to metabolize fats instead of proteins. Affected sows will have an acute onset of severe depression progressing to convulsions and death. Treatment includes intensive therapy with intravenous fluids, steroids, and supportive care. Unfortunately, the prognosis for recovery is grave.

Finally, intact female guinea pigs can develop cystic ovaries. Breeding sows show a decline in fertility. Non-breeding sows present with hair loss on both sides of the lower half of the body. Also, the abdomen appears larger than normal. Diagnosis is usually made based on clinical presentation and history. Spaying the guinea pig is the treatment of choice.

Upper Respiratory Infections

Pneumonia and other respiratory infections, caused by *Bordatella* or *Streptococcus* and others, are common in guinea pigs. Rabbits and dogs are subclinical carriers of *Bordatella* and should NOT have contact with guinea pigs. Clinical signs include ocular or nasal discharge, sneezing, wheezing, dyspnea (difficulty breathing), anorexia, and pyrexia (fever).

Occasionally, middle or inner ear infections accompany respiratory disease in guinea pigs. Additional signs would include incoordination, head tilt, circling to one side, and rolling. Your veterinarian may require blood work and/or radiographs to fully evaluate the condition of your guinea pig. Treatment includes aggressive antibiotic therapy and supportive care.

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Bladder Stones

The color of a guinea pig's urine can vary from clear, yellow to reddish-orange or cloudy to almost white. These changes in color are due to pigments in the urine, called porphyrin, and calcium precipitate. The amount of calcium in the urine is somewhat related to the amount of calcium in the diet. Guinea pigs on high calcium diets such as alfalfa pellets and alfalfa hay can develop bladder or kidney stones. Other, unknown factors also influence the calcium metabolism.

Affected guinea pigs exhibit vague signs of pain, such as not eating, or blood in the urine. Radiographs are necessary to make a diagnosis. Surgical removal is required if the stone is in the bladder. Prognosis is considerably poorer if the kidneys are affected. Reoccurrence is common. However, reducing the amount of calcium in the diet may be beneficial. Antibiotics are usually necessary since a bacterial infection in the bladder is commonly associated with urolithiasis (bladder stone).

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

Hair Loss

Hair loss or thinning can occur for a number of reasons. Barbering (one guinea pig chewing the hair of another guinea pig that is lower in the social pecking order), skin parasites, fungal infections, and cystic ovaries (discussed in the section on reproductive disorders) can all cause hair loss in guinea pigs. The only "treatment" for barbering is to separate the guinea pigs.

Skin parasites, mites and lice, are common in guinea pigs. In addition to hair loss, the clinical signs include scabbing, flaking, pruritus (itching) and reddening of the skin. Skin parasites are easily diagnosed by direct visualization or skin scrapings. Treatment consists of Ivermectin or Revolution.

Fungal infections, such as ringworm, can also occur in guinea pigs. They present with similar signs of hair loss and pruritus. Ringworm is diagnosed by culture and treated with oral antifungals. Since many guinea pigs can be afflicted with ringworm and skin parasites at the same time, diagnostics to rule out both should be performed. However, pruritic guinea pigs with negative skin scrapings and culture should receive a treatment trial for parasites prior to more invasive diagnostics.

All litter and porous furniture (wood, paper) should be discarded. The cage and furniture should be thoroughly cleaned and disinfected and fresh bedding given weekly during treatment for parasite and fungal infections.

Antibiotic Associated Intestinal Disease

Guinea pigs are very sensitive to many common antibiotics. For this reason, never attempt to treat your guinea pig at home without prior consultation with your veterinarian. Many antibiotics which are safe for other animals can be lethal to guinea pigs.

The primary mechanism behind this lethal effect is a dramatic alteration of the normal bacterial flora in the gastrointestinal tract. By interfering with the normal beneficial bacterial flora in the guinea pigs digestive tract, harmful chemicals are produced. These chemicals (toxins) build up in the guinea pigs body leading to serious illness or death.

"Never attempt to treat your guinea pig at home without first consulting your veterinarian."