

The Guinea Pig



Adapted from the Small Mammal Health Series by Susan Brown, DVM
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The Guinea pig or cavy is a docile rodent native to the Andes Mountain area of South America. They were first domesticated by the Andean Indians of Peru who used them as a food source and as a sacrificial offering to Incan gods. During the 16th century, Dutch explorers introduced guinea pigs to Europe where they were selectively bred by fanciers. The guinea pig entered the research laboratory in the 18th century and has since made significant contributions to the scientific community. To this day, the guinea pig remains a favorite pet among children due to their docile behavior, ease of handling, and clean, quiet nature.

Through selective breeding efforts, guinea pigs are found in an array of colors and coat types from which to choose. Four primary varieties are commonly encountered in the pet industry. The Shorthair or English is characterized by having a uniformly short hair coat. The Abyssinian has whorls or rosettes in their short, rough, wiry coat. The Silky is a large variety distinguished by its medium length silky hair. The Peruvian is recognized by its very long silky hair. All types are commonly kept as pets.

Handling

The Guinea pig's natural curiosity and friendly disposition makes it fairly easy to handle. Most Guinea pigs will approach a hand introduced into their cage and can be easily scooped into the palm of the hand. Usually, cupping one hand under the rump while the other hand cradles the midsection is a good way to pick up guinea pigs safely. Two hands are recommended because there is less risk of dropping them. Guinea pigs are quite nose-heavy, and will do a potentially injurious nosedive if dropped. Guinea pigs not accustomed to being handled may jump and run, but rarely turn aggressive.

Housing

Guinea pigs can be housed within enclosures made of wire, stainless steel, or durable plastic. Wood should not be used due to difficulty in cleaning and susceptibility to destructive gnawing. Many plastics are also easily destroyed by gnawing. The enclosure should have adequate ventilation. The design and construction of the enclosure must be escape-proof. The size of the enclosure should allow for normal guinea pig activity. Approximately 100 square inches of floor area per adult guinea pig is recommended. The enclosure can remain opened on the top if the sides are at least 10 inches high (as long as other family pets such as dogs or cats are not a threat).

Cage flooring should be solid. Housing on wire over long periods of time often results in foot pad and hock infections from abrasive rubbing on fecal soiled wire. Bedding materials must be clean, non toxic, absorbent, relatively dust-free, and easy to replace. Acceptable beddings are shredded paper and commercial pellets. Wood shavings are not recommended.

The Guinea Pig

The environment in the vicinity of the pet's cage is another important consideration. Because of their sensitive nature, guinea pigs are more comfortable and relaxed when housed in a quiet spot away from noise, excitement, and other such stresses. Guinea pigs thrive in a dry, cool environment with adequate ventilation. Drastic environmental changes should be prevented (especially high temperatures and humidity). Since they are nocturnal (active at night), guinea pigs require quiet periods of light in order to rest.

In some cases, more than one animal may be safely housed together. Males and females, if neutered and spayed, can remain in the same enclosure. However, animals may occasionally fight. Older, dominant animals may also chew on the ears or hair of subordinate cage-mates.

Guinea pigs often like to have a hiding place in their enclosure to retreat to, such as a "pigloo" or small cardboard box open on one side. Guinea pigs that spend all their time hiding in their "safe house" may be nervous or uncomfortable in their environment and should be separated or moved to a quieter area.

Diet

The most important part of a guinea pig's diet is good quality grass hay, which should be available all the time. You can use any grass hay, including timothy, orchard grass, brome and other grass hays. Avoid the use of alfalfa, which is not a grass but rather a legume (like peas and beans) and is generally too high in calories. The hay can be provided in a hay feeder or put in the corner of the cage. Even better, put it in an "edible" basket or cardboard box for more fun!

Guinea pigs do not produce their own vitamin C. They share this quality with humans and primates. We all need an outside source of vitamin C in order to avoid developing a serious medical condition called scurvy. Fortunately, it is pretty easy to provide your guinea pig with approximately 30 mg of vitamin C daily by giving some fresh vegetables, particularly dark leafy greens such as kale, collard greens, mustard greens or dandelion greens. One-quarter ($\frac{1}{4}$) cup (packed) of any of these greens coarsely torn or shredded will provide more than enough vitamin C daily. The total amount of fresh foods given in a day should be around $\frac{1}{4}$ to $\frac{1}{2}$ cup (torn or shredded and packed in the measuring container). When testing out new fresh foods, add a small amount of the new food every 3 to 4 days to allow the intestinal tract to adjust and to see if the guinea pig will eat it.

Guinea pig pellets can be given to your pet in limited quantities. Please use guinea pig pellets, which have additional vitamin C, and not rabbit pellets. Read the label and use a brand that is grass-hay based and not alfalfa based, if at all possible. Also look at the date that the food was produced and try to buy food that is no more than 3 months (90 days) past that date. If the food is too old, the vitamin C levels will have decreased dramatically. Decrease the amount of pellets in the diet if he or she is gaining too much weight. Generally, an adult guinea pig with a medium level of exercise would get no more than $\frac{1}{4}$ cup of pellets a day along with unlimited grass hay and a moderate amount of fresh foods.

Foods to completely avoid are the high starch foods such as peas, beans, corn, nuts, cakes, cookies, cereal, grains, breads, and so on. These foods can create a serious imbalance in the normal bacteria in the intestinal tract and lead to potentially fatal disease. Although very small amounts of these foods can be tolerated, guinea pigs can get "addicted" to them to the point they don't want to eat healthier foods. Therefore, it is best to just avoid them all together.

Fresh, clean water should always be available either in a sipper bottle or a heavy crock that prevents spillage. Guinea pigs like to play with their water bottles, so make sure you check the bedding under the bottle for moisture and change it frequently. Do not add any medications or vitamins to the water as it will change the taste and your guinea pig may not drink as much. Not drinking enough water can lead to chronic dehydration and potentially diseases such as kidney disease and kidney or bladder stones.

The Guinea Pig

Common Medical Diseases

Slobbers / Dental Malocclusion

Slobbers is the condition whereby the fur under the jaw and down the neck remains wet from the constant drooling of saliva. The primary cause for this condition is overgrowth of the guinea pig's premolars and/or molars. Most often this occurs in older (2-3 years of age) guinea pigs and usually involves the premolars (the most forward positioned cheek teeth). The overgrowth is due to improper alignment of the teeth when chewing. The overgrown tooth causes injury to the guinea pig's tongue resulting in an inability to chew and swallow food, drooling down the chin and neck, and weight loss (often severe).

A veterinarian must be consulted as soon as this condition is suspected. The diagnosis is confirmed by visual examination of the mouth. Correction of the problem involves trimming or filing of the overgrown teeth (usually requiring general anesthesia). Dental work in the mouth of a guinea pig is difficult due to the extremely small mouth opening. In addition, force feedings and antibiotics may be necessary to aid in the recovery.

There is no permanent solution or correction to this problem. Periodic trimming or filing of the teeth is usually necessary. Guinea pigs with this problem should not be bred since dental malocclusion is often hereditary.

GI Stasis/Ileus

GI Stasis (also known as ileus) often occurs secondary to some other condition, such as pain, a stressful or frightening event, or other underlying disease. The signs of GI stasis are often decreased appetite and decreased or abnormal appearing stool. The pet may also be lethargic.

It is important for the pet to be examined by a veterinarian if these signs are seen to rule out other causes of these signs and start treatment as soon as possible. In some cases it is mild and the appetite and stool production are mildly decreased and then improve on their own. In other cases, there is a complete loss of appetite and stool production and the pet is lethargic.

The rule of thumb regarding the seriousness of the loss of appetite and decreased stool is:

- Loss of appetite but otherwise acting normal should be investigated within 24-48 hours. Some pets may go through a slow down and then pick up again in a day. The key here is that the pet is still active and alert, and is still producing stools.
- Loss of appetite accompanied by obvious lethargy or depression should be considered an emergency and should be investigated immediately. Another important sign is that no stools are being produced.

Treatment of GI stasis often involves rehydration, syringe feeding, and medications for pain and GI motility.

The Guinea Pig

Bacterial Pododermatitis (Footpad Infection)

Severe infections of the footpads are very common among guinea pigs housed in cages with wire flooring. Fecal soiling of the wire potentiates the problem. The guinea pig's front feet are most vulnerable to this condition.

Symptoms of this condition include swelling of the affected feet, lameness, and reluctance to move. Improved sanitation and cage floor alterations are the initial steps in correcting the problem. In addition, the feet themselves should be treated by a veterinarian. Topical dressing with an antibiotic and periodic bandaging is often required. Depending on the severity of the damage, injectable antibiotics may also be necessary. Therapy may have to be carried out for a lengthy period of time to get full recovery.

External Parasites (Lice and Mites)

Lice and mites are the most common external parasites of guinea pigs. Lice are tiny, wingless, flattened insects that live within the hair coats of infested animals. Both adults and eggs are found attached to hair shafts of affected pets. Mites are microscopic, spider-like organisms that infest the top layers of the skin in affected animals. Guinea pig lice and mites are not known to parasitize humans.

Mite infestations are usually more severe than lice. A specific mite, *Trixacarus caviae*, causes serious infestations in pet guinea pigs. This sarcoptic mite lives in the outer layers of skin causing an intense itching and scratching with considerable hair loss. In some cases, they present without itching and scratching but with only hair loss and crusting of the skin. In other cases, the infestation and irritation is so severe that the pet causes significant self-inflicted wounds and can even have seizures.

A veterinarian can diagnose this mite infestation by performing skin scrapings of affected areas and viewing them under the microscope. Successful treatment consists of one to four injections of a specific anti-parasitic drug at approximately two week intervals. In the meantime, if wood shavings are used as bedding or litter, it should be replaced with paper toweling to make your pet more comfortable.

Transmission of *Trixacarus caviae* mites can occur only through direct contact between infested and non-infested guinea pigs. Therefore, pet guinea pigs are not likely to harbor this parasite unless they are recent additions or had previous exposure to mite-infested guinea pigs. For your pet's sake, be sure that any guinea pig (s)he comes in contact with is healthy and free of this and other parasites.

Lice infestations often go unnoticed. However, heavy infestations are usually accompanied with excessive itching, scratching, and some hair loss. Scabbing on or around the ears may also be evident. Guinea pigs have two types of biting lice that may parasitize them. Both irritate and abrade the skin's surface and feed off the bodily fluids that exude through the superficial wounds they create.

A veterinarian can confirm the diagnosis of lice infestation by examination of the hair coat as well as microscopic examination of hairs from affected animals.

As with mites, lice transmission occurs through direct contact with infested guinea pigs. Therefore, pet guinea pigs are not likely to have this parasite unless they had previous exposure to lice-infested guinea pigs. For your pet's sake, be sure that any guinea pig (s)he comes in contact with is healthy and free of this and other parasites.

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Pneumonia

Pneumonia is one of the most common bacterial diseases of the pet guinea pig. Respiratory infections are caused by a number of viral and bacterial agents. Many of the disease-causing organisms inhabit the respiratory tracts of clinically normal guinea pigs. Conditions of stress, inadequate diet, and improper husbandry will often predispose a pet to an opportunistic infection with one or more of these agents. Symptoms of pneumonia may include dyspnea (difficulty breathing), discharge from the nose and eyes, lethargy, and inappetance. In some cases, sudden death will occur without any of these signs.

Veterinary consultation should be sought when a guinea pig exhibits any of the above symptoms. Aggressive antibiotic therapy in addition to supportive care of the patient may be necessary to get the condition under control. Unfortunately, even though elimination of the symptoms may be possible with appropriate therapy, eradication of the causative bacteria is often not possible.

Heat Stress (Stroke)

Guinea pigs are very susceptible to heat stroke, particularly those that are overweight and/or heavily furred. Environmental temperatures above 85 degrees, high humidity (above 70%), inadequate shade and ventilation, overcrowding, and other stresses are additional predisposing problems.

Signs of heat stroke include panting, slobbering, weakness, reluctance to move, convulsions, and ultimately, death. This is a treatable condition if recognized early. Heat stressed guinea pigs should be misted with cool water, bathed in cool water, or have rubbing alcohol applied to footpads. Once this first aid measure is accomplished, veterinary assistance should be sought immediately.

Prevention of heat stroke involves providing adequate shade and proper ventilation. In addition, a cool misting of water and/or a fan operating over a container of ice can be directed toward the pet's cage. If indoors, air conditioning during the heat of the summer provides the best relief.

Scurvy (Vitamin C Deficiency)

Guinea pigs cannot manufacture vitamin C and must receive an adequate supply from outside food sources. Lack of sufficient vitamin C in the diet results in scurvy. The symptoms of scurvy include poor appetite, swollen, painful joints and ribs, reluctance to move, poor bone and teeth development, and spontaneous bleeding especially from the gums, into joints, and in muscle. If left untreated, this disease can be fatal especially to rapidly growing young and pregnant females. In addition, subclinical deficiencies often predispose animals to other diseases.

The mandatory level of vitamin C is supplemented in commercial guinea pig pelleted rations. However, with improper storage and handling these pellets lose their potency rapidly. In fact, even when properly stored in a cool, dry environment, fresh pellets lose up to half of their potency in only six weeks or so due to degradation of the vitamin. For this reason, further supplementation is recommended.

These animals should be examined at the first sign of this condition for early diagnosis and treatment. Early supplementation of vitamin C (either in food or water, or by injection) is required to reverse the symptoms.

Bladder Stones

Both male and female guinea pigs can form bladder stones, for reasons that are not fully understood. Sometimes, they have no clinical signs and the stones are discovered on physical exam or x-ray. When they do have signs, they include straining to urinate, pain or vocalizing when urinating, and/or blood in the urine. In some cases, the stone passes into and obstructs the urethra causing dribbling urine, or straining to urinate without producing urine, and eventually shock and death. A guinea pig should be examined by a veterinarian as soon as possible if a bladder stone is suspected.

The Guinea Pig

Dystocia

Female guinea pigs have soft cartilage joints in their pelvis when they are born. If they are not bred by the time they are 4-6 months old, this cartilage ossifies (becomes bony) and the pelvis is no longer able to widen to enable delivery. Guinea pigs that are bred for the first time after they are six months old are unable to give birth on their own due to fusion of the pelvis and will require a C-section in order to deliver the litter.