



Care sheet

for

Guinea Pigs

Care of Guinea Pigs

Guinea pigs are rodents (related to chinchillas and porcupines) that originated from the Andes Mountains region of South America. They were probably first domesticated by the Indians of Peru, who used them for food and as sacrificial offerings to their gods. In the 16th century, Dutch explorers introduced guinea pigs to Europe, and selective breeding and captive rearing began in earnest.

Guinea pigs are very popular pets because of their availability, docile temperaments, tendency not to bite or scratch when handled, and relatively clean habits. They are not long-lived, which can be disconcerting to owners (especially children). Many parents, however, believe that having their children experience the relatively short period of companionship and subsequent death is a meaningful way to expose children to the 'ups and downs' of life.

In their natural habitat, guinea pigs live in open, grassy areas. They seek shelter in naturally protected areas or burrows deserted by other animals. Guinea pigs are sociable animals and tend to live in groups. They are strictly herbivorous (plant-eating) and do most of their foraging for grasses, roots, fruits and seeds in the late afternoon and early evening.

For many years guinea pigs have been used in biomedical research laboratories. Consequently, their medical problems have been traditionally approached on a group basis, rather than on an individual basis. As a result, very little practical information exists on the medical care and treatment of individual pet guinea pigs. Even less information is available to owners on the responsible home care of guinea pigs and recognition of their medical problems.

Handling and Restraint

Guinea pigs rarely violently struggle when they are being picked up but often make a 'squeal of protest,' which sounds pig-like to many people. Nevertheless, great care should be taken not to injure them when picking them up. The guinea pig should be approached with 2 hands. One is placed under the guinea pig's chest and abdomen and the other supports its hindquarters. Adults and those that are pregnant should receive gentle, but firm, and total support.

One of the most desirable features of guinea pigs as pets is that they rarely bite when being handled or restrained. One reference indicates that only 1 in 400 will bite under these circumstances.

Housing

Proper housing is a major factor in the maintenance of healthy guinea pigs. The well being of the animals must be a primary consideration. Guinea pigs can be housed within enclosures made of wire, stainless steel, durable plastic, or glass. The last 3 materials are preferred because they resist corrosion. Wood and similar materials should not be used in construction of enclosures because they are difficult to clean and cannot withstand gnawing. The construction and design of the enclosure must prevent escape. The enclosure also must be free of sharp edges and other potential hazards.

The enclosure must be roomy enough to allow normal activities and breeding, if the latter is desired. One reference recommends at least 100 inches² (652 cm²) of floor area per adult, whereas breeders should be allowed 180 inches² per animal. Pets should have two times as much floor space.

The enclosure can be open at the top, provided that its sides are at least 7-8 inches high. Male guinea pigs (especially breeding males) require enclosures with sides at least 10 inches high. Males tend to be more rambunctious.

Guinea pigs can be housed on wire mesh (suitable for housing rats) but it is not recommended. Though wire mesh allows urine and most fecal pellets to drop through, thereby keeping the bedding and the residents cleaner, guinea pigs housed for long periods on wire tend to develop serious injuries to the bottoms of their feet (see section on Foot Pad Infections). Furthermore, a leg may be broken if it becomes entangled in the mesh. This is most often a problem with guinea pigs that have not been reared on wire mesh, and occurs soon after they have been introduced onto it.

Enclosures that provide solid flooring and an adequate supply of preferred bedding are best for pet guinea pigs. They should be easy to clean, well lighted, and adequately ventilated (see Vital Statistics for preferred temperature and relative humidity ranges). Bedding must be clean, nontoxic, absorbent, relatively dust-free and easy to replace. Shredded paper, wood shavings, and processed corn cobs are preferred bedding materials. Sawdust should be avoided because it tends to collect within the external genitalia of males, forming an impaction. Rarely does this impaction interfere with urination, but it may inhibit successful breeding.

Guinea pigs seem most comfortable when they are spared exposure to excessive noise, needless excitement and confusion, and other stresses. Sudden environmental changes should also be prevented.

Guinea pigs have two types of reactions when startled by a loud noise or sudden movement or when placed in a strange environment. They may 'freeze' completely motionless (for up to 20 minutes), or they may panic. Panic involves erratic running and leaping & often accompanied by shrill squealing. Groups of guinea pigs may stampede in a circle, often trampling the younger residents within the enclosure. A panic reaction scatters bedding and food, fouling the food and water containers. Visual security (a 'hide box' into which they can retreat when frightened) should always be provided. Rectangular enclosures containing barriers also reduce the tendency to stampede and circle. Flystrike (maggots) is a risk to obese and old guinea pigs kept outdoors as they are less able to reach the anus to eat soft faecal pellets at night.

Hygiene

The frequency with which the enclosure is cleaned depends on its design, the materials out of which it is made, and the number of guinea pigs that reside within it. As a general rule of thumb, the enclosure and all cage 'furniture' should be cleaned and disinfected once weekly. Food and water containers should be cleaned and disinfected once daily. More than one set of containers should be maintained, and the soiled set should be washed in a dish-washer, if possible. Vigorous scrubbing of the enclosure and 'furniture' with hot water and soap and a thorough rinse should be followed by use of a disinfectant (Virkon). Vinegar is often required to remove the scale deposited by the crystalline urine of guinea pigs.

Food and Water

Good-quality food and fresh, clean water must be readily available at all times. Commercially available pelleted chows provide all of the essential nutrients, as long as the pellets are fresh and wholesome when offered. Some guinea pig owners are tempted to feed rabbit pellets, assuming that they are roughly equivalent to guinea pig pellets, but this is not so. Unlike most mammals (including rabbits), guinea pigs require a high level of the vitamin, folic acid. Unlike rabbits, guinea pigs cannot manufacture their own vitamin C and must, therefore, receive it from an outside source. Interestingly, people and our primate relatives share this dependence on vitamin C from the food we consume. Pellets milled for guinea pigs take these special requirements into consideration and are appropriately fortified with these 2 nutrients, among many other essential ones.

Guinea pig chows generally contain 18-20% protein, 16% fiber and about 1 gram of vitamin C per Kilogram of ration. Even when the fresh pellets are properly stored in a cool, dry place, about half of the vitamin C content is degraded and lost within 6 weeks of manufacture (see Vitamin C section).

Researchers are not in agreement on the advisability of adding other items to the balanced ration (pelleted chows). We recommend that fresh greens, alfalfa or grass hay and small amounts of fruit be offered daily with several precautions. These items should not exceed 10-15% of the daily diet. Furthermore, the fresh items must be thoroughly washed to avoid pesticide residues and possible bacterial contamination.

All foods should be provided in heavy ceramic crocks that resist tipping over. The sides of the crocks should be high enough to keep bedding and fecal pellets out of the food, or the crocks should be elevated slightly above the bedding.

Water is most easily made available and kept free from contamination by providing it in one or more water bottles equipped with 'sipper' tubes. Guinea pigs tend to contaminate and clog their water bottles more than other pet rodents by chewing on the end of the sipper tube and 'backwashing' food particles into it. For this reason, all food and water containers should be cleaned and disinfected daily.

Guinea pigs tend to be creatures of habit and do not tolerate changes in the presentation, taste, odor, texture or form of their food and water. Pet owners should avoid making radical changes in the food and water containers. Any changes in the food itself should be made gradually. Failure to do so usually results in the guinea pigs' refusing food and water, which can lead to disease.

Breeding Considerations

The single most important breeding consideration is that female guinea pigs should be first bred before 7 months of age. If the first breeding is delayed beyond this time, serious (sometimes life-threatening) problems with delivery are encountered. Females should be first bred between 3 and 7 months of age. Males should be 3-4 months old at their first breeding.

The guinea pig's heat cycle lasts 16 days. The period during which the female is receptive to the male and will allow breeding lasts about 8 hours. Female guinea pigs can come back into heat 6-15 hours after giving birth. This is called a 'postpartum estrus', which means that they can be nursing a litter and pregnant at the same time!

Pregnancy lasts an average of 63-63 days. The larger the litter, the shorter the term of pregnancy and vice versa. The duration of pregnancy for guinea pigs is unusually long when compared with that of other rodents.

Pregnant sows (females) exhibit a grossly enlarged abdomen during the latter stages of pregnancy. It is not uncommon for their body weight to double during pregnancy. The time of delivery may be difficult to determine because of the relatively long gestation period and because pregnant sows do not build nests. However, the week before a sow is about to deliver a litter, a slowly widening separation of the pelvis develops just in front of the external genitalia. This separation reaches slightly more than 1 inch in the hours just before delivery.

This separation of the pelvis does not develop in females that are bred for the first time after 7 months of age, creating an impossible and tragic situation. Delivery of the young is not possible and a cesarean section must usually be performed to save the life of the sow and her babies.

An uncomplicated delivery usually requires about 1/2 hour, with an average of 5 minutes between delivery of each baby. Litter sizes range from 1 to 6 young, with an average of 3-4. Litters resulting from the first breeding are usually very small. Abortions and stillbirths are common with guinea pigs throughout their breeding lives.

The young are born relatively mature. They are unusually large and fully furred, and can walk about. They also have teeth and open eyes at this time. Even though newborn guinea pigs can eat solid food and drink water from a container, they should be allowed to nurse their mother for at least 2 weeks.

Conditions Requiring Veterinary Attention

Malocclusion of Premolar Teeth (Slobbers)

A common problem of guinea pigs (especially those over 2-3 years old) results when the upper and lower premolar teeth (the most forward cheek teeth) meet improperly while chewing. In time, this problem results in abnormal wear of these teeth. This in turn causes entrapment of and continual injury to the tongue. Affected animals try to eat but cannot chew and swallow food. Drooling results in a continually moist mouth and chin. Weight loss is often dramatic.

A veterinarian must be consulted as soon as possible if this condition is suspected. The diagnosis is confirmed upon direct visual examination of the mouth. Correction of the problem involves general anesthesia and aggressive trimming or filing of the overgrown teeth. This is a difficult procedure because of the guinea pig's extremely small mouth opening.

There is no permanent solution or correction for this problem. Periodic trimming or filing is almost always necessary. Guinea pigs with this problem should never be bred so as to prevent passing this most undesirable trait to their offspring.

Vitamin C Deficiency (Scurvy or Scorbutus)

Guinea pigs cannot manufacture vitamin C and must receive an adequate supply of it from outside food sources. Vitamin C deficiency results in scurvy,

which is characterized by inappetence, swollen, painful joints and ribs, reluctance to move, poor bone and teeth development and spontaneous bleeding from the gums and into muscle.

Adequate levels of vitamin C are always included in the formulation of pelleted diets for guinea pigs. Don't rely upon vitamin C in the food!!!! Improper storage (exposure to light, heat and dampness) of the feed pellets results in loss of vitamin C. Therefore, even guinea pigs fed presumably reliable pelleted diets may develop scurvy if the diet's vitamin C content has been reduced or lost. Adults require 10 mg/kg body weight/daily with pregnant sows requiring 30 mg/kg body weight/daily. The diet should be supplemented with vitamin C as follows: 1 gm of ascorbic acid (vitamin C) should be added to 1 litre of drinking water, made up fresh every 24 hours or a single guinea pig should be offered one handful of kale or cabbage or one-quarter of an orange daily. Other foods high in vitamin C include leafy greens, beet greens, parsley, spinach, red or green pepper, broccoli, tomato and kiwi. Many proprietary 'pet vitamin drops' do not supply enough of this vitamin and increasing the dose can lead to dangerously high vitamin A levels. A Veterinarian should be consulted if this disease is suspected so that the diagnosis can be confirmed. The veterinarian will prescribe a program of vitamin C supplementation (via food or water or injection) to reverse the signs.

Vitamin C deficiency can lead to:

Weight loss Rough coat Diarrhea Abortion, stillbirths Ocular and nasal discharge Delayed wound healing Pneumonia Malocclusion, dental problems Cystitis Pododermatitis Joint swelling, fractures Skin disease
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Difficulties During Birth

Dystocia: Female guinea pigs intended for breeding must be first bred before 7 months of age. If the first breeding is delayed beyond this time, serious (sometimes life-threatening) problems with delivery are encountered.

A portion of the pregnant sow's pelvis must widen for successful delivery of her young. This separation fails to develop in females bred for the first time after 7 months of age, usually necessitating a cesarean section to deliver the young and save the sow's life.

Signs of dystocia include straining and uterine bleeding. Veterinary help must be sought immediately. The veterinarian will evaluate the pregnant sow by direct exam and by taking x-rays. If a vaginal delivery of the young is not possible, a cesarean section will be necessary.

Pregnancy toxemia is a serious condition that usually occurs in overweight sows in their first or second pregnancy. Signs are most likely to be noted over 1-5 days during the last 2 weeks of pregnancy or the first week following birth. These include inappetence, depression, weakness, reluctance to move, incoordination, difficulty breathing, coma and death. Some afflicted sows may show no signs and suddenly die. There is no single cause for this condition, but stress and obesity are major predisposing factors.

Others include advancing age, lack of exercise, fasting just before the onset

of signs and a large number of developing fetuses. The fundamental underlying problem appears to be inadequate blood flow to the pregnant uterus.

Sows showing any of these signs must be seen immediately by a veterinarian. Because treatment is often unsuccessful prevention of pregnancy toxemia is of paramount importance. Pregnant sows should not be allowed to become obese. Fasting and stress must be avoided, especially in the last several weeks of pregnancy. Pregnant sows must be supplied with fresh water at all times and fed a nutritious diet.

Hair Loss

Hair loss or thinning of the hair is a common problem of female guinea pigs that have been repeatedly bred. These sows tend to lose hair with each successive pregnancy. Cystic ovarian disease in ageing guinea pigs can cause hormonal hair loss.

Hair loss is frequently noted among juvenile guinea pigs in a weakened state at or around the time of weaning. 'Barbering' also results in hair loss. This vice (bad habit) occurs when guinea pigs habitually chew on the hair coats of guinea pigs that are lower in the social 'pecking order'. Barbering may also be due to lack of dietary fiber. Younger guinea pigs, in particular, can lose substantial amounts of hair as a result of this activity (especially from sows). Hair can also be lost because of fungal disease and external parasite infestations.

Heat Stress (Heat Stroke)

Guinea pigs are especially susceptible to heat stroke, particularly those that are overweight and/or heavily furred. Environmental temperature above 85°F, high humidity (above 70%), inadequate shade and ventilation, crowding and stress are additional predisposing factors.

Signs of heat stroke include panting, slobbering, weakness, refusal to move about, delirium, convulsions and eventually death. Heat stroke is treatable if recognized relatively early. Heat-stressed guinea pigs should be immediately sprayed with or bathed in cool water. Once this first-aid is undertaken, a veterinarian should be contacted immediately.

Prevention of heat stroke involves providing adequate shade from the sun (if guinea pigs are housed outdoors) and adequate ventilation (if housed indoors). A continuous light mist or spray of water and/or a fan operating over a container of ice can be directed at a guinea pig within its enclosure to lower the air temperature, whether the guinea pig is housed indoors or outdoors.

Cancer

Cancer is a relatively rare problem of guinea pigs. As with most animals, it is most likely to affect older guinea pigs. Most tumors are benign and involve the skin and respiratory tract lining. Cancer may also affect the reproductive tract, mammary glands (breasts) and blood (leukemia).

Footpad Infections (Bacterial Pododermatitis)

Serious (sometimes crippling) infections of the footpads are common among pet guinea pigs housed continuously on wire. The other major predisposing factor is fecal soiling of wire-bottomed enclosures. The front feet of overweight animals are especially vulnerable to this condition.

Signs include swelling of the feet, lameness, reluctance to move, and inappetence. The flooring of the enclosure must be changed and overall sanitation must be improved. A veterinarian must be consulted regarding treatment of the affected feet. Topical dressing with an antibiotic and periodic bandaging are necessary during the usually lengthy recovery period. Veterinarians in treatment of this condition often use injectable antibiotics. Arthritis is a frequent and unfortunate consequence of these infections.

Cervical 'Lumps' (Cervical Lymphadenitis)

Abscessation of the lymph nodes immediately beneath the lower jaw, in the upper neck, usually results when coarse foods (such as hay) injure the lining of the mouth or when superficial wounds penetrate the skin over these lymph nodes. Bacterial invasion causes painful, swollen abscesses under the lower jaw. Sometimes these abscesses break open and exude thick, creamy yellow-white pus. If the abscesses are large, surgical removal and aggressive antibiotic therapy may be recommended.

Pneumonia

Pneumonia is one of the most common bacterial diseases of pet guinea pigs. A number of potential disease-causing bacteria may inhabit the respiratory tracts of otherwise normal guinea pigs. Stress, inadequate diet, and improper home care often predispose a pet guinea pig to respiratory infection. Signs of pneumonia may include labored or rapid breathing, discharge from eyes and nostrils, lethargy and inappetence. Some animals show no signs at all before dying suddenly.

Middle and inner ear infections occasionally result from respiratory disease in guinea pigs. Additional signs may include incoordination, tilting of the head, circling to one side, and rolling.

A veterinarian must be consulted about this serious bacterial infection. Aggressive antibiotic therapy by injection and appropriate supportive care are necessary. Unfortunately, even though the signs of infection can be relieved, the causative bacteria cannot be eliminated.

Rabbits and rats harbor at least one of the bacteria known to cause pneumonia in guinea pigs. Therefore, it is wise not to house these animals with or near guinea pigs.

Intestinal Infections (Bacterial Enteritis)

Numerous bacteria can cause infections of the gastrointestinal tract of guinea pigs. Some of these bacteria are introduced on contaminated greens and vegetables or in contaminated water.

Intestinal infections can manifest themselves as sudden death without prior signs, or as a lengthier period of illness characterized by lethargy and marked weight loss. Diarrhea may or may not be noted in either case.