

# Guinea Pigs

By Robert J. Russell and  
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**T**he guinea pig, (*Cavia porcellus*) or cavy originated in South America and was first domesticated by Andean Indians.

Guinea pigs are very docile, nonaggressive animals that appeal to many individuals, although their larger size is not as amenable to urban living as the smaller rodents. Their bodies are bullet-shaped with very short limbs. They have a number of different and attractive coat colors, patterns, and hair textures that appeal to breeders and fanciers.

Guinea pigs usually are housed in plastic, stainless steel, or galvanized metal cages, large bins, or pens.

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Both solid bottom and wire mesh floors (1½" × ½") are used, although foot problems are more common on mesh floors.

Open bins with 7" to 12" high sides often are used, as guinea pigs rarely try to escape. You should insure that other animals (dogs, cats) do not gain access to the open cage. Adult animals need at least 101 square inches of floor space and breeder females 180 square inches.

Wood chips, shredded paper, or hay bedding is used. Wood chips and ground corn-cob bedding occasionally interfere with breeding by lodging in the prepuce and vulva and may also lodge in the anus and under the eyelids. Poor appetite is seen occasionally in animals housed on cedar chip and pine bedding. The cause is unknown, although switching to another bedding may stimulate the appetite.

Control of temperature



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fluctuations and drafts is particularly important in guinea pigs. Temperatures between 64° and 75° F are acceptable if fluctuations are minimal. Guinea pigs are quite susceptible to overheating. Control

*Since guinea pigs have a number of different and attractive coat colors, patterns and hair textures, they hold a special appeal for breeders and fanciers. From top to bottom: Short-haired, rough-haired and long-haired guinea pigs.*

of ventilation and indoor temperatures and provision of shade for animals housed outdoors are essential.

### **A Little Messy**

Generally, water bottles with sipper tubes and suspended feeders are used. Guinea pig cages and equipment require frequent cleaning, as guinea pigs are quite messy animals. They often will spit food back into their water bottles, kick food out of the cage, scatter feed, and defecate in feed bowls.

Good quality guinea pig feed is available commercially and will meet the animals' needs if stored away from heat and direct sunlight and used within 90 days of manufacture.

Guinea pigs—like man, nonhuman primates, and several other species of animals—require a dietary source of vitamin C. If they do not receive this vitamin, they develop **scurvy**.

Initial clinical signs of this disease are dehydration, poor appetite, diarrhea, rough hair coats, lethargy, and weight loss. Small pinpoint hemorrhages develop on the gums, and joint swellings with lameness also occur. The animals have severely reduced resistance to other infectious

agents, especially those causing respiratory disease.

The guinea pig's daily vitamin C requirement is 16 milligrams (mg) per kilogram (kg) body weight for maintenance and 30 mg/kg during pregnancy. Scurvy can be treated by administering high levels of vitamin C.

Guinea pig diets can be supplemented, either in the food or water, with vitamin C. Vegetables and fruits—such as kale, parsley, spinach, cabbage, green peppers, mustard greens, collard greens, oranges, apples—and high quality hay can be used daily. Lettuce is not a good source of vitamin C.

Ascorbic acid can be added to the water at a level of 200 mg/liter of drinking water. The vitamin C activity is lost quite rapidly, and solutions should be prepared daily.

**Gestation** of guinea pigs is particularly long (average 63 days; range 59 to 72 days) when compared to other rodents. Guinea pig young are born fully haired with their eyes open and teeth erupted. They can eat solid food within a few days after birth.

Breeding usually is accomplished by housing 1 boar (male) with 1 to 10 sows (females) in a large pen. Guinea

pigs do not build nests. They should be bred before 7 months of age to insure that the pubic symphysis of the female will open normally and not block the birth canal. The pubic symphysis space ( $\frac{1}{2}$ " to 1") can be palpated 24 to 48 hours before birth.

### Diseases

Respiratory disease is common, and a number of bacteria can be involved—*Bordetella bronchiseptica*, *Streptococcus pneumoniae*, *Pseudomonas aeruginosa*, *Klebsiella pneumoniae*, and *Streptococcus pyogenes*.

Affected animals will have nasal discharge, sneezing, twisting of the head and neck (torticollis), and weight loss. Broad-spectrum antibiotics and supportive therapy are indicated, including substantial doses of vitamin C. Prevention should be directed toward good sanitary practices and provision of vitamin C in the feed and/or water.

Guinea pigs frequently develop grossly visible swellings on the undersurface of the neck (*cervical lymphadenitis*). These swellings usually are due to enlarged, abscessed lymph nodes, caused by the bacteria *Streptococcus zooepidemicus* and *Streptobacillus moniliformis*. Other lymph

nodes also may get involved.

Affected animals become lethargic, go off feed, and lose weight. The initiating factor may be abrasions or punctures of the cheeks and/or gums. Systemic antibiotics, surgical drainage, and/or surgical removal may help. In a herd situation, affected animals should be isolated or euthanized to prevent spread to other animals.

**Drug Hazards.** Guinea pigs can develop a toxic syndrome that results in high mortality from the use of a number of antibiotics—for example, penicillin, chlortetracycline, oxytetracycline, lincomycin, bacitracin, erythromycin, streptomycin, and tylosin. However, tetracyclines can be used safely on occasion at lower dosage levels.

Take particular care also in the use of other antibiotics that are primarily effective against gram-positive organisms. Only broad-spectrum antibiotics—those equally effective against both gram-positive and gram-negative bacteria—should be used in the guinea pig.

### Obesity in Sows

Healthy, well-nourished sows develop a toxic syndrome in late pregnancy (*pregnancy toxemia*), characterized by severe

lethargy, loss of appetite, difficult breathing, weight loss, and death often within 24 hours after development of initial clinical signs. The condition occurs much more frequently in obese animals.

Although the exact cause remains obscure, the condition may be due to a reduction in the normal blood supply to the uterus. Systemic supportive therapy is indicated, but the prognosis is usually poor and death of the sow and the fetuses often results. A good-quality diet is essential, especially during the latter half of pregnancy. Female guinea pigs should not be permitted to become obese.

Pregnant females often will develop patchy or generalized hair loss (*alopecia*) during pregnancy. The specific cause is unknown, but it may be a normal physiologic reaction to pregnancy. The skin appears normal except that the hair follicles are in an inactive stage. Affected animals usually recover spontaneously.

### **Barbering**

Hair loss due to hair pulling or barbering is not uncommon and is usually seen when a group of animals are housed together. One or more individuals often will pull hair from their cagemates. Separation of

the "barber(s)" from the other animals will prevent hair loss.

The mites *Chirodiscoides caviae* and *Trixacarus caviae* and the biting lice *Gyropus ovalis* and *Gliricola porcelli* are the most frequent external parasites of guinea pigs. *Chirodiscoides* mites usually cause the most severe lesions, and hair loss may occur over the entire body. Standard insecticide preparations, as used in cats, generally are effective.

Malocclusion, especially affecting the premolars, is quite common. Animals go off feed and lose weight. The condition probably has a genetic basis, and affected animals and their parents should not be used for breeding. Trimming of both the molars and incisors can be accomplished, although often it is difficult to trim the molars because of the small mouth cavity.

Guinea pigs can be infected by intestinal coccidia (*Eimeria caviae*) and by an intestinal roundworm (*Parapsidodera uncinata*), but clinical disease is rare.

### **Further Reading**

*Biology of the Guinea Pig*. J.E. Wagner and P.J. Manning eds., Academic Press, Order Department, Orlando, FL 32887-0015. \$75.00