

Caring for Guinea Pigs

(*Cavia porcellus*)

Guinea pigs have four digits on the foreleg, three digits on the hind leg, and a vestigial tail. There are three hair coat varieties: English shorthair, Peruvian long straight hair, and Abyssinian whorled hair. Their fur can be a wide range of colors, including white, brown, black, red, and various mixed colors. The young are born precocious, which means they are born fully mobile with hair, erupted teeth, and open eyes and ears. They start eating solid food at only a few days of age, but should be allowed to nurse until weaned by the mother. Guinea pigs have a large repertoire of vocalizations reflecting mood and emotion.

BIOLOGICAL INFORMATION

- Life span: 4-7 years
- Adult body weight: 700-1000 g (25-35 oz); females are slightly smaller than males
- Sexual maturity: females, 2-3 months; males, 3-4 months
- Estrous cycle: 16 days
- Gestation: 68 days (varies with size of litter, range 59-72 days); pups born with eyes and ears opened and fully furred.
- Litter size: 2-5
- Weaning age: 14-28 days
- Adult daily food intake: 35 g (1.3 oz)

Housing Requirements

Guinea pigs need substantial floor space to exercise. They do not jump or readily climb, so the height of the cage is less important. Guinea pigs should not be housed on bare wire grid or solid bottom floors because they are prone to developing sores on the feet. To avoid these problems, the cage floor should be covered with bedding (¼ inch to ½ inch deep). Guinea pigs play with their water and urinate copiously, so bedding is also useful for keeping the cage dry. Bedding material may include hardwood chips, wood shavings, paper products, corncob, or clean hay. Do not use cedar chips; wood bedding with a high content of resins, such as pine or cedar, may cause toxicity in the young if this material is eaten. Do not use bedding derived from clay (such as some kitty litters).

Depending upon the size of the cage and the type of bedding, the cage should be cleaned once or twice a week. It should never be allowed to remain moist, because that can lead to foot inflammation and infections. Cages should be washed with detergent and water. They should be thoroughly rinsed and dried before replacing bedding.

Room temperature should be in the range of 63–79°F (17–26°C) with 30–70% humidity.



Food and Water

In the wild, guinea pigs are strict herbivores, grazing on a wide variety of plants. In captivity, their nutritional needs are best met by providing them with commercially available guinea pig pelleted feed. Guinea pigs have teeth that grow throughout life, and pelleted feed helps prevent overgrowth. They are naturally coprophagic (eating their own feces), from which they derive nutritional benefit.

Guinea pigs are picky eaters. While young, they develop preferences for foods and food receptacles, and are resistant to changes in these items as they get older. For example, guinea pigs accustomed to drinking water from sipper tubes may not adjust easily to drinking water from bowls. If it is necessary to transition adult guinea pigs to new foods or feeding equipment, provide both old and new items simultaneously until the animals are using the new items reliably. After removing the old items, it is important to continue monitoring the animals to make sure each one is eating and drinking sufficient amounts.

Guinea pigs require a high level of vitamin C; thus, generic rodent foods may result in a clinical deficiency called scurvy (see Diseases, below). Because vitamin C and other nutrients deteriorate rapidly, the feed should be stored in a cool, dark place for a maximum of 90 days after the milling date (a date stamped on the bag). Some guinea pig foods (those with microencapsulated vitamin C) may have a 180-day shelf-life, so check the manufacturer's recommendations. Certain fruits and vegetables may be provided in small amounts and at frequent intervals, as a source of vitamin C and as treats. These foods should be rinsed well to prevent infection with *Salmonella*, which guinea pigs are particularly susceptible to. Vitamin C supplements may also be put in the water.

Guinea pigs have a tendency to overeat, which causes obesity and urinary tract problems. A veterinarian can advise you on the proper amount to provide daily.

Grass hay pellets (not straw or alfalfa) should be available to the animal ($\frac{1}{4}$ cup of pellets per 5 pounds of animal weight). Sunflower seeds should only be used as occasional treats; they are too high in fats and have little nutritional value.

Guinea pigs drink a large quantity of water. Consequently, water should be available at all times. Large-sized bottles with sipper tubes are commonly used. The bottles should be securely attached to the side of the cage. Because guinea pigs may play with their sipper tubes and flood their cage, position the sipper tube outside the cage to allow the animals to drink through a small opening in the cage wall. Water dripping from these sipper tubes will not drain into the cage interior. Guinea pigs may also plug the sipper tubes with chewed food retained in the mouth. It is important to check that sipper tubes are clear of debris to make sure water will flow freely for drinking. Water bottles and sipper tubes should be cleaned thoroughly whenever the water is changed (at least once a week).

Handling

Guinea pigs are gentle animals and seldom bite. However, they are high-strung and may either freeze or run when frightened. If you have more than one guinea pig and one animal is alarmed, other animals can detect the fright and become apprehensive. Approach a guinea pig quietly and confidently. It can be picked up by a gentle grasp around the chest while supporting the rear legs with the other hand.

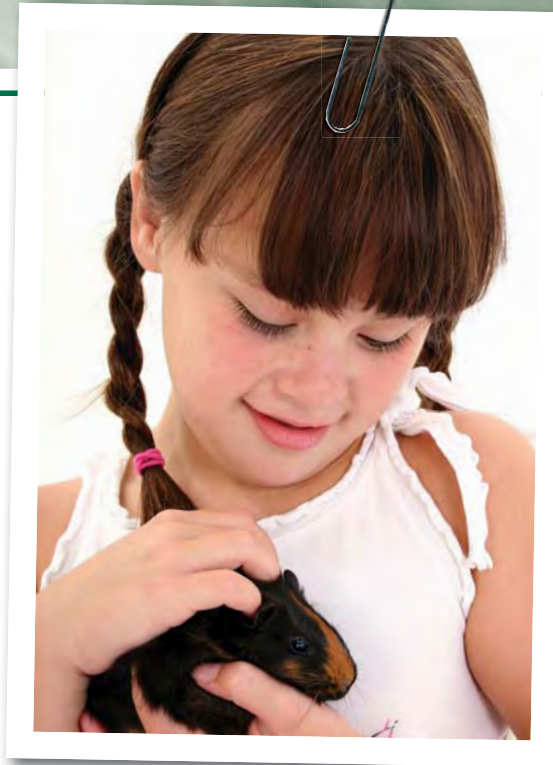
Breeding

Animals should not be bred in the classroom because of problems with overcrowding and sanitation. It is especially important not to breed guinea pigs because of dystocia (difficulty in giving birth), which occurs frequently in females bred for the first time at or above 6 months of age.

Diseases

Guinea pigs are susceptible to a wide range of bacterial, viral, fungal, and parasitic diseases. Most of these diseases are treatable but expensive. Before making the decision to acquire a guinea pig, consider whether or not you are willing to meet these potential expenses.

Some of this material has been adapted from the Assistant Laboratory Animal Technician Training Manual, American Association for Laboratory Animal Science, Memphis, TN.



Sick guinea pigs tend to become less active, with ruffled hair coats and decreased consumption of food or water. If changes in bowel movements, urination, hair loss, discharges, or swellings are noted, a veterinarian should be consulted. A wide variety of antibiotics cause toxicity in guinea pigs, so caution should be taken when selecting them for treatment.

Guinea pigs are prone to respiratory infections, including pneumonia. Some infectious agents may also cause swelling of the lymph nodes and abscesses. Diarrhea may be caused by infectious agents, parasites, or protozoa. They are also susceptible to the development of bladder stones and bladder infections. Scurvy occurs within a few weeks of inadequate levels of vitamin C and may present

a wide variety of symptoms, including oral bleeding, swollen joints, infections, pneumonia, and diarrhea.

Pregnant females may develop toxemia, which is an emergency situation. In late pregnancy or after giving birth, affected females become depressed, anorexic, and generally have an unhealthy appearance. Death occurs rapidly if untreated.

Hair loss can be due to ringworm, parasitic lice or mites, or barbering—behaviorial chewing of hair by cage mates, typically males. Barbering is okay provided there are no fights or injuries.

Guinea pigs have permanently growing (erupting) teeth. If a guinea pig's teeth are misaligned (due to genetic predisposition), its cheek teeth may overgrow and jam the jaw open so that the animal will be unable to eat. If a guinea pig appears to be not eating or losing weight, it is important to have the guinea pig examined by a veterinarian. Overgrown teeth may be trimmed by a veterinarian.

Human Health Concerns

Some infectious diseases of guinea pigs, such as salmonellosis or ringworm, may be contagious to humans. People may also develop allergies to guinea pigs. Seek the advice of a physician if a human disease is suspected due to contact with guinea pigs.

Resources

1. Guinea Pigs, chapter in *Assistant Laboratory Animal Technician Training Manual*, 2008, American Association for Laboratory Animal Science, Memphis, TN.
2. Contact your veterinarian or a local veterinary school or veterinary technology program to get more information about this animal species.