

Handling Hamsters, Gerbils, and Guinea Pigs

Our topics for this week are:

- The behavior of hamsters, plus how to catch and handle them.
- The behavior of gerbils as well as how to catch and handle them.
- Guinea pig behavior and how to catch and handle them.

HAMSTERS

The common pet hamster is the golden (Syrian or teddy bear) hamster (*Mesocricetus auratus*) which originated in the desert region of Syria. All golden hamsters in captivity are believed to be descendants of one male and two females captured in 1930. Not all are golden in color. New colors have been selectively bred from mutations.

Hamsters have extremely loose skin, virtually no tail, hairless feet, and large cheek pouches for storing food or hiding and transporting valued possessions, including baby hamsters. Both sexes have flank glands used for territorial marking.

Unrelated hamsters to the golden hamster are the Russian hamsters (*Phodopus spp.*) and Chinese dwarf hamsters (*Cricetalus griseus*), which are smaller and less common than the golden hamster. Russian hamsters are usually brown or gray. All have a dorsal stripe the length of their back and hair on their feet. Like the golden hamster, Russian hamsters have cheek pouches. Russian hamsters are more social and less nocturnal.

Hamsters have been used for research on ear diseases, and because of their very short gestation period, they are used for teratogenic studies. They are less affordable for research since they need to be housed individually. Consequently, much more space is required for cages than with other rodents.

A male hamster is called a *buck*. A female is a *doe*, and young hamsters are *pups*.

Natural Behavior of Hamsters

Hamsters are burrowing, nocturnal, desert rodents that are drowsy in the daytime and have poor eyesight, particularly in bright light. They are likely to bite, especially if startled, and are not recommended as pets for children.

In their natural habitat of the desert, adult hamsters primarily live alone in tunnels for cooler temperature and higher humidity than that on the desert's surface. They tolerate cold temperatures well and will go into pseudohibernation if the temperature goes below 48°F and could be mistaken as dead during this time. In their natural habitat, hamsters have not had to evolve with an ability to negotiate cliffs and ledges well. In captivity they are more likely to fall off exam tables than other small mammals. They forage for food at night and then carry it back to their burrow in their cheek pouches. Pet hamsters also like to hide food. Bedding and other areas within enclosure should be routinely checked for stashed rotting food.

Golden hamsters have paired glands in their skin over their flanks. The flank glands, also called hip spots, are more prominent in males that use the gland secretions to mark their territory.

Adult hamsters prefer to live solitary existence except at breeding. Male hamsters are

much more docile than females. They should be separated after they are six to 10 weeks old. Females are larger and dominant to males. Females are more aggressive and more likely to fight, especially if pregnant or lactating.

Sexing of hamsters is similar to the rat. The adult male's body protrudes more caudally due to the testicles and the difference is striking. The anogenital (AG) distance is much longer in males. In dwarf species of hamsters, males possess a prevalent scent gland on the midline of their abdomen.

Approaching and Catching

If attempting to sleep, hamsters bury their head under their abdomen which impairs their ability to see, smell, or hear a handler approaching. Capture is best attempted after removing feeders, water bowls, hiding boxes, or other moveable objects in the enclosure. A handler should be sure the hamster is awake before attempting to capture it to prevent startling it. To awaken a hamster, the handler should talk to it or jiggle its cage. Adult female hamsters are usually crankier than males. A nursing female should be captured when away from her litter. Female hamsters can be extremely aggressive when they are nursing.

Gentle hamsters can be captured by cupping with both hands and then supporting their body in the handler's palm or grasping the skin on the back of the neck. They also may be able to be induced to enter a small can or cup and moved after covering the opening.

Handling for Routine Care and Management

For the best physical restraint, the handler must do a full body scruff hold. The hamster is covered with one hand while pinning the head between the thumb and index finger, then without releasing the skin behind the neck, it is grasped with thumb and index finger and the skin of the back with other fingers and heel of the hand. Caution is required to not gather the skin too tightly near the head. Too much tension on the skin around the eyes can cause a prolapse of an eyeball (proptosis).

When possible, restraint should be avoided if the cheek pouches contain food. Hamsters may aspirate cheek pouch materials and choke if scruffed with their pouches full.

GERBILS

Gerbils (*Meriones unguiculatus*), also called "jirds," originated from the deserts of eastern Mongolia and northeastern China. They have long haired, thin tails. Most are sand-colored with white underbellies. Gerbils were first brought to the U.S. in 1954 and are now illegal as pets in California due to environmental risks from escape into the wild. Gerbils have been used in medical research on strokes in humans.

Both genders have ventral marking gland on their abdomens that is used to mark their territory. In gerbils, the AG distance in males is a half inch and the scrotum should be apparent after about six weeks. Only females have nipples.

A male gerbil is called a **buck**. A female is a **doe**, and young gerbils are **pups**. A group of gerbils is a **horde**.

Natural Behavior of Gerbils

Gerbils are monogamous, and pairs should not be housed separately. They live best in small groups or pairs. Gerbils are not strongly nocturnal and are usually active during the day if other activities are going on. They are gentle and rarely bite, except with new cage members if introduced too rapidly to an established group. Gerbils are not as vocal as other small rodents (mice, rats, hamsters). They like to burrow in sandy soils and should be provided deep bedding with solid-bottomed cages. Having evolved in deserts, gerbils consume little water and produce small amounts of urine. They therefore do not produce strong urine odor characteristic of other rodents. Gerbils enjoy hiding and running through tunnels, and using exercise wheels, which should have fine mesh to protect their toes. They like to chew and should not have access to plastic objects, due to risk of gastrointestinal obstruction from plastic pieces. Like other desert animals, they enjoy dust baths. If stressed, gerbils will signal danger to others by thumping a hind foot. After about five weeks from giving birth, it is recommended to remove the pups from the pregnant mother because she may become aggressive toward the older pups.

Male and female gerbils have an oval-shaped ventral marking gland on their abdomen. The gland is more pronounced in post-pubertal males that use the gland to mark their territory.

Overcrowding, high humidity (more than 50% for gerbils), or other stresses in gerbils will cause porphyrin secretion in their tears. Porphyrins in tears will stain skin and hair around the nostrils and eyes a reddish-brown and irritate the skin progressing to skin sores.

Approaching and Catching

Gerbils are semi-nocturnal desert animals that are easy to handle. If given time to adjust to the handler's smell and voice, they may climb into his cupped hands, if a handler's movements are appropriately slow. Otherwise, they may be captured with both hands or grasped in one hand using the methods used for mice, i.e., carefully grasping the base of tail or scruffing the neck and shoulder skin. Handlers should NOT capture gerbils by their tail, except carefully at its base. The skin will easily be stripped off during its struggling, an injury called "tail slip."

Handling for Routine Care and Management

Gerbils become stressed from handling and many will seizure if the stress is prolonged. If firm manual restraint is necessary, a handler should grasp the body over the back with its head between the thumb and index finger or alternatively grasp (scruff) the skin on the neck and back and trap the tail with his little finger as done when restraining mice.

GUINEA PIGS

Guinea pigs (*Cavia porcellus*), also called cavies, are crepuscular, docile, and social animals which were domesticated as a food source about 7,000 years ago. They are from the Andes Mountains in South America, not Guinea, but they do squeal like a pig and has the same general body shape. Guinea pigs are related to chinchillas and have no tail and no hair on their ears. They were selectively bred by the Incas from 1200 to the 1532 AD and brought to Europe by the Spanish conquerors in the early 1500s.

Again, the AG distance in guinea pigs is a marker for gender. However, the distances are not as distinguishable as with other rodents. A female has a Y-shaped opening made by the close proximity of the vulva to the anus. Other ways to distinguish the male is by gently pressing the

abdomen in order to cause the penis to emerge, male nipples are less developed, and the testicles are evident in a mature male.

A male guinea pig is called a *boar*. A female is a *sow*, and young guinea pigs are *pups*.

Natural Behavior of Guinea Pigs

Guinea pigs are rotund social rodents with short legs, small hairless ears, and no tail. Adults weigh about 30 to 35 ounces. In the wild, they live in colonies (clans) of five to 10 with a dominant male in burrows or crevices in rocks. Guinea pigs have special sebaceous glands in their skin on the top of their body and in the anal area which are used to mark their territory and possessions.

They tend to freeze when startled and then scatter frantically. Panicked guinea pigs will stampede and injure smaller, weaker members of a group. A frantic attempt to escape can also lead to injury from falling, if in an elevated cage or on a table. Sexually intact males will challenge each other until dominance is achieved by one. True fighting and injury of an opponent is not common. Head butting is a show of dominance, invitation to play, or irritation with the current situation.

Guinea pigs are vocal. They may whistle, if alarmed or if greeting a known handler who feeds them, chirp if content, and make guttural drilling sounds if agitated by a perceived threat or from pain. They purr when content and feeling secure. Teeth chattering and hissing are signs of irritation and possible aggression.

They have good peripheral vision typical of prey animals, and very good hearing with a frequency range up to 30,000 Hz (20,000 Hz is the upper limit for humans).

Approaching and Catching

Guinea pigs are easily alarmed and will squeal loudly and attempt to evade capture by a stranger. Some will bite if restrained, but their mouth is too small to inflict severe bites to an adult handler. They have four claws on each of the front feet and three on both rear feet. Their primary means of defense is to either run or freeze in place.

An initial attempt to capture a guinea pig is best done using food as a lure or stroking its head and nose until calm, then grasping it with one hand underneath its chest and cupping the other under its rump. Young, small guinea pigs can be grasped with one hand. Guinea pigs have little loose skin over their neck and shoulders and attempts to scruff them can be painful to them.

Another capture method is to use one hand from above to cover its head blocking its vision while covering the rump with the other hand, and then reaching under it from behind. To pick up the guinea pig, the front hand is placed under the guinea pig's chest and the other hand under its rump. When being carried, they will relax if allowed to hide with its body supported by the handler's forearm and its head in the corner of his elbow.

Handling for Routine Care and Management

Restraint of adult guinea pigs should always be two-handed. The thorax should be grasped either dorsally or ventrally with one hand as the other hand supports the guinea pig's rump. They should never be scruffed. Their body weight in comparison to their musculoskeletal system strength is too great and back or neck injuries can result.

If there is resistance to restraint, the handler should grasp it without hesitation around the shoulders with one hand. Lift it primarily with the thumb under a leg and under the jaw (to block

the animal from lowering its head to bite) and first two fingers around the shoulders without squeezing the thorax and placing the other hand under the body.

A guinea pig's toenails need to be trimmed every eight to 12 weeks. To assist toenail trimming, a handler supports the guinea pig against his chest and holds behind front legs with one hand and the other hand cupped under the rump. This has the guinea pig positioned in a "C" position.

Now, let's recap the key points to remember from today's episode:

- Hamsters are solitary, nocturnal rodents with an excess of loose skin.
- Gerbils are gregarious, long-tailed rodents that often have seizures when handled and should not be restrained by their tail, except at its base.
- Guinea pigs are gregarious, short-tailed rodents that must be handled with two hands.

More information on animal handling is available in my book, *Animal Handling and Physical Restraint* published by CRC Press. It is also available on Amazon and from many other fine book supply sources.

Don't forget serious injury or death can result from handling and restraining some animals. Safe and effective handling and restraint requires experience and continual practice. Acquisition of the needed skills should be under the supervision of an experienced animal handler.