

Basic Care of Small Rodents

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Special points of interest:

- Hamsters should be housed separately
- Due to their short life expectancy, all small rodents should be examined by a veterinarian 3-4 times yearly
- Seeds are inadequate diets
- Exercise is important for both physical and psychological well-being
- Males and females should be separated to prevent mating

HAMSTERS

Hamsters (*Mesocricetus auratus*) are short tailed rodents with large cheek pouches. The Syrian hamster's (golden hamster) wild habitat extends through the Middle East and Southeastern Europe. In 1930, a litter of eight baby hamsters was taken to Israel and raised as research animals. Virtually all domesticated hamsters sold in the pet trade and research are descendants of three of the survivors of that litter. Ham-

sters were first introduced to the United States in 1938. Since their domestication, several color and hair coat varieties of the Syrian hamster have arisen through selective breeding. The three basic groups that now exist include the common "golden" hamster, colored short-haired "fancy" hamster, and long-haired "teddy bear" hamster. On occasion, one may encounter other species of hamsters, but these are much

less common than the Syrian hamster. The smaller, dark brown Chinese hamster (dwarf hamster), the Armenian (grey) hamster, and the European hamster are more often used in research and seldom kept as pets. Hamsters live 1.5-2.5 years. Hamsters have pigmented, hairless glands over the hips. These should not be mistaken for tumors.

GERBILS

The Mongolian gerbil (*Meriones unguiculatus*) is a small rodent native to the desert regions of Mongolian and northeastern China. Gerbils are burrowing, social animals which are active both during the day and night. Their burrows are composed of elaborate tunnels with multiple entrances, nesting rooms, and food compartments. The native color variety is agouti, mixed brown, with dark pigmented skin, light brown to white chest and

abdomen, and darker back coat. Other color varieties that exist include black, white, and cinnamon. Gerbils have a marking scent gland that appears as a tan colored, hairless area in the middle of their abdomen. The gerbil is a curious, friendly, and nearly odorless rodent, which make it a very popular pet. They have adapted well to captivity and tend to be relatively free of naturally occurring infectious diseases. These rodents rarely bite

or fight, are easy to keep clean and care for, and are relatively easy to handle. Gerbils have the longest life expectancy of the smaller rodents. It is not usual for them to live 4-5 years. They are more agile and require more exercise than other small rodents.

RATS AND MICE

Rats, despite their negative connotations, are intelligent, social pets. Pet rats are domesticated versions of the Norway rat (*Rattus norvegicus*). Originally domesticated as a research animal, the rat has a very loyal fol-

lowing of pet rat owners. Numerous strains of laboratory rats have been developed and each has somewhat different disease susceptibility. The pet rat is usually a mixture of several types and may have had other mutations

in their genetic makeup. Pet rats live only 1.5-3 years. The mouse (*Mus musculus*) is not as popular as some of the other rodents. They are frequently raised as feeder animals for reptiles. They usually weigh about 30 grams. The life span for mice is about 1.5-3 years.

Housing

Rodents should be housed in plastic, metal, or glass cages. Although wire bottomed cages are often used in the laboratory setting, these animals are much more comfortable with a solid bottom lined with shavings or pelleted litter. Make sure that glass and plastic enclosures have adequate ventilation. In addition, make sure that the enclosure is escape proof. Bedding must be clean, non-toxic, absorbent, and relatively dust free. Shredded paper, recycled newspaper products (carefresh for example), pine shavings, and processed corncob are acceptable beddings. Cedar chips and chlorophyll scented shavings should be avoided because of associa-

tion with respiratory and liver disease. At least 1-2 inches of bedding should be provided to allow for normal burrowing behavior. The litter should be changed on a regular basis. Depending on the size of the cage and the number of animals within the cage, the litter will require changing one to two times weekly. An exception to this cleaning schedule is when newborn babies are present, then wait until they are at least 2 weeks old.

Exercise is important for both physical and psychological well-being. There are many types of exercise wheels, balls, and toys available. Supervised activity outside the cage is encouraged as well.

In general, mice, rats, and gerbils can be housed with others of their species (with the exceptions of adult males) with little aggression as long as the individuals are introduced while young. You will need to provide multiple food and water sources if housing more than one animal in an enclosure. Hamsters, on the other hand, will not tolerate the presence of others. Female hamsters, in particular, are very aggressive and will attack other hamsters except for a short period every 4 days when they are in heat. Overcrowding should be avoided in all species.

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Nutrition

In the wild, these animals feed on leaves, seeds, roots, fruits, and insects. Standard lab rodent pellets or blocks are available which meet the needs of these species very effectively. Seed diets are inadequate in many nutrients and are extremely high in fat. These should be given in very small quantities. Other supplements to the diet include sugarless breakfast cereals, whole wheat breads, pasta, cheese, cooked lean meats, fresh fruits and vegetables; all fed in moderation. On average, an adult mouse will con-

sume about 15 grams of food per 100 grams of body weight daily. Comparatively, an adult rat will consume approximately 10 grams of food per 100 grams of body weight. Hamsters eat approximately 12 grams of food daily. Gerbils eat approximately 5-8 grams of food daily.

Water is best provided in sipper tube bottles. These will remain cleaner and will not be dumped or filled with litter as open dishes invariably are. The nozzle should be frequently checked to

insure that the water is accessible.

Although only a small portion of the water bottle is consumed, fresh clean water should be given daily. Mice drink approximately 15 ml/100 grams of body weight daily. While rats drink 10 ml/100 grams of body weight daily. Gerbils drink approximately 4-10 ml of water daily. Hamsters drink approximately 10 ml of water per 100 grams of body weight.



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Be careful when approaching a nervous or frightened pet. Never pull the tip of the tail because the skin can easily be pulled off.



Don't let the sun set on a sick rodent.

Handling

Pet rodents become tame and seldom bite when properly restrained and accustomed to handling. Be careful, however, when approaching a nervous or frightened pet. Also, it is best not to disturb a sleeping animal because most are usually quite cranky when awakened. For any rodent, never pull on the tip of the tail because the skin over the end of the tail can easily be pulled off. If this happens, seek veterinary care immediately.

Most pet mice and rats enjoy being handled when away from their cage. Rats and mice can be easily picked up by scooping them

into a can or cupped hands. They then can be moved out of their territory to a neutral area. Some rats can be territorial of their cage, and these should be coaxed out of their cage before being handled. Also, rats do not respond well to scruffing by the nape of the neck. Mice can also be lifted by grasping the base of the tail. Mice housed individually may be more aggressive and apprehensive than those housed in groups.

The gerbil's natural curiosity and friendly disposition makes it fairly easy to handle. Most gerbils will approach a hand introduced into their cage and can be

easily scooped into the palm of the hand or picked up by grasping the base of the tail.

Hamsters handled frequently from a young age usually remain docile and seldom bite. When they are docile, they can be gently picked up by cupping in one or both hands and held against one's body. Other hamsters, however, may not have received a lot of attention and handling throughout their lives, and thus may be more apprehensive and aggressive. The use of a small towel or gloves can assist the handler in capturing and restraining such a pet.

Veterinary Care

Early detection and treatment of diseases is critical. Small "prey" species try to hide any signs of illness or weakness as a mechanism to prevent predation. In captivity,

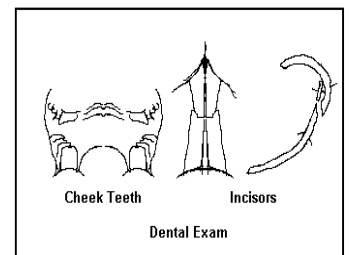
this trait leads to presentation late in the course of the disease. A rodent that looks sick is often very sick. A "wait and see" approach is very dangerous in exotic animals.

Rapid diagnosis and treatment is essential. Because of the short life expectancy, small rodents should be examined by a veterinarian 3-4 times yearly.

Teeth and Tears

Rodent incisors are orange colored and open rooted (which means they grow continuously). The lower teeth are about three times as long as the uppers. They should not be trimmed. Rats secrete red tears from a gland

behind their eyes. This is normal secretion of porphyrin pigments produced by the Harderian gland. These tears are often mistaken for blood. They usually appear during stressful situations and disease. Their eye-



lids, nares, and forepaws may be smeared with pigment. When present, the underlying cause should be found.

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environment.



**Breeding will occur if males
and females are not kept
apart.**

Breeding

Rodents are fairly easy to sex. Neonatal male rodents can be distinguished from females by a greater distance between the anus and urinary opening. Males have a one and a half greater distance between the anal opening and urogenital opening. Sexually mature males also exhibit a prominent scrotum. Females can be identified by their prominent bilateral rows of nipples.

Adult male mice will often fight when caged together, especially in the presence of females. Therefore, a single male mouse should be housed with one or more mature females. Rats, on the other hand, usually can be caged in mixed groups of males and females without aggression. Female mice become sexually mature at about 50 days of age. Female rats become sexually mature at about 65 days of age. Both have an estrous ("heat") cycle every 4-5 days throughout the year, unless they are

Our Mission

All Creatures Animal Hospital is dedicated to providing progressive medicine in a caring environment for pets of all species. Through preventative medicine, client education, professional development of our staff, and advanced medical and surgical techniques, we hope to foster a strong and lasting bond with clients and their pets.

bred.

All rodents can be bred after giving birth. However, male rats, mice, and hamsters should be removed prior to the female giving birth to prevent injury to the pups by the male. Gestation lasts approximately 3 weeks. Litter size averages 10 to 12 for mice and 6-12 for rats. The female and her litter should not be disturbed for the first few days after birth to minimize injury or abandonment by the mother. Both rats and mice wean at about 3 weeks of age.

Gerbils should be paired by the time they reach sexual maturity, at 7-8 weeks of age. Life long, monogamous pairs typically form. The first mating typically occurs at about 10-12 weeks of age. There is no need to remove the male following breeding. The male gerbil participates in the care of the young. The gestation period is 24-26 days on average. Litter size averages 4-6 pups. Weaning occurs by the 3 weeks of age.

Male hamsters become sexually mature at 10-14 weeks of age. Females become sexually mature at 6-10 weeks of age. When breeding, place the female in the male's cage and monitor for mating activity or fighting.

Females can be very aggressive towards male and can cause serious injuries. Remove the male shortly after mating. Gestation lasts only 15-16 days. Do not disturb the female when she is about to deliver and do not disturb the mother and pups for any reason during the first week after birth. If a mother hamster seems threatened for any reason, she typically will kill and cannibalize the young. Litter size ranges from 5-10 pups. Plenty of food, water, and bedding should be provided BEFORE the babies are born.