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Hamsters as Pets

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Hamsters are peculiar little rodents with large cheek pouches and short stubby tails. They have gained popularity as pets and research animals since the 1930s. 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 Palestine and raised as research animals. Virtually all domesticated hamsters sold in the pet trade and research are descendants of three of the survivors of this litter. Hamsters were introduced first into 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 which now exist include the common 'golden' hamster, colored short-haired 'fancy' hamster, and long-haired 'teddy bear' hamster. All three varieties are popular as pets, while the research community generally employs the basic golden 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) is often used in biomedical research, and they are sometimes acquired as pets. These hamsters are recognized for their small size, dark brown color and black stripe down the back. The Armenian (grey) hamster and European hamster are two other species occasionally used in research, but seldom kept as pets. The information here pertains particularly to Syrian or golden hamsters because they are by far the most popular.

Diet

As with any pet, good quality food and clean, fresh water must be provided at all times. The precise nutritional requirements of hamsters have not been fully determined. In the wild, these animals feed on plants, seeds, fruit and insects. Current recommendations for feeding in captivity are pelleted rodent ration containing 15% - 20% protein. These rations are typically processed as dry blocks or pellets designed for rodents. Seed diets are also

'formulated' and sold for hamsters, but these diets should only supplement the basic rodent pellet. Seed diets contain high levels of fat which can easily become rancid if improperly stored. In addition, when fed alone, these diets often lead to obesity and potential nutritional deficiencies, especially calcium. Other supplements to the diet may include sugarless breakfast cereals, whole wheat breads, pasta, cheese, cooked lean meats, fresh fruits and vegetables; all fed in moderation. Hamsters eat approximately 12 grams of food daily, and usually consume the majority of this at night. Hamsters are like little pack rats that often hoard their food in a corner of their cage, making it seem as though they eat a lot more than they really do.

Water is easily provided in water bottles equipped with sipper tubes. This method also helps keep the water free from contamination. Always make sure that the tubes are positioned low enough to allow the pet easy access. Juvenile hamsters need special consideration to make sure they are strong enough to use the sipper tube as well as reach it. The average hamster drinks approximately 10 ml of water per 100 grams body weight (average adult size). Although this amount is only a fraction of the total bottle volume, fresh water should be provided daily, not only when the bottle empties.

Diseases

Proliferative Ileitis (Wet Tail)

The most commonly encountered bacterial infection recognized in hamsters is 'wet tail'. The precise cause of the disease is not fully understood, but underlying infections with the bacteria *Campylobacter fetus* subspecies *jejuni* have been reported. Similar *Campylobacter* sp. are responsible for serious intestinal diseases in other animal species, such as swine, dogs, ferrets, primates and even humans. Although this agent is suspected to be an underlying cause of this syndrome, pure cultures of the bacteria cannot reproduce the disease, suggesting other predisposing factors or agents. Such contributory factors include improper diet, sudden dietary changes, overcrowding and other stresses.

This disease most often affects weanling hamsters between the ages of 3 to 6 weeks, but hamsters of all ages are susceptible. Since this is the age at which most hamsters are sold, this is a common disease encountered in recently acquired pets. The long haired 'teddy bear' hamster seems to be more vulnerable than the other varieties.

Death may result within 1 to 7 days after the onset of watery diarrhea. Other signs include matting of the fur around the tail, unkept hair coat, hunched stance, loss of appetite, dehydration, emaciation and irritability. Blood from the rectum and rectal prolapse may be noted in some serious cases. This is a very serious disease, with death being the most likely outcome. Due to the severity, any hamster exhibiting these signs must be examined by a veterinarian as soon as possible. Antibiotics, fluid therapy and anti-diarrheal medications will be administered to the patient. Supportive care will also be instituted. Despite all the best efforts, treatment is often unrewarding with death occurring within a couple days in many cases.

Hair Loss (Alopecia)

Hair loss can occur for a number of reasons in hamsters. This loss of hair can be due to both disease and nondisease conditions. Continual rubbing on feeders or sides of the cage as well as protein deficiency and barbering (hair chewing by cage mates), are examples of nondisease causes of alopecia. Infestation with demodectic mites is one of the most common infectious causes of patchy alopecia and scaling in hamsters. Other conditions that lead to hair loss include adrenal tumors, thyroid deficiency, and chronic renal disease. Some of these conditions may be correctable, while others are not.

Demodex mites are the most common external parasite causing problems in hamsters. The mite lives within the hair follicles and certain skin glands of their host. The presence of these mites result in dry, scaly skin and subsequent hair loss, especially over the back and rump. This disease is rarely a problem by itself. Demodectic mange in hamsters is often associated with chronic, debilitating diseases or other underlying problems. For this reason, a thorough examination must be performed on any hamster presented with mites. To confirm the presence of mites, the veterinarian may perform a skin scraping for microscopic observation. Treatment for the mites is often possible, but remember that there may be another problem, often more severe, underlying this one which must also be addressed.

Old Age Diseases (Geriatric Conditions)

Hamsters tend to have relatively short life spans when compared with other species. The average life expectancy of a hamster is between 2 and 3 years of age. For this reason, spontaneous aging diseases are not uncommon in these animals, typically after the age of one year. Two of the most common geriatric diseases of hamsters are amyloidosis (protein deposition in various organs) and cardiac thrombosis (blood clots in the heart). Treatment of these conditions involves managing clinical signs because a cure is not possible. A diagnosis of virtually any geriatric disease carries a poor prognosis.

Amyloidosis is a condition whereby proteins produced by the body are deposited in various organs, primarily the liver and kidneys. Kidney and liver failure often occurs as a result of this protein deposition. Many other organs are also affected, and the changes are irreversible. Signs of this condition include swollen abdomen, urinary problems, dehydration, poor appetite and rough hair coat. Supportive care is the only treatment since this condition is eventually terminal.

Blood clots within the heart occur at a relatively high frequency in older hamsters. This condition is known as cardiac thrombosis, and typically occurs in the left side of the heart. Many factors are involved in the formation of these clots including clotting disorders, heart failure, circulating bacterial infection and amyloidosis. Many other old age diseases occur in hamsters over the age of one year. Liver and kidney disease is not uncommon in middle age to old hamsters. Other conditions commonly encountered are gastric ulcers, tumors, and dental diseases.

Facts

- Average life span: 2 - 3 years
- Adult body weight: 100 - 150 grams (3.5 - 5 ounces)
- Environmental temperature range: 65 - 80°F
- Relative humidity range: 40 - 70%
- Age at first breeding: males 10-14 weeks; females 6-10 weeks
- Gestation period: 15.5 - 16 days
- Litter size: 5 - 10 (average)
- Weaning age: 21 - 25 days

Handling

Hamsters handled frequently from a young age usually remain docile and seldom bite. These animals of a docile nature can be picked up gently by cupping in one or both hands and held against one's body. Beware that even docile hamsters may bite if surprised or abruptly awakened from sleep.

Other hamsters, however, may not have received a lot of attention and handling throughout their lives, and thus may be more apprehensive and aggressive. Any animal whose personality is not fully known must be approached cautiously. The use of a small towel or gloves can assist the handler in capturing and restraining such a pet. Another method of capture involves coaxing the animal into a container (such as a can or tube), which can then be removed from the cage. Once removed from the cage, biting hamsters can be restrained by grasping a large amount of skin at the scruff of the neck. As much skin as possible must be grasped using this method because their skin is very loose. If lightly scruffed, the hamster can easily turn around within its skin and bite the handler.

Housing

Several types of cages are available that are suitable for housing hamsters. Many of these units come equipped with cage 'furniture' such as exercise wheels, tunnels, and nest boxes as added luxuries. Such accessories, as well as sufficient litter depth within which to burrow, are desirable for the pet's psychological well-being. Cages should be constructed with rounded corners to prevent chewing. Hamsters will readily chew through wood, light plastic, and soft metal; so recommended caging materials are wire, stainless steel, durable plastic, and glass. Beware that glass and plastic containers drastically reduce ventilation and can lead to problems with humidity, temperature and odor concentration. These materials make suitable cages when at least one side of the enclosure is open for air circulation. In addition, make sure that the enclosure is escape proof because these little rodents are known escape artists.

Hamsters do very well in solid bottom cages with deep bedding and ample nesting material. Bedding must be clean, non-toxic, absorbent, relatively dust free, and easily acquired. Shredded paper or tissue and processed corn cob are preferred bedding. Be sure that the ground corn cob is free from mold, mildew, or other contamination before using. Shredded tissue paper makes excellent nesting material.

Adult hamsters require a *minimum* floor area of a 10-gallon aquarium (approximately 20 inches by 10 inches) and a cage height of a minimum of 6 inches. Female breeding hamsters require much larger areas. Optimal temperature range for hamsters is between 65 to 80°F, with babies doing best at 70 to 75°F. The relative humidity should be between 40% and 70%. Twelve hour light cycles are preferred, with hamsters being more active during the night.

Pet hamsters are generally housed singly. Mature female hamsters tend to be very aggressive towards one another and should never be housed together. Females are also larger and more aggressive than males, thus males usually need to be separated immediately after breeding. Males may also fight when housed together, but tend to be less aggressive than females.

The cage and accessories should be cleaned thoroughly once to twice weekly. An exception to this schedule is when newborn babies are present; wait until they are at least two weeks old to disturb the cage. Other factors that may require increased frequency of cleaning are the number of hamsters in the cage, the type of bedding material provided, and the cage design and size. Clean the floor and walls with soap and water weekly. Change the bedding weekly.

Cages should be sanitized with hot water and a nontoxic disinfectant or detergent, then thoroughly rinsed. Water bottles and food dishes should be cleaned and disinfected daily. Most of the time just hot water and a mild detergent, and rinsing it afterward, is fine. Bleach kills most of the major pathogens that a hamster would create or be in contact with, so for a more thorough cleaning once in a while use a solution of 1 part bleach in 10 parts water; wipe it on, let it sit for 15 minutes, and then rinse it off thoroughly. Water bottles and bowls

can be soaked in this bleach solution for 15 to 30 minutes but must be rinsed well before use. Cleaners are sold at pet stores that can be used but most are not as effective for deep cleaning as bleach.

Reproduction

The sex of hamsters can be easily determined. Mature male hamsters possess large, prominent testicles, which often alarm owners who first notice their size and mistake them for tumors. In addition, the genitourinary to anal separation is much wider in males than females, making it possible to sex young hamsters.

Male hamsters should be first bred at 10 to 14 weeks of age. Females can be bred at the age of 6 to 10 weeks. As the female comes into 'heat' she will begin assuming a breeding stance with her back swayed and body stretched out. When petted over her back, she will remain motionless and sway her back even further. A thin mucus will be noticed coming from her vulva on the next day of the 'heat' cycle, which indicates that estrus will occur two days later. For breeding, place the female into the male's cage about one hour before dark. Closely observe the pair for mating activity or fighting. Females can be very aggressive towards males and can cause serious injuries. At the first sign of aggression by the female, remove the male; then try again the next night. Also, remove the male shortly after a successful mating has taken place.

Pregnancy is of very short duration in hamsters; lasting only 15 to 16 days. Just before delivery, the expectant mother will become restless and may discharge a small amount of blood from her vulva. Do not handle or disturb her at this time. It is wise to clean her cage two weeks following breeding, so her cage is relatively clean when babies arrive. Litter size ranges from 5 to 10 pups; larger litters are not uncommon. The pups are born hairless with their eyes and ears closed. However, they do already have their front teeth, the incisors.

Provide ample nesting material and bedding for the new mother and young. Plenty of fresh food and water should be available before the babies are born. DO NOT disturb the mother and young for any reason during the first week or two after birth. If a mother hamster seems threatened for any reason, she typically will kill and cannibalize the young. In other instances, she may stuff the young into her cheek pouches and frantically carry them around the cage looking for a safe place to establish a nest. Occasionally, pups will suffocate as a result of this activity, especially if the disturbance is prolonged.

Young hamsters usually begin eating solid food at 7 to 10 days of age, but are not weaned until 21 to 25 days. Provide food on the cage floor for the young and mother, and also have soaked, softened pellets available for them as well. Make sure that the water bottle is low enough for the weanlings to use, and that they are strong enough to use it; or provide an alternative water source during this time.

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