

Care of Hamsters

Introduction

The most common pet hamster is the golden hamster. Golden hamsters, also known as Syrian hamsters, are a small (4" to 7"), short-tailed rodent with large cheek pouches, small eyes and a variety of appealing coat colors. The cheek pouches are a relatively unique anatomic feature of hamsters. They are actually a cavernous outpouching of the oral (mouth) cavity on both sides, extending alongside the head and neck to the shoulders. These pouches are used to store food and allow the hamster to transport food from where it is gathered to the hamster's den or nest. Another relatively unique anatomic feature of hamsters is the paired glands in the skin over the flanks. These appear as dark spots within the haircoat and are much more obvious in males than females. These glands are used to mark a hamster's territory and also have a role in sexual behavior. The "Teddy Bear" hamster is a long-coated version of the golden hamster. The Golden hamster was first discovered in Syria, with the first record of it dating back to 1839. The Golden hamsters available commercially today can trace their lineage back to hamsters introduced to the pet market from the Hebrew University in 1945.

Hamsters are relatively easy to care for, and their inquisitive nature makes them an appealing pet. One of the most important features of the Golden hamster is its solitary nature. By 10 weeks of age, they will not be able to tolerate the company of another hamster. They must be caged singly. Adults of the same sex will fight if caged together, sometimes inflicting deadly wounds. Golden hamsters are also nocturnal, spending most of their day sleeping, and waking in the early evening.

Another, less commonly seen, species of hamster is the dwarf, or Siberian hamster. These hamsters are considerably smaller than Golden hamster, and are usually grey with a black stripe down their back. Dwarf hamsters are sociable and will live happily in pairs or groups. They are best introduced at a young age as older hamsters will not usually accept a new companion, particularly if it has become used to living alone. When buying two or more Dwarf hamsters to live together, it is not necessary to get individuals from the same litter, but they should be roughly the same age, size, and sex (if you do not want them to breed). Ideally you should pick hamsters that are already living in a group community. Expect some squabbling upon introduction, and do not interfere with the fighting unless it is prolonged, or injuries are caused.

DO NOT house different species/subspecies together as their natural ranges do not overlap and they will not get along.

The average potential lifespan for a hamster is 2-3 years. This short life can be very disconcerting to some owners, especially children.

Hamsters are normally docile. With proper handling they remain docile with little urination or defecation. If you handle a hamster awakened from sleep, or cause it to feel threatened or startled, a hamster will bite. Hamsters have very poor eyesight, but a keen sense of smell and hearing, therefore, a hamster might also nibble on a finger that smells of treats. Husbandry for all hamster species/subspecies is essentially the same.

Housing

Because hamsters like to chew, they must be housed in escape-proof cages. Wood should not be used as a caging material for two reasons; first, because hamsters can gnaw through it and escape, and second, because it is very difficult to clean properly. One reference recommends at least 20 square inches of floor area for the hamster and a cage height of at least 6 inches. The best cages are those with wire tops (when housing dwarf hamsters, the wire should be no more than 0.5 cm apart) and plastic bottoms, or plastic cages that allow airflow. Adequate ventilation is very important for pocket pets, as the build-up of moisture and ammonia can cause illnesses. The only drawback to wire cages, and those with copious ventilation, is that they do allow drafts; therefore, it is best to consider this when placing a cage in a room. We do not recommend using aquariums to house pocket pets. Aquariums, with their solid glass walls, tend to trap moisture, heat, and odors in the cage. Moisture promotes bacterial growth and ammonia can contribute to upper respiratory problems. Another type of cage, that is currently very popular, is the solid enclosed plastic cage with tubular extensions. The plus of these cages is that they can be expanded upon, giving the hamster more room to exercise, however, the extensions can be hard to clean, large hamsters may have trouble traversing the tubes, and although the solid walls do keep out drafts, like the aquarium, they tend to trap in moisture and odors, quickly creating an unhealthy environment. If you are housing your hamster in one of these cages, we recommend that you completely clean the cage 2-3 times more often than the wire/plastic cage combinations. And finally, some people like the convenience of an all wire cage as the droppings/urine fall through the bottom and the cage is easier to clean. These types of cages, however, are very hard on hamster feet and many hamsters have been known to break a

leg or a toe on the wire floor. If you have this type of cage it is important to keep a piece of thick plastic, or cardboard (the cardboard will get chewed and will need to be frequently replaced) in one corner where the hamster can get off of the wire floor.

Bedding

After you have decided on a cage, you will need to line the bottom with bedding. Bedding in hamster cages serves three purposes: it is the litter box, it serves as a substrate in which the hamster may nest and burrow, and it provides a soft surface on which to walk. A quality bedding should fit into these important guidelines: it should not cause your hamster health problems, and it should have some odor control. Given below are some evaluations of commonly available beddings, this list is neither complete, nor definitive.

Cedar shavings: Cedar should be avoided at all costs. Studies have shown that cedar bedding can cause chronic upper respiratory problems and significant liver changes. Some animals can also be allergic to cedar and develop severe skin rashes and respiratory problems. The same aromatic oils that cover odors and make cedar attractive to small mammal owners are what cause the problems.

Pine shavings: Pine shavings are less aromatic softwood that is often packaged as bedding for small mammals. Similar problems exist as to cedar. The oils that help cover the ammonia odors also can cause problems for the small mammals housed on it. Some people recommend the use of kiln-dried pine shavings as these have only minute amounts of oil, but be aware, your hamster has a better developed sense of smell than you do, and has to live in close contact with its bedding almost 24 hours a day. Even small amounts of aromatic oils can become irritating in those circumstances. Pine bedding is definitely better than cedar bedding, and kiln dried is better than regular, but it is probably best avoided if possible.

Aspen shavings: Aspen is a non-aromatic hardwood, and its shavings make safe bedding. It does not have much odor control; therefore, strict cage cleaning must be practiced to maintain odor control. Strict sanitary practices are healthier for your hamster anyway.

Carefresh: Carefresh is a popular alternative to wood shavings. It is made from wood pulp fibers that are too short to be made into paper. The fibers are processed into what looks like shredded egg cartons. Carefresh's greatest strength is odor control; its paper base inhibits ammonia formation.

Crown Animal Bedding/Yesterday's News: These are two paper-based beddings that are compressed pellets (Yesterday's News does offer two densities – hard and soft). These beddings offer excellent odor control; however, they can be a little rough as a sole bedding. Combined with a top-dressing of timothy hay, they can make a very nice bedding.

Corncob: Corncob beddings have several drawbacks. Corncob is not very digestible and can form impactions if eaten by the hamster, and corncob bedding is very prone to mold growth. Because of these two factors, we do not recommend corncob bedding for small mammals.

Straw: Straw is unsuitable because it does not absorb urine and the hard stalks can cause eye injuries.

Timothy hay: Timothy hay can make a good bedding for hamsters. Hamsters enjoy tunneling through it, making nests in it and just playing with it. Fresh timothy has a pleasant smell, and will absorb some urine. The drawbacks are that it does not control odors, and it will mold when wet. If used as a top-dressing over a more absorbent bedding, such as one of the paper-based beddings mentioned above, it can be changed every one to two days, while the paper-based bedding may last a week or more between changes. Fresh timothy hay bought direct, is the best. Pre-packaged timothy hay, found in the pet store, is often dried to prevent molding on the shelf. This makes it harder, and less suitable as bedding.

Cat litter: As a general rule cat litter is not a good choice, because of 1) its indigestibility, 2) the chemicals most cat litters contain to control odors, and 3) its general rough, stony quality. Clumping litter, when wet, can get caught in the coat of a hamster and become cement-like. Because hamsters are lower to the ground than cats, this is a common occurrence.

Cage Supplies

In addition to the cage itself, you will need a water bottle, a food dish, an exercise wheel, and appropriate toys for your hamster to chew on and use for exercise/play.

A water bottle is recommended over a dish. Water in a dish will quickly become soiled with urine and droppings, or simply be over-turned. The water bottle should mount outside the cage and the sipper tube should be made of stainless steel. Many hamsters will chew on the tube as they drink and quickly ruin plastic tubes.

The food dish should be heavy, and ideally wider at the bottom than the top, to make it difficult to overturn. It is also a good idea to have a narrower opening so that the hamsters do not sit in their bowl while they eat and then foul the food.

For terrain and variety, large rocks, chunks of hardwoods, and tubes may be added to the cage. These not only provide surfaces that help wear down claws and teeth, but also hiding places and things to help alleviate boredom. Three inch diameter PVC tubing bought at a home building supply store can make great inexpensive hamster toy. Elbow and T-joints work especially well. The PVC plastic is hard, durable, and easy to clean. Cardboard tubes, such as those left over from paper towel or bathroom tissue rolls, are a nice disposable toy for your hamster to shred. All toys should be checked routinely for signs of wear and tear.

A solid exercise wheel is preferred to a wire wheel. Hamsters have been known to slip and fracture legs in wire wheels. Hamsters are very active and need a physical outlet for their energy. A wheel combined with the above mentioned toys for climbing and gnawing, can keep your hamster mentally and physically stimulated. If you are unable to provide a wheel, an escape proof area to run is beneficial (a child's wading pool with a layer of timothy hay can be used). If you choose the latter method for exercise, we recommend that you do not leave the hamster unattended, as individuals have been known to pile the hay/shavings against a wall and escape. It is also good to prevent interactions with other pets, such as cats and dogs, during these excursions.

Nutrition

Good quality food and fresh clean water should be available at all times. The exact nutritional requirements of hamsters is not known. In the wild, they are omnivorous, feeding on plants, seeds, fruits, and insects. Pet hamsters are best fed commercial rodent diets containing at least 16% crude protein. These foods are usually available as dry blocks or pellets. Pelleted diets are convenient to feed, balanced in protein, carbohydrates, fats, vitamins, minerals and prevent the hamster from becoming "addicted" to one type of food and unbalancing his own diet. These commercial diets can be supplemented with fresh foods in SMALL amounts. Fresh vegetables such as carrots, celery, kale, green peppers as well as uncooked pasta, cooked chicken, tuna fish, and cheese can be used. Avoid foods that are high in sugar or salt content, or tend to be gas-producing such as broccoli, cauliflower, raw beans, potato eyes, iceberg lettuce, citrus fruits, green potatoes, tomatoes, garlic or chocolate. A handful of timothy hay can be given 2-3 times a week. Avoid alfalfa hay as its high calcium content can cause problems. Leftover fresh food should be removed promptly from the cage to prevent spoiling. Also consider the size of animal you are feeding and present your portions accordingly.

Water

Water is most easily made available and kept free of contamination by providing it in one or more water bottles equipped with a "sipper" tube. Make certain that the hamster is strong enough, especially if the hamster is juvenile, and understands how to work the tube.

Reproduction

The sex of hamsters is fairly easy to determine. Males have very large, prominent testicles. In fact, persons unaccustomed to seeing them are often astonished at these anatomic peculiarities.

Male golden hamsters should be first bred when they are 14 weeks old. Females should be first bred when they are 10 weeks old.

As the time of copulation approaches, a thin, stringy, cobweb-like mucous is apparent around the female's vulva. The female is then placed in the male's cage approximately one hour before dark. The pair should be observed for mating activity and/or fighting. Females can be very aggressive to males in this situation and can harm them. The male should be removed at once if there is fighting. The male should be removed after mating.

Pregnancy lasts about 15½ to 16 days. Before delivery, the female becomes restless and usually discharges a small amount of blood from her vulva. Litters range in size from 5-10 pups. The pups are born hairless, with ears and eyes closed. They do, however, have their incisors (front teeth) at birth.

Female hamsters with young must be provided with abundant nesting and bedding materials, as well as plenty of food and water. They must NOT be disturbed in any way. The young should not be touched or handled until they are

at least 7 days old, the nest should not be disturbed, and the cage should not be cleaned during this period. Failure to heed these cautions, especially with a first time mother, can result in the mother cannibalizing or abandoning the young.

Young hamsters usually begin eating solid food at 7-10 days of age, but are usually weaned at about 3 weeks of age. It is best to offer them pelleted diet soaked in water to soften it and placed on the floor level of the cage for easy access. Sipper tubes from water bottles should be re-positioned so that the smallest pups can reach them, however, an alternative water source for small pups that is easier to manage is recommended. The pups should be separated by 10 weeks of age, if not before.

Health Issues

Hamsters tend to be affected by relatively few naturally occurring diseases. Their susceptibility, however, to many infectious diseases of other animals, including people, and the ease with which these diseases can be transmitted have made them very popular laboratory animals for biomedical research. Teddy Bear hamsters and other genetic varieties tend to be much more susceptible to disease and sensitive to antibiotics and other drugs than golden hamsters.

Because hamsters are very small, nocturnal (night-active) and often not closely observed, the early signs of illness are frequently overlooked or not noted at all. Hamster owners must be constantly vigilant for signs of illness and should seek immediate veterinary assistance when illness is suspected.

Sick hamsters often become irritable and frequently bite. They are usually reluctant to move about the cage. They may walk stiffly when forced to move. The eyes of a sick hamster are often sunken (due to loss of fat reserves or dehydration), and may have a watery or mucoid discharge. Sick hamsters may be anorexic, and lose weight. Diarrhea in hamsters can cause severe weight loss and dehydration very quickly in hamsters. In fact, sudden intestinal disease with accompanying diarrhea (often called "Wet-tail"), is the most common illness in young hamsters (especially at weaning time). This is a very serious disease and, if left untreated, can quickly lead to death from severe dehydration.

Hamsters are also susceptible to teeth problems as their incisor (front) teeth grow continuously throughout their lifetime. The mechanism of grinding the top incisors against the lower incisors as the hamster gnaws, prevents the teeth from overgrowing. Misalignment of these teeth, either due to trauma, malnutrition, infection, or genetics, can lead to the overgrowth of one or more teeth. Overgrown incisors can cause significant trauma to the mandible (lower jaw) and the maxilla (upper jaw) of the hamster. Initial signs of incisor overgrowth can include anorexia, drooling, and weight loss. Often the trauma caused by the misaligned tooth becomes infected and causes a foul odor.

Hamsters are fragile. They are frequently injured from careless handling, or from being allowed to roam unsupervised. Hamsters are frequently injured while in "exercise balls". This is a clear plastic sphere propelled along the floor by the hamster's movement inside. Injuries occur when a person accidentally kicks the ball, or it goes down a flight of stairs. Hamsters have been known to die of dehydration/hunger when left in the ball too long without food and water. Trauma may result in broken bones and/or serious internal injuries or death. A fall of over just a foot may result in a broken back, for which there is no practical treatment.

Injured hamsters should be immediately examined by a veterinarian. Broken bones are difficult to manage. Often an external fixation appliance will NOT be applied because of the sometimes greater problems they impose on the broken limb. A veterinarian should be consulted as to the best course of action for an injury.

Hamsters are susceptible to the formation of stones (mineral deposits) within the urinary tract. Signs of bladder stones may or may not be detected by hamster owners. Owners may notice frequent urination, straining to urinate, and blood in the urine. This may be accompanied by increased water consumption, inappetance, and lethargy.

Cancer is very common in pet hamsters. The incidence increases with age (as is the case with most animals) and is higher in females than males due to the variety of cancers of the female reproductive tract. Tumors of hamsters may be benign (masses that do not spread) or malignant (masses that spread throughout the body); however, it is more common for hamsters to have benign growths. The most common tumors of hamsters are those affecting the hormone-producing organs (such as the thyroid or adrenals) and these growths can affect hormone imbalances and cause hair-loss, changes in behavior, excessive thirst, etc. Veterinarians can perform surgery to remove external growths (this surgery is always easier on the animal if performed while the growth is still small), however, internal tumors are much more challenging to remove due to the smaller size of the patient and the correspondingly smaller internal organs.

Abscesses are most often caused by bite wounds from fighting. Abscesses in the cheek pouches, or tooth root abscesses can form as a result of misaligned teeth, harsh food, or bedding materials. It can be hard to distinguish between the swelling caused by food/material stored in the cheek pouch and that due to an abscess, but generally the swelling from an abscess is persistent over days, while the swelling from storage comes and goes. Abscesses will need to be opened and drained and antibiotics will most likely be administered.

Hamsters are susceptible to several species of the bacterium *Salmonella*, which can cause serious intestinal disease and can, under certain circumstances, be transmissible to humans. The bacterium is usually acquired through contaminated foodstuffs, therefore, thorough washing of any fresh vegetables is recommended before feeding them to your hamster.

Hamsters frequently harbor intestinal parasites. The most common are tapeworms and pinworms. Heavy infestations of parasites can cause weight loss. If you suspect your hamster may harbor intestinal parasites, a stool sample should be submitted to your veterinarian for microscopic examination.

Hamsters are Extremely Sensitive to Antibiotic Use

Hamsters as a group are unusually sensitive to the potentially lethal side effects of certain antibiotics, whether they are given orally or by injection. Potentially harmful antibiotics include ampicillin, penicillin, erythromycin, lincomycin, and streptomycin.

The major way in which certain antibiotics cause reactions is by altering

These antibiotics alter the normal microbial balance in the gastrointestinal tract. Once the balance has been upset, certain bacteria multiply to large numbers, producing harmful chemicals with a potentially lethal effect. Certain antibiotics (streptomycin, dihydrostreptomycin) are directly toxic and should never be used. Do not give any antibiotics to your hamster unless prescribed by a veterinarian.

If antibiotics are prescribed for your hamster, ½ cc (1/10 teaspoon) of plain, white live culture yogurt should be given orally to the treated hamster morning and evening for the duration of the therapy, and for an additional 5-7 days post-treatment. Live culture yogurt helps replace the beneficial intestinal bacteria that perish during antibiotic treatment.

Human Health Concerns

Lymphocytic Choriomeningitis is a viral disease that can be transmitted from hamsters to humans. A large number of cases in 1974 and 1975 were traced to a common infected hamster colony. Signs of this disease in people include recurrent fever, headache, fatigue, muscle aches, sore throat, rash, and arthritis.

The natural host in the wild for the virus is the rodent population. Because hamsters are almost exclusively indoor pets, they are unlikely to become infected with the virus. Hamster owners should restrict contact between their hamsters and any wild rodents that may be adopted.

Rabies is often a concern of hamster owners due to the hamster's proclivity to bite when alarmed. Hamsters are not natural hosts of this virus. Therefore, the only way for a hamster to become infected with the rabies virus is to become exposed to infected saliva from a natural host (skunk, fox, bat, etc). This is highly unlikely as hamsters are indoor pets.

Certain people are allergic to hamster hair, dander, or saliva. Continual association with hamsters can increase the likelihood of allergies developing. Consult your physician if you believe you may have a problem.

Quick Facts

Scientific Name	<i>Mesocricetus auratus</i>
Potential Lifespan	2-3 years
Adult Body Weight	85-150 grams (Adult females are slightly larger than males)
Desirable Environmental Temperature Range	65-70 F
Desirable Relative Humidity Range	30-70%
Respiratory Rate	35-135/minute
Heart Rate	250-500/minute
Breeding onset (male)	10-14 weeks
(female)	6-10 weeks
Cycle Length	4 days (polyestrus)
Gestation	15-18 days
Weaning Age	20-25 days