



# Milwood Animal Clinic

5942 Lovers Lane · Portage, MI · 49002

Phone (269) 342-9865

Fax (269) 342-6830

[www.MilwoodAnimalClinic.com](http://www.MilwoodAnimalClinic.com)

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## Rats and Mice

*There are quite a few sources of information available over the internet, some of which offer correct information. Others sources can be incorrect and harmful to your pet. Please consult with your veterinarian before making lifestyle, feeding, handling or caging changes.*

*Small caged pets can be wonderful companions and learning experiences for children. However, young children should not be assigned full time caretaker duties. A missed meal or lack of water to drink can be life-threatening for small animals that must have a constant supply of food and hydration available to survive. Plan on supervising your children's care of their pet every day.*

### Mice

The mouse is thought to have its origins in Asia. Its tremendous adaptability, long-time association with people and our dwellings, and unbelievably prolific breeding potential (one reference cites one million descendants from one breeding pair in 1 1/2 years!) has allowed mice to enjoy a worldwide distribution. Mice are timid, social and territorial animals that spend a disproportionate amount of time in the wild pursuing an omnivorous (animal and plant material) diet. Feeding is most often carried out at night to escape predation. Laboratory and pet mice are not strictly nocturnal (night-active) but tend to exhibit alternating periods of activity and rest throughout the day and night.



In the wild, mice may exhibit aggression among themselves, though establishment of a social "pecking order" tends to reduce this potentially injurious behavior. Individual males apparently dominate groups of mice using this social pecking order. Females with litters may fight to defend their nests.

Domestication and intensive breeding of mice have resulted in a tremendous genetic diversity of mouse populations. The Swiss Albino mouse has become one of the most popular strains for pets but many others are commonly kept as pets. Mice are seen in many colors, including parti-colored. The lifespan of a mouse is quite short; one to two years.

As pets, mice can become quite used to human contact, but remain timid and require

gentle handling. They will bite in order to escape perceived danger. The odor of their urine is actually quite strong, and they urine mark their environment, so attention to cleanliness and frequent bedding changes are required. Since they breed so readily and have such large litters (10-12 kits and 6-10 litters per year), care must be taken to separate breeding age animals. Adults are territorial and will fight.

Mice are curious, gentle pets that are intelligent for their size. Their simple feeding and housing requirements make them inexpensive and easy to care for pets.



### **Rats**

The rat apparently also originated in central Asia. Rats were domesticated in the 17th century and the process has continued to the present, resulting in many breeds that are docile and of excellent pet quality. Rats, like mice, have been used extensively in biomedical research. Most of the tremendous number of breeds and strains currently in existence have resulted from intensive inbreeding efforts by research laboratories over the years.

Wild rats are found in all kinds of habitats and nearly all land masses of the world, an enduring tribute to their adaptability and their long-time association with people. They tend to be omnivorous (feeding on plant and animal material) but exhibit tremendous opportunism in their feeding habits when living in and around human dwellings. Wild rats tend to be nocturnal (night-active) animals but often use daylight hours to forage for food. Laboratory and pet rats, as in mice, are not strictly nocturnal.

Rats are extremely social and personable animals that bond strongly to their owners. They are smart enough to learn their names and will come when you call them. They beg to come out of their cage to play and interact with their owners and love to be petted. They rarely bite unless significantly provoked. Most pet rats are either albinos or of variety called “hooded” which have colored heads and a colored stripe down the back. Sometimes solid colors are also seen. They are social rodents and do not fight with each other so multiple pets are often kept together. They will breed readily so it is recommended to neuter males if being kept with females. They can also be kept in single sex groups. The average life span of a pet rat is 2-3 years. Rats also scent mark with urine, but their urine does not have as acrid an odor as that of mice.

Pet enthusiasts who own rats often describe them as smart, friendly little animals that bring them much enjoyment. Their feeding and housing requirements can be easily met for most people and they do make a good pet for youngsters. They are typically easy to handle and enjoy interacting with their owners.

### **Handling**

As stated above, domestic mice and rats generally tolerate gentle handling, though both may bite if startled or handled roughly. Mice are more likely to bite than rats under these

circumstances. In fact, mice housed alone are more likely to be aggressive with a handler than those housed in groups. Cage territoriality (possessiveness) may be exhibited by some pet rats. If handled frequently in a gentle manner, most pet mice and rats will really look forward to it and the interaction with their owners.

It is customary to pick up a mouse by gently lifting it up by the tail and placing it into a cupped hand. If a more secure hold is necessary (giving medications or food orally), the handler may grasp or pinch as much skin as possible over the neck, just behind the head. The mouse can then be picked up and turned over on its back by rotating the wrist. The tail can be restrained by gently grasping it between the fourth (ring) and fifth (pinkie) fingers of the same hand.

The best way to pick up a pet rat is to place one hand over the back, just behind the head, gently grasp it around the ribcage, and lift it upward. The rat can then be gently cradled against the handler's body, using minimal restraint.

Rats can be lifted by their tail but great caution must be exercised in doing so. The skin of a rat's tail can easily tear, so it is best to grasp only the base of the tail. Further, suspending the entire weight of a rat by its tail is, no doubt painful for the rat. Therefore, this practice should be only momentary. Tail-lifting a rat that is grasping a fabric (wire mesh, etc.) may injure the tail and may also break or tear the toenails.

Both mice and rats will benefit from gentle, frequent handling so that they become accustomed to it. This is important so that you can have pleasant interactions with your pet as well as examine your pet for signs of ill health or injury.

### **Housing**

Mice and rats can be kept in similar types of housing, with consideration to the size and number of pets in the enclosure. A rat cage should be at least 12" X 24" X 12" and even bigger is better to allow room for scampering and toys. Caging for mice should be of similar proportions to the size of the pet.

Both rats and mice are adept at squeezing into very small spaces. If they can get their head through an opening the body will soon follow. Caging therefore needs to be escape proof with no small opening to the outside.

Proper housing is a major factor in the maintenance of healthy mice and rats. The psychosocial well-being of the animals must be a primary consideration. Mice and rats can be housed within enclosures made of wire, stainless steel, durable plastic or glass. The last 3 materials are preferred because they resist corrosion. Wire must have sufficiently small spacing to prevent escape or entanglement of your pet's feet. Wood and similar materials should not be used in the construction of enclosures because they are difficult to clean and cannot withstand the destructive gnawing of rodents. Be sure the



enclosure is free of sharp edges and other potential hazards.

The enclosure must be roomy enough to allow the rodents to pursue normal movement and breeding activity, if the latter is desired. Visual security (a place into or under which the rodents can retreat for privacy) should be provided, as well as exercise wheels for optimum mental and physical health. Rats, in particular, tend to be burrowers and seem to enjoy hiding under things for extended periods.

### **Bedding**

Both rats and mice are clean little animals, grooming themselves from head to tail several times a day. As their caretaker, you are responsible for making sure that the bedding in their cage is clean and sanitary as well.

Enclosures should be easy to clean, well lighted and adequately ventilated. Use litter or bedding material provided in the enclosure that is non toxic and does not pose a danger of inhalation or ingestion. Avoid aromatic cedar and pine shavings as they cause irritation to the skin and potential respiratory and liver problems. A paper based bedding is recommended. Care Fresh and Yesterday's News are recommended paper based substrates that contain no cedar or pine products and are easily found brands at pet stores. The bedding should be several inches deep to accommodate your pet's natural burrowing behaviors. Tissue paper or cotton is often supplied to breeding rats and mice for nest-building material. Replace soiled litter once to twice a week or more often if needed. Mice and rats produce a large number of small stools and urine mark their territories, so bedding needs to be replaced frequently.

### **Other important caging considerations**

Pet mice and rats seem most comfortable when they are spared exposure to excessive noise, needless excitement and confusion, and other similar or perceived stresses. Sudden environmental temperature changes should also be prevented because pet rodents do not tolerate them well. All small rodents are prey animals and need to have hiding places in their environment to retreat to where they can be unseen and undisturbed. Provide your pets a disposable box or a more durable hide box from the pet store where they can feel safe.

Mice can be aggressive toward one another, so great care should be taken when housing more than one mouse within the same enclosure. Newly assembled male groups and new males entering established territories, in particular, are likely to fight, so it is wise to always house male mice separately. Domestic female mice seldom fight unless they are defending their nests. If breeding is desired, the pregnant females should be housed separately and the young removed and separated by breeding age - 28 to 40 days.

Rats are more communal and, in contrast to mice, several males and females may be housed within the same enclosure, provided that it is roomy enough. In fact, young rats are raised by the group and nursing responsibilities are shared between females. These nursing females may fight among themselves. Males may occasionally bother the young,

but aggression between rats is generally infrequent (in contrast to mice). Neutering the males in mixed sex groups is recommended to prevent breeding. There are few breeding problems with rats other than the expanding need for housing, sanitation and finding appropriate homes for the offspring.

### **Nutrition**

Rats and mice have similar dietary requirements. They eat primarily plant material, but are known to eat some meat products, and are considered omnivorous. The basic diet for them should consist of a good quality rodent chow or lab block. Rodent chows should have a minimum of 16% protein and between 4-5% fat. You can offer these dry foods in a bowl or hanging feeder to be consumed as needed. Purchase pelleted food in amounts



that you will use within three months to prevent spoilage. Good quality rodent chows are considered to be fairly complete diets for rats and mice.

Other foods may be given in addition to the commercial pellets, but these should not constitute more than 10% of the total diet. Fruit and leafy greens can be offered. Do not feed gas producing vegetables such as broccoli and cauliflower. All fresh items must be thoroughly washed to avoid exposing your pet to pesticide residues or bacterial contamination. Remove any uneaten fresh foods within three to four hours to prevent spoilage. Rats and mice love grains, nuts, and seeds, but you should offer these foods in small quantities because of their high fat content. If these treats are given free choice, the pet will eat them exclusively and can develop nutritional disease, such as obesity. A few nuts or seeds given daily as a special treat is acceptable. “People foods” high in salt, sugar and fats are not healthy for you pet.

### **Safety**

Mice, due their tiny size, are easily injured and any injury can be life-threatening. Since they are prey animals and scurry about so quickly, they will draw the attention of other household pets such as cats and dogs. Any interaction with these larger animals should be strictly prevented. Small children do not have a good sense of how gently to hold a small pet and should not play with these fragile creatures. Mice also run and jump quickly, and are more prone to bite than rats, especially if they are not used to handling. This often can result in falling injuries or them being accidentally stepped on. When handling, please keep your little pet’s safety in mind.

Rats are larger and quite a bit sturdier than mice. However, they too can be crushed, dropped or attacked by cats and dogs so similar precautions need to be taken with them. Lifting a large rat by the tail can result in severe injury to its tail, causing the skin to pull off. Take time to accustom you pet rat to petting and being lifted from underneath instead of using its tail for a handle!

## Health

The most important ways to keep your pet mouse or rat healthy is to follow the guidelines provided by your veterinarian regarding proper caging, handling and feeding of your pet. These things, combined with close daily observation, attention to detail and regular check ups with your veterinarian will help ensure that your pet enjoys a long healthy life.

Observe you pet daily for changes in behavior, activity level, eating habits, and bowel habits. Having a pet that is comfortable with handling is a great benefit so that it can be examined up close on a daily basis. Inspect fur, feet and toes, eyes, nose and mouth, ears and hind end cleanliness as you handle your pet.

A rat's or mouse's health situation can change quickly and changes need to be addressed quickly. If your pet has a change in eating habits, especially lack of appetite, or diarrhea, it could be signaling serious problems developing. Be on the lookout for sneezing, a rough fur coat, changes in posture or activity such as sleeping excessively.

*Report abnormalities or changes to your veterinarian right away. Small pets can become very ill very rapidly. Decreased energy, a loss of appetite and changes in bowel movements are serious concerns. Any injury has the potential to be life-threatening.*



## Care of Rats and Mice - Review

- Omnivorous rodents originating in Asia
- Alternate periods of activity and sleep throughout day & night
  
- **Mice** -friendly and curious, will bite if alarmed, small and delicate
- adults will fight among themselves
- -Will breed very frequently with large litters if not kept separate
  
- **Rats** – friendly and very social, less apt to bite and sturdier than mice
- generally do not fight among themselves
- Will breed readily: neuter males if kept with females
  
- Caging needs to be escape and gnaw proof
- Need a large, solid bottomed enclosure with a hide boxes
- Use paper based bedding, changed frequently
- Enjoy burrowing in deep bedding material
  
- Should be handled gently, by older children or adults
- Are prey animals so keep dogs and cats away!
  
- Feed good quality rodent chow or lab blocks
- May be given vegetables and fruit as treats only
- Grains, nuts and seeds – feed sparingly due to high fat content
- Need clean, fresh water at all times
  
- Observe daily for changes in eating habits, stools, and activity
- Seek veterinary care right away if abnormalities are noticed
- Plan regular examinations with your veterinarian
- Enjoy your furry little buddy!