



CARING FOR YOUR RAT

Domestic rats are friendly, social, intelligent animals that rarely bite when raised with people. They make excellent pets, and are large enough for most children to handle without injuring. They may be hurt by toddlers and small children, who may be too rough or may step or fall on the pet. Rats are inexpensive and easily cared for, and they become very attached to their owners. Of all the rodents, rats probably make the most consistently good pets. They are very bright and often learn tricks. Female rats are more active and inquisitive; male rats are more sedentary. Use caution if you own dogs or cats; these may attack a rat. With good care, most rats will live 2 to 3 years.

DIET: Provide fresh water always; the best system is a ball-valve water bottle. Change the water every 2 days, and be sure the bottle doesn't leak or clog. The majority of the diet should be pelleted rat food (often called Lab Block), which contains about 15% protein and 5% fat. Examples include Oxbow Regal Rat and Kaytee Forti-Diet. Avoid seed & nut mix diets; these are poor and often cause obesity. Rats can also have *small* amounts of treats, mostly fruits & vegetables, plus *occasional* low fat cheese, nuts, and cereals. Minimize high calorie treats! Store rat food in its original bag, in a dry location where no wild mice can get into it; wild rodents carry disease that can infect your rat and also infect humans. Salt licks are *not* needed if on a good diet, and most rats ignore them. Chromium picolinate, a human health supplement, was shown to extend rats' life expectancy up to 1 year beyond normal (up to 48 months old!), when given daily throughout life. The dose is 410-500 *micrograms* per kilogram of body weight once daily.

HOUSING: Rats should be securely housed in a spacious cage (at least 18 X 24 inches wide for one rat). They are escape artists and if allowed to roam unobserved can get into trouble, such as gnawing on electrical cords or furniture, getting attacked by other house pets, or getting lost. Wire cages are well ventilated, but can be drafty; keep them in a warm area away from windows. Glass aquariums are less drafty but are poorly ventilated, and must be kept very clean; urine buildup in the bedding causes ammonia fumes which quickly damage the rat's lungs. The cage bottom should have a thick (1 ½ inch minimum) layer of soft bedding; the best is probably ground-up paper bedding which is widely sold for rodents. You can also use hardwood shavings (birch, aspen or alder), but NOT cedar or pine, which contain toxic oils. You can provide a wood or cardboard box to make a nest in, and toys such as cardboard tubes. Kleenex tissues make great nest box material; the rats will pull the tissues in and shred them to make a soft nest. Do not provide hard wood to chew on; no gnawing is required to wear down the teeth, and hard objects may harm the teeth. Ideally take your rat out daily for exercise, play, and human bonding. Some rats will use an exercise wheel.

BREEDING: Rats reach breeding age within the first few months; if you buy more than one, have their genders verified to avoid accidental breeding. Rats can usually be housed in groups if they grow up together. Spaying and neutering can be done to prevent breeding, or to minimize diseases such as uterine and mammary tumors.

COMMON DISEASES:

Mammary Tumors. These are very common, and appear on female rats as a soft lump under the skin. They can occur nearly anywhere on the body. Although benign, they grow extremely fast and can become larger than the rat. They are fatal if they grow large enough, but are nearly always removable. Early spaying may reduce the likelihood of these tumors. Male rats rarely get mammary tumors, but occasionally develop a more malignant tumor called fibrosarcomas. Seek veterinary attention whenever you see a lump on your rat; tumor removal is far easier, safer, and less costly when the lumps are caught early!

Respiratory Infections. Common in rats, these infections are caused by various microbes. The most common is *Mycoplasma*, which most rats carry from birth. It may produce no symptoms at first, but many rats gradually become ill with age. Mild signs include sneezing, or red discharge from eyes or nose (this is red tears, not blood). If mucus/fluid develops in nose or lungs, you may hear a wheeze or squeak as they breathe (normal rats make no noises unless hurt). Normal rats breathe very rapidly except at rest; if a rat has slow, pumping respirations (i.e. 1 or 2 per second) and is lethargic, then pneumonia is likely. Rats infected with more than one type of respiratory disease may become ill early in life. Other factors include dirty housing (urine buildup causes ammonia fumes, damaging the lungs), cold drafty conditions, poor nutrition (seed & nut mixes), or other diseases which weaken the immune system. Treatment is mainly antibiotics, which are usually reserved for rats with moderate to severe symptoms, or for elderly weak rats. As most cases cannot be cured, only controlled, the medications may be used long term. One exception to this is an **acute bacterial pneumonia**, where the rat *suddenly* develops severe difficulty breathing and is very ill; this is often curable with a few weeks of antibiotics. Usually the rat still carries a *Mycoplasma* infection (or other long term respiratory diseases) after treatment, but these organisms may not be causing enough symptoms to require long term therapy.

Inner Ear Infections. These are often caused by the same microbes that cause respiratory disease; sometimes the respiratory infection spreads to the inner ear, causing a sudden head tilt and loss of balance. Antibiotics usually cure the ear infection (not the respiratory infection). The loss of balance improves rapidly, but mild head tilt may persist for weeks to months after treatment, slowly improving. Keep affected rats in secure housing with soft bedding, and prevent climbing; dizzy rats often fall, and they can bang their eyes on sharp or hard objects. Diseases with similar signs include **encephalitis** and **pituitary tumors**; these may not respond as well to treatment.

Uterine Disease. Female rats often develop infections or cancers of the uterus. Signs may include blood or pus from the vaginal opening (between the anal and urinary openings). This is often missed because rats clean themselves off. Weight loss or a swollen belly may occur. Treatment is antibiotics and spaying; there is no way to cure an infected or cancerous uterus except by removal. Uterine cancer may spread and be fatal. Early spaying can prevent this disease.

Skin Parasites (mites & lice). Both of these are very common in rats, but usually don't occur together. They cannot infect dogs, cats, or humans; rarely a person can get a temporary rash from the mites. **Mites** are microscopic, and burrow in the skin. Young rats may carry these without symptoms, but with age the rat's resistance weakens, especially if ill, and the mites also reproduce and become more numerous. Eventually we may see signs of itching and tiny scabs on the head and shoulders. Severe cases may have hair loss and large sores. Diagnosis is via skin scrapes to find the mites, but they are easily missed and treatment is often based on symptoms. Treat with ivermectin (oral or injectable) weekly for 6 to 8 weeks. Lyme sulfur dip can also be used, weekly for 6 to 8 weeks. Clean the bedding regularly. A bird anti-mite disc can be hung near (not in) the cage; the fumes from this may kill some mites in the bedding and on the rat. **Lice** are larger than mites (pinhead sized) and live on the skin surface, where they attach and suck blood. They are visible to the eye with close inspection, usually along the midline of the back & neck. Nits (louse eggs) may be seen as rows of tiny shiny beads on the hairs. Signs include mild itching, and mild hair loss. Diagnosis is via seeing the lice and nits. Treatment is with oral ivermectin weekly for 6-8 weeks (or Revolution monthly on the skin- but this product works inconsistently). Lice are killed more easily than mites, but the eggs persist and hatch later; failure to cure lice is usually due to stopping treatment too soon.

VETERINARY CARE: No vaccines are given, but regular exams are recommended for early disease detection. Ideally have an exam done when you buy your rat, then at one year old, then every 6 months after that. With good care your rat can be a happy and very lovable pet!