

Animals in Schools and Rehabilitation Facilities

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In the United States there are an estimated 110 million pets, more than one for each family. Periodically, calls are received from the public and schools regarding the risk of animals in schools and rehabilitation facilities. Studies have documented that pets can improve medical illness, both organic and psychiatric, and hasten recovery from surgery. It is recommended that schools and rehabilitation facilities have a veterinary consultant to aid them in the understanding of animals, their health needs and ways to avoid disease transmission. Often, the local veterinarian is in the best position to advise people in schools and other facilities regarding these questions. With this knowledge, each facility can make an informed decision regarding the use of animals.

There are about 200 zoonoses with people generally serving as accidental hosts. Pets most likely to transmit zoonoses include birds, reptiles and rodents while the cat and dog are the most likely to inflict serious bites. Dogs are responsible for over 80% of the animal bites in the United States with cats in second place. Cat bites are more likely to cause infection because they produce puncture wounds that bury organisms deep into tissue, while dog bites cause tearing injuries that can be opened and irrigated.

Reasons for Animals

According to the National Science Teachers Association, the instructional reasons for animals in the classrooms are: to stimulate interest in the study of animal behavior; to develop skills of observation and comparison; to develop an appreciation for interrelationship and complexity of life; to give students a unique perspective of the life processes through experimentation and to develop a sense of stewardship and responsibility. Students often participate in the

care and feeding of classroom animals.

The educational and psychosocial benefits of having animals in the classroom exceed the relatively minimal risks. Most interactions between people and animals are pleasant, however, some interactions have undesirable outcomes. Undesirable outcomes can be greatly reduced by the application of common sense and a basic understanding of animal and human behavior.

In rehabilitation facilities, pets have been used for psychological and organic diseases. Pets can be valuable to people with hypertensive cardiovascular disease, as the simple act of petting an animal can lower blood pressure and reduce anxiety. Pets can also improve self-esteem and enhance overall attitudes, which reduce the need for sedatives. Pets provide companionship and allow people to be alone without being lonely.

Types of Animals

In Dallas Public Schools, the largest non-mammalian group of animals are fish. The most common mammals are gerbils, hamsters, rabbits, rats and mice. Laboratory-bred and raised animals are much safer than wildlife with unknown medical histories. Gerbils are clean, relatively odorless, nocturnal animals and rarely bite. Hamsters are more likely to bite particularly when startled. Mice bite more commonly than rats. Rats, compared to mice, are easier to handle and train. Rabbits are docile, but occasionally an aggressive rabbit will be encountered that will bite and scratch. Rodents are often kept in wire containers or aquariums. Some of the small pets are kept in clear plastic containers with interconnecting modules. Commercial pelleted diets designed for the species provides adequate nutrition providing the food is fresh and stored properly. Guinea pigs need adequate levels of vitamin C.

Controlling Zoonoses

The risk of zoonoses can be reduced by proper hygiene and prevention of improper exposure to animals. The best protection from zoonoses is to provide healthy animals free of parasites and to ensure good hand washing after handling animals. The failure to wash hands before eating puts children at risk for developing zoonotic infections transmitted by the fecal-oral route (example: larval migrans, *Salmonella* and *Campylobacter*). Younger children with more finger-to-mouth activity are at greatest risk of fecal-oral transmission. Meat and poultry products should be clean and cooked well.

Salmonella is the pathogen most likely to be recovered from all animal species, both domestic and wild. The disease is transmitted to people by the fecal-oral route. It is most often spread to people from contaminated and poorly cooked food. In the mainland United States, iguana lizards and turtles are major sources of salmonella for children. In Hawaii, gecko lizards are a major source of salmonella. For this reason most schools and rehabilitation facilities do not have reptiles.

Fish-tank granuloma due to *Mycobacterium marinum* is seen as chronic ulcerated skin sores at sites of minor trauma following cleaning of fish tanks or following cuts from fish spines. The risk is highest in immunosuppressed children. These children should not be allowed to clean the fish tank or handle fish.

A common fungal zoonosis of children is ringworm. About 25% of human ringworm is attributed to animals and effective management often must include the treatment of the pet to prevent reinfection. The most common cause of hypereosinophilia in people in the United States is toxocariasis or

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visceral larva migrans. The risk in people can be reduced by screening cats and dogs for *Toxocara*, worming when indicated and handwashing after contact with animals. In the United States the most common cause of chronic lymphadenopathy and adenitis in children is cat-scratch disease caused by *Bartonella henselae*. Typically this involves contact with kittens.

Most livestock practitioners, particularly those dealing with sheep, are familiar with Q-fever, a rickettsial infection with *Coxiella burnetii* where it causes abortion. The organism localizes in the uterus and mammary glands with most animals being asymptomatic. However, infected people generally become ill with a variety of syndromes. In the urban setting, the disease pattern of Q-fever changes with the cat the most likely source of human infection. Urban dwellers infected with Q-fever have often been exposed to parturient cats. Perhaps cats pick it up from preying on rodents and birds.

Wild caught carnivores should not be used due to the risk of rabies and other zoonoses. In Los Angeles County, rabid bats are detected yearly. Adults and children should not have contact with bats.

Cat or Dog is Pet of Choice for Immune Compromised

A recent article stated that cats and dogs are the safest pets for immune compromised children. Cats and dogs are preferred because of various vaccines for them and methods for testing for infectious agents are more advanced. Cats and dogs older than one year are less likely to carry disease. Routine veterinary care reduces the chances these animals will have zoonoses.

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