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ANIMALS IN THE CLASSROOM: RECOMMENDATIONS FOR SCHOOLS

PURPOSE

To reduce human exposures to rabies and other zoonotic diseases (those transmitted from animals to people) in school classrooms.

INTRODUCTION

Animals can be effective teaching aids and the positive benefits of the human-animal bond are well-established. However, animals in the classroom necessitate certain safeguards.

Animals may carry parasites, bacteria and other potentially infectious organisms that can be transmitted to people. Diseases that can be transmitted from animals to people are called zoonotic diseases. Zoonotic diseases can be spread by direct contact with an infected animal or its feces, through insects that bite or live on animals, and from contact with organisms that live in the environment where an animal lives. Certain groups of people may be more susceptible to zoonotic diseases, including infants, children, pregnant women and those with weakened immune systems.

DESCRIPTION OF ZOOONOTIC DISEASES AND GENERAL GUIDELINES

Enteric diseases (diseases predominantly of the digestive system) include illnesses caused by organisms such as *Salmonella*, *Campylobacter*, *Cryptosporidium*, *E. coli* O157:H7 and *Giardia*. Enteric disease organisms primarily cause diarrhea in people, but in some cases, can infect the blood and cause life-threatening illness. People can be exposed to these enteric organisms by eating food contaminated with feces, or by touching a contaminated object and then touching one's mouth. Animals can carry these organisms without being ill.

In order to prevent the transmission of enteric disease-causing organisms, students should receive very clear instructions on how to wash their hands thoroughly after handling animals, their cages, or surfaces animals have come in contact with, and always before eating. For questions on safe and proper handling procedures, contact the MDPH, Division of Epidemiology and Immunization at 617-983-6800.

Because of the high risk of salmonellosis and campylobacteriosis from baby chicks and ducks, these animals are inappropriate in schools without education on safe and proper handling procedures. Transmission of these diseases from chicks and ducklings to children is well-documented.

Because of the risk of contracting salmonellosis from reptiles (including non-poisonous snakes, lizards, and iguanas) and amphibians, even when reared in captivity, special precautions are necessary when handling

them. These animals may intermittently shed salmonella, and negative cultures will not guarantee that the animals are not infected. Treatment of infected animals with antibiotics has not proven useful and may promote the development and spread of resistant bacteria. Because salmonellosis can be more severe in young children and because their hygiene practices are less thorough, handling of reptiles and amphibians by young children is not recommended.

Psittacosis is a bacterial disease that can cause fever, chills, rash, and pneumonia. This disease is primarily transmitted through inhaling dust from the contaminated droppings of infected birds. The elderly and those with a weakened immune system may develop more serious forms of this illness. Because psittacine birds (parrots, parakeets, budgies, and cockatiels) can carry psittacosis without showing signs of illness, these birds should not be handled by children without education on safe and proper handling procedures. . Birds showing any signs of illness should not be brought into school. If psittacine birds are brought to school, they should be kept caged, their cages kept clean and the bird's wastes frequently and safely removed and discarded.

Rabies is a fatal, viral infection of certain wild and domestic animals. Rabies can infect any mammal, but it is more common among certain mammals like raccoons, skunks, bats and foxes. Rabies can be spread to domestic animals and to humans through contact with an infected animal's saliva, usually through a bite or scratch, or through contact with nervous tissues (brain and spinal cord) of infected animals. In people, rabies virus causes an infection of the brain, which is always fatal in those who are infected and do not receive protective treatment after an exposure. Rabies is rare among small rodents like squirrels, rats, hamsters and mice. Fish, reptiles (such as snakes, turtles and lizards), amphibians (such as frogs and salamanders), birds and insects cannot get or spread rabies.

Wild mammals pose a risk for transmitting rabies and should never be brought into schools or handled by children. Wild animal behavior tends to be unpredictable. A wild mammal that has been raised in captivity is still a wild animal. Because of the high incidence of rabies in bats, skunks, raccoons, groundhogs (woodchucks), and wild carnivores (e.g. coyotes and foxes), these animals (including recently dead animals) should not be permitted on school grounds unless they are under the control of a licensed professional responsible for preventing exposures to students and staff. It is against the law to keep or transport wild animals without authorization from the Massachusetts Department of Fisheries and Wildlife.

Stray domestic animals also pose a risk for transmitting rabies because the health and vaccination status of these animals is unknown. Therefore, stray animals should never be brought into classrooms or onto school grounds.

As a general rule, only domesticated mammals with current rabies vaccinations and for which USDA-approved vaccines exist should be permitted to have contact with students. Currently, USDA-approved vaccines exist for the following domesticated animals *only*: dogs, cats, ferrets, cattle, horses, and sheep. Students should be educated on safe and proper handling procedures before handling or touching these animals. Current rabies vaccination by a licensed veterinarian should be documented for all dogs, cats, and ferrets brought onto the school campus for instructional purposes. Dogs and cats under three months of age (too young to be vaccinated for rabies) or not vaccinated against rabies should not be brought into classrooms or onto school grounds without taking precautions to prevent exposures.

In October 2003, a pet guinea pig tested positive for rabies in New York State. The guinea pig was infected with rabies during a brief encounter with a raccoon while the owner took the animal outdoors for fresh air and allowed the animal to roam free. This episode serves as a reminder that although small rodents are considered to be at low risk for rabies, all mammals are susceptible to rabies infection. Students who volunteer to foster classroom pets, especially mammals, during school vacations and summer should keep the animals exclusively indoors in order to prevent interaction with wild animals that may be infected with rabies.

If a student has been exposed to the saliva or nervous tissue of a wild or stray mammal (including recently dead animals), the wound or area of skin contact should be washed immediately with soap and water for at least 10 minutes. The student's parents or guardians should be notified and told to contact their child's pediatrician for evaluation. The local board of health should also be notified; they will help coordinate any follow-up by the town animal control officer or animal inspector, including quarantine of the animal (if appropriate), and can help determine if the person needs to be treated for rabies. The local board of health will also coordinate submission of the animal to the State Laboratory Institute/Rabies Laboratory for testing, if appropriate.

EXAMPLES OF SCHOOL-RELATED RABIES SITUATIONS

The following are specific instances where animals, that are generally unacceptable for classroom settings (because of their risk of transmitting rabies and other zoonotic diseases), were brought into Massachusetts' schools:

- A teacher brought a coyote that was found dead on the side of the road onto school property in order to show his students how to skin the animal. The coyote was later submitted to the State Laboratory Institute/Rabies Laboratory for testing but was found to be unsatisfactory for testing, as rabies could not be ruled out. Several students had contact with the dead animal and received post-exposure treatment for rabies.
- A student brought a dead bat into school to use for "show and tell". The bat was submitted to the State Laboratory Institute/Rabies Laboratory by the school principal but was unsatisfactory for testing. Three children had contact with the bat and received post-exposure treatment for rabies.

While animals can be submitted to the State Laboratory Institute for testing for rabies, many times animals are not available or yield unsatisfactory results because the condition of the brain is not suitable for testing. The Massachusetts Department of Public Health (MDPH) must consider animals that test unsatisfactory as rabid.

CONCLUSION

It is important that animals that are brought onto school campuses be clean and healthy so that the risk of transmitting diseases is minimal. Children are often more susceptible to exposure to zoonotic diseases and parasitic infections than adults because of their lack of handwashing and greater propensity for putting hands in their mouths. Therefore, animals which are brought to school should be clean and free of disease and external parasites such as fleas, ticks and mites, to decrease the likelihood of the animal transmitting these agents or vectors to the students. Schools should consider developing standard procedures for bringing animals into classrooms, for fostering classroom pets to students during school vacations, and for responding to bites, other exposures, and reports of illness following contact with an animal.

If questions arise concerning human contact with animals that may carry zoonotic diseases, call the MDPH's Division of Epidemiology and Immunization at **(617) 983-6800**. For emergencies, an epidemiologist can be reached after hours and on weekends through this number.

ADDITIONAL RESOURCES FOR INFORMATION ON ZOOONOTIC DISEASES

MDPH website: www.state.ma.us/dph

Centers for Disease Control and Prevention website: <http://www.cdc.gov/healthypets/index.htm>

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