Zoonotic Disease Newsletter

Washington State Department of Health's bulletin on zoonoses and vector-borne diseases

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Washington State Department of Health
Zoonotic Disease Newsletter

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zd@doh.wa.gov

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ben.hamilton@doh.wa.gov

Illegally kept monkey bites people, tested for rabies

By Ron Wohrle, Environmental Health Veterinarian, WA DOH Zoonotic Disease Program

In early March, a Java macaque, named Chico, escaped from his home in a Spokane neighborhood and bit three people. After spending 11 days in quarantine at SpokaAnimal C.A.R.E., the monkey was relinquished to the Spokane Regional Health District and euthanized by a veterinarian in order to test for rabies.

Chico, a Java macaque, that was being illegally kept at a residence in Spokane escaped and bit three people. He is pictured here in quarantine at an animal shelter before being euthanized and tested for rabies.

This unfortunate event highlights an important fact. Primates do not make suitable pets.

It also underscores the importance of recent state legislation that came into effect July 2007. Chapter 16.30 Revised Code of Washington states that no person shall own or bring into the state a potentially dangerous wild animal, which includes all non-human primate species. There are exceptions to this law for entities such as zoos or nonprofit animal protection organizations. Prior to the state law, Spokane already had a prohibition on "inherently dangerous animals," which includes non-human primates.

Despite strong public protest, Chico was euthanized and tested for rabies because he bit three people while running free in the Spokane neighborhood and his exposure to rabies was unknown. The response to this incident follows national guidelines from the *Compendium of Animal Rabies Prevention and Control, 2008*. The section on how to manage animals that bite people states:

> Other biting animals which might have exposed a person to rabies should be reported immediately to the local health department. Management of animals other than dogs, cats, and ferrets depends on the species, the circumstances of the bite, the epidemiology of rabies in the area, the biting animal's history, current health status, and potential for exposure to rabies. Prior vaccination of these animals may not preclude the necessity for euthanasia and testing.

There are no FDA approved rabies vaccines for monkeys. The national rabies compendium states:

> No parenteral rabies vaccines are licensed for use in wild animals (including captive raised primates and other wildlife) or hybrids (the offspring of wild animals crossbred to domestic animals). Wild animals (including captive raised) or hybrids should not be kept as pets.

Although the likelihood of Chico testing positive for rabies was low, it was deemed necessary not only to comply with the national guidelines, but to also help determine the fate of the bite victims. Were they or were they not in danger of having been exposed to the most fatal infectious and zoonotic disease known to mankind? Fortunately for the victims who where bitten, the monkey did not test positive for rabies.

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The average person cannot meet the psychological, social, housing, and veterinary needs a primate requires to thrive.

The American Veterinary Medical Association, primatologist Dr. Jane Goodall, and other interest groups, recently testified before a House subcommittee in favor of national legislation that would make chimpanzees, monkeys, and other non-human primates prohibited wildlife species, thus strictly limiting commerce in pet primates. Read the news story at www.avma.org/onlnews/javma/apr08/080415c.asp.

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The Spokesman Review reported that Born Free USA Primate Sanctuary outside of Austin, Texas, offered to take Chico and pay for preventative rabies shots for the bite victims. Rabies vaccines consist of six shots over several weeks and are not pain-free. The shots cost about $900 - $2500 per person. The health district could not accept the primate sanctuary's solution because of the quarantine specifications and the need for all of the bite victims to agree to receive post-exposure prophylaxis ("the shots").

Although rabies among people is rare in the US, every year approximately 16,000 to 39,000 people receive post exposure prophylaxis. To appropriately manage potential human exposures to rabies, the risk of infection must be accurately assessed. Administration of rabies post exposure prophylaxis is a medical urgency, not a medical emergency, but decisions must not be delayed. Systemic prophylactic treatments occasionally are complicated by adverse reactions, but these reactions are generally not severe. Bite victims, therefore often face making a difficult decision whether to receive post exposure prophylaxis or not - especially in situations where the biting animal is not tested.

While rabies was the big concern in Chico's case, non-human primates can potentially transmit other dangerous human diseases such as herpes-B virus, yellow fever, monkey pox, Ebola and Marburg virus, tuberculosis, and Simian Immunodeficiency virus. Bites from non-human primates can result in severe lacerations and infections.

Primates are highly intelligent and social animals. Most captive environments cannot meet their complex social and psychological needs, and pet primates are typically kept chained or confined in small, sterile enclosures. According to the Captive Wild Animal Protection Coalition, monkeys are the most common non-human primate to be privately kept. Upon sexual maturity, monkeys tend to exhibit unpredictable behavior. They routinely become aggressive, and both males and females bite to defend themselves and to establish dominance.

There have been other instances of privately owned non-human primates attacking humans and other animals, or escaping from their enclosures to freely roam the community. A herpes-B positive pig-tailed macaque bit a 4-year-old girl in Florida while being taken for a walk. A girl in Tennessee was bitten by her stepfather's pet Japanese snow macaque. In Missouri, a 7-year-old boy was attacked by a neighbor's pet rhesus macaque and underwent months of medical tests and treatment.

Besides the illegalities of keeping a non-human primate in Washington and potential disease threats, the average person simply cannot provide the appropriate housing, veterinary care, or diet that the animal requires to thrive. Hopefully Chico's life will serve as warning to those considering obtaining a non-human primate as a "pet."

Stop the spread of salmonella

The Washington State Departments of Agriculture and Health are actively engaged in promoting salmonellosis public health education. Promotion efforts are typically launched in spring when hatchlings, chicks and ducklings, become available to the public at feed stores. We encourage your support in disseminating our prevention message about salmonellosis to your communities.

Education of owners about the health risk for salmonella from handling poultry is the key in prevention. Washington's educational materials, *After you touch a duck or chick, Wash Your Hands, so you don't get sick* are available free for outreach at venues, such as feed and farm supply stores, fairs, petting farms, agriculture-related youth groups, and schools.

The materials clearly convey the principal behavior expected for salmonellosis prevention, and appeal to young children. The message is provided in flyer, poster, and sticker format, as well as translated in Spanish.

To order, visit the Washington State Department of Health, Salmonella in Chicks Web page at www.doh.wa.gov/ehp/ts/Zoo/salmonellachick.html.

This adult female hard tick, called the western blacklegged tick or *Ixodes pacificus*, waits patiently for a meal to pass by. This species has been shown to transmit *Borrelia burgdorferi*, the agent of Lyme disease in people.

More information about ticks is at www.doh.wa.gov/ehp/ts/Zoo/WATickDiseases.htm or from the CDC www.cdc.gov/Features/StopTicks.

Pull up your socks: Ticks are active with warm weather

Washington State Department of Health, News Release, April 24, 2008

Warmer weather signals the beginning of tick season in Washington. Along with being a nuisance, ticks can spread diseases, such as Lyme disease or tick-borne relapsing fever. Protection and prevention depends on which tick environment you find yourself in.

"The diseases that ticks often carry can be quite serious, and the best strategy is to avoid them as much as possible," said Liz Dykstra, PhD, public health entomologist at the state Department of Health. "Hard ticks are usually found in wooded or brushy areas and along edges of grassy meadows. You may come into contact with ticks when brushing up against vegetation in those areas."

When you venture into hard tick habitat, the state health department offers these tips:

- Wear light, long-sleeved shirts and pants – this makes ticks easier to spot and prevents them from getting to your skin. Perform "buddy checks" by looking over family members' or friends' clothing and skin to see if any ticks have attached. Pay special attention in and around hair, ears, under arms, between legs, and back of knees.

- Use tick repellents which contain DEET or permethrin – make sure to follow label instructions carefully. Tick control products are also available for pets – make sure to follow label instructions and check with your veterinarian if you have questions.

Soft ticks, another type of tick, spend most of their time in rodent nests. They feed for brief periods of time at night. People are often exposed to soft ticks when they spend the night in cabins infested with rodents. Precautions against soft ticks include:

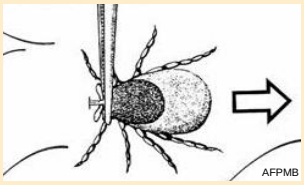
- Check sleeping areas for evidence of rodents – holes in floors, walls or ceilings; shredded material from mattresses or furniture; and rodent droppings. Avoid sleeping on the floor or in a bed that touches a wall. If the cabin was unoccupied before you arrived, be sure to change and wash all bedding.

- Prevent rodents from entering the building, eliminate their food sources, and perform rodent control. Also consider tick control products; follow insecticide label instructions or hire a pest management professional.

If you find an attached tick, it should be removed promptly and carefully by grasping it close to the skin with tweezers and pulling it slowly and directly out of its attachment site. Avoid crushing the tick's body.

"After you remove a tick, remember where and when the bite occurred, and try to preserve the tick in isopropyl alcohol," said Dykstra. "If a fever, rash, or other unusual illness occurs within a month of the bite, see a doctor and explain you had a tick exposure. This information, along with the identification of the tick, will help the doctor diagnose the illness."

How to remove a tick



1. Grasp the ticks' mouthparts against the skin, using pointed tweezers.
2. Pull back slowly and steadily with firm tension. Be patient, it can take some time to ease the ticks' mouthparts out of the skin. Do not pull back abruptly, as this may leave the mouthparts stuck in the skin. If this happens remove the mouthparts as you would a splinter. Do not squeeze or crush the body of a tick because that may force infective fluids through the mouthparts and into the bite wound.
3. After the tick is removed, wash the wound with soap and water and apply antiseptic.
4. Save the tick in alcohol, just in case symptoms of illness develop within a month of the tick bite. Identifying the tick could help a doctor diagnose the illness.

Dogs in crates await inspection at the CDC Seattle quarantine station.

New Arrivals
Dogs in WA, 2007

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-The number of dogs reported to be imported into the state last year that were not adequately vaccinated*

Top 4 countries where the dogs came from (#dogs):
1. Korea (29)
2. Canada (27)
3. Germany (19)
4. Mexico (14)

Top 3 county destinations for newly arrived dogs:
1. King (57)
2. Pierce (36)
3. Snohomish (17)

Top 2 imported breeds:
1. French bulldog (20)
2. German shepherd (14)

*Regulations on international dog importation are at www.cdc.gov/ncidod/dq/animal.htm

Importing dogs brings fear of introducing canine rabies

By David Nash, Public Health Advisor, WA DOH Zoonotic Disease Program

The United States was recently declared canine “rabies virus variant” free by CDC in September 2007, but the importation of infected dogs could bring the canine rabies variety back into the country and the State of Washington.

To address the canine rabies concern with dogs being imported into the US, the CDC is developing new regulations, which come on the heel of an incident that occurred last year in Washington.

In March 2007, two puppies from India (not a canine rabies free country) were shipped to SeaTac Airport. One of the puppies (A) stayed in Washington and the other (B) was shipped to Alaska. A health certificate accompanied the puppy to Alaska and was certified by a veterinarian who stated “to the best of my knowledge the animal(s) have not been exposed to rabies or other communicable diseases and did not originate within a rabies quarantine area.” Upon the death of puppy (A) and a positive rabies test, the second puppy was euthanized and also tested. Although the test was negative, it is likely the second puppy was in the incubation period and the virus could not be detected. As a result of this incident, eight people who may have had contact with the puppies, including airline, customs, and veterinary clinic personnel were treated prophylactically against rabies.

The current federal importation procedure doesn’t require a general certificate of health for pet dogs entering into the US. However, pet dogs are subject to inspection at ports of entry and may be denied entry into the US if they have evidence of an infectious disease that can be transmitted to humans. Dogs not accompanied by proof of rabies vaccination, including those that are too young to be vaccinated (less than 3 months of age), may be admitted if the importer completes an agreement from CDC 75.37 which requires confinement of the animal until it is considered adequately vaccinated against rabies (the vaccine is not considered effective until 30 days after the date of vaccination). Dogs may not be sold or transferred to other owners during this period of confinement, and the person that signs the confinement agreement is responsible for ensuring the conditions of the agreement are met.

In July 2007, CDC began the process of revising the regulations that cover the importation of dogs and cats and extending these regulations to cover domesticated ferrets (see federal register proposed rules 42 CFR Part 71). They will also address the importation of African rodents and the need for additional regulations to prevent the introduction of zoonotic diseases into the US.

The state of Washington requires a health certificate issued within 30 days of shipment and a current rabies vaccination for dogs and cats moving to the US from overseas. Family pet dogs and cats traveling by private vehicle with their owners are exempt from the health certificate requirement, but owners must possess a valid rabies certificate for these animals. This exemption does not apply to dogs or cats imported for sale or to puppies or kittens too young to vaccinate.

Follow up on the CDC 75.37 form is completed by the county in which the dog was imported. Forms that do not include sufficient information about the owners or dogs make it difficult for counties to follow-up with the owner on the health status or residence of the dog. In some cases it requires extensive detective work to locate the dog or dogs in question.

As the CDC attempts to address the gaps and challenges of importing pets legally at the national level, it won’t be dealing with the problem of pets being brought into the country illegally. It has been reported that thousands of dogs are imported into the US illegally through puppy mill operators each year. The likelihood of these dogs being vaccinated to prevent rabies is low, as is a proper examination by a veterinarian to identify other diseases.

Grant to WSU supports global animal health research

Adapted from Washington State University, News Release, March 24, 2008

Washington State University (WSU) announced that it has received a $25 million grant from the Bill & Melinda Gates Foundation to help construct a $35 million building that is to become the centerpiece in the University's new School for Global Animal Health. Research at the school will focus on discovering new vaccines, diagnostics, and other strategies to control global infectious diseases that affect both animals and humans.

The grant represents the largest single private financial commitment in WSU history.

"Washington State University's College of Veterinary Medicine is a worldwide leader in research on animal health and its link to human health," said WSU President Elson S. Floyd. "The generous support of the Gates Foundation is truly transformational. The work of WSU researchers will be dramatically enhanced, and the results of their work could impact countless lives in this country and around the globe."

The new building on Washington State University's Pullman campus will provide approximately 20,000 assignable square feet of office, meeting, and research space for 12-15 research scientists and their support staff and graduate students. It will include a state-of-the-art infectious disease research facility that has been designed and equipped to meet today's standards for investigating emerging diseases. The building will not house animals.

"WSU's work could lead to innovative new solutions for preventing serious diseases affecting animals and humans worldwide," said Dr. Fil Randazzo, senior program officer in Global Health Discovery at the Gates Foundation. "It's important to understand how infectious diseases affect animals, and how these diseases can jump from animals to humans."

Washington State University is internationally recognized in infectious disease research focused uniquely on preventing transmission of animal pathogens. WSU researchers will transform these existing strengths into *leadership in solving global health challenges* in the School for Global Animal Health.

"You cannot identify a healthy human population, in which the animals are not also healthy. Humans are inextricably linked to animals, whether for food, for work, or for companionship. Solving the challenge of global poverty is not possible without a focus on animals," said Warwick Bayly, dean of WSU's College of Veterinary Medicine. "Controlling infectious diseases at the animal-human interface is fundamental to eliminating the impact of these diseases on human health and well-being."

Learn more at http://globalhealth.wsu.edu/default.aspx.

West Nile virus workshops


James Gathany

West Nile Virus Response Planning Workshops are scheduled for May 6 in Tumwater and May 8 in Moses Lake.

Representatives from local health jurisdictions, county commissions, municipalities, mosquito control districts, and emergency planning are encouraged to attend.

The agenda will include:

- Updates from the DOH on outbreak response planning and support.
- Dealing with pesticide exposure issues.
- What to expect if you hire a large company to assist with mosquito control.
- Rules and regulations involved with private property and organic farms.
- Table top exercise to promote greater awareness of who may get impacted if an outbreak occurs.

Contact Liz Dykstra (360) 236-3388 or Jo Marie Brauner (360) 236-3064 for more information.

Zoonotic Disease Program

Acting Manager
Dr. Liz Dykstra
(360) 236-3388
elizabeth.dykstra@doh.wa.gov

Program Staff Leads
Dr. Ron Wohrle
(360) 236-3369
ron.wohrle@doh.wa.gov

Dr. Liz Dykstra
(360) 236-3388
elizabeth.dykstra@doh.wa.gov

Program Staff
Anne Duffy
(360) 236-3372
anne.duffy@doh.wa.gov

Jo Marie Brauner
(360) 236-3064
jomarie.brauner@doh.wa.gov

David Nash
(360) 236-3362
david.nash@doh.wa.gov

Administrative Support
Cyndi Free
(360) 236-3384
cyndi.free@doh.wa.gov

ZD Program Web site
www.doh.wa.gov/ehp/ts/ZOO.HTM

How to properly clean-up rodent-contaminated areas

By Ben Hamilton, Health Educator, WA DOH Office of Environmental Health & Safety

Spring clean-up of sheds, garages, pantries, or under kitchen sinks can result in the unpleasant discovery of rodent droppings, nests, or even the rodents themselves (dead or alive). Deer mice, the most common mice in Washington, often seek shelter in man-made structures during the colder months and are carriers of *Sin Nombre* virus, which can cause hantavirus pulmonary syndrome in people, a rare but potentially fatal respiratory disease.

In Washington, 2 cases of hantavirus pulmonary syndrome were reported in 2007 and 33 cases have been reported since 1993, 11 of which died from the infection.

Infected deer mice shed the virus in their urine, droppings, and saliva, and people are most often exposed when they breathe in aerosolized virus particles. Proper clean-up of mice-contaminated areas will reduce the likelihood of virus particles from becoming airborne and then inhaled.

How to clean-up a typical mouse-contaminated area:

1. Air out enclosed areas for at least 30 minutes before starting clean-up.
2. **Don't** vacuum, sweep, or dust - this can stir virus particles into the air where they can be inhaled.
3. Spray and wet down nests, droppings, and dead mice with a disinfectant or bleach solution (1 part bleach to 9 parts water). Let this soak for 5 minutes.
4. Wearing rubber gloves, wipe up the contaminated materials with paper towels, rags, or mops.
5. Place contaminated materials in a plastic bag and dispose of them in the garbage.
6. Wash or disinfect gloved hands and then dispose of them or keep for reuse.
7. Wash hands with soap and warm water after removing gloves.
8. Make sure to seal up mice entry points and trap the mice that have already moved in. See www.cdc.gov/rodents/ for more information on sealing, trapping, and cleaning rodent contaminated areas.

Pictures by Ben Hamilton