

Human Rabies Vaccine Update

A COLLABORATION BETWEEN THE VIRGINIA DEPARTMENT OF HEALTH, VIRGINIA DEPARTMENT OF GAME AND INLAND FISHERIES, AND THE VIRGINIA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

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What is the current situation?

At this time, there is a limited supply of human rabies vaccine. IMOVAX (Sanofi Pasteur) and RabAvert (Novartis) are only available for rabies post-exposure prophylaxis (PEP) on a per patient basis.

Why is there a limited supply?

The human rabies vaccine supply is limited because both of the companies that produce the vaccine for the US market are off-line at the moment. The companies are off-line because Sanofi Pasteur is renovating their production facility and Novartis is building a new production facility.

Both companies stockpiled an inventory of vaccine before going off-line in an attempt to meet vaccine needs based on historical levels of sales and projected market demand. However, neither company expected the other company to be off-line when they established their stockpiles. In addition, they did not anticipate the demand for the human rabies vaccine to exceed historical levels of consumption. In order to conserve their resources and protect the public, both companies are now supplying the vaccine for post-exposure use only.

The Sanofi Pasteur facility is scheduled to be approved and operational by mid-to-late 2009. The Novartis facility is expected to be operational in 2011.

How do I order vaccine for my patients?

The clinician evaluating the patient should contact the appropriate Health Official. Together, the clinician and the Health Official will perform a risk-assessment in order to determine if the patient meets the definition of an exposure to the rabies virus. If the Health Official determines that PEP is required, they will provide the clinician with a passcode for the IMOVAX vaccine or information on ordering the RabAvert vaccine.

The IMOVAX passcode will enable the clinician to order the vaccine series directly from Sanofi Pasteur. The contact number for Sanofi Pasteur is 1-800-VACCINE. Sanofi will fax the clinician a Rabies Post-Exposure Form that must be filled out in its entirety, including the required physician's signature and the passcode.

Passcodes will be updated at a frequent interval, so a State Health Official should be contacted after each new suspect exposure. These codes will only be released by a state/local health authority that has reviewed the known facts of a given exposure and determined that the situation indicates a sufficient level of exposure risk as outlined in the ACIP human rabies prevention recommendations (<http://www.cdc.gov/mmwr/>

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preview/mmwrhtml/rr5703a1.htm). A full listing of designated State Health Officials is available on the CDC Rabies website: <http://www.cdc.gov/rabies/staterabiespoclist.html>.

A passcode is not currently required to place an order for RabAvert, however, providers should follow the current ACIP recommendations for rabies PEP and consult with local health officials. RabAvert orders should be placed with Novartis directly (1-800-244-7668).

What is the definition of an exposure?

An exposure is defined as any bite, scratch or other situation where **saliva or central nervous system tissue of a potentially rabid animal enters an open, fresh wound or comes in contact with a mucus membrane** by entering the eye, nose or mouth. Saliva on intact skin or contact with fur, blood, urine or feces from a potentially rabid animal **does not constitute an exposure**; therefore, PEP should not be administered in these situations.

Potential bat exposures are evaluated differently. Anyone who has had direct contact with a bat and cannot rule out a bite or has been in a room with a bat and is unable to tell whether an exposure took place (e.g. infant, cognitively impaired or sleeping adult) should be considered potentially exposed. If rabies can be ruled out by diagnostic testing of the bat or the circumstances suggest it is unlikely that an exposure took place, the person(s) should not be considered exposed. Household members who did not have direct contact with the bat or were awake and aware when in the same room as the bat should **not** be considered as having been potentially exposed to rabies. (<http://www.vdh.virginia.gov/epidemiology/DEE/Rabies/vgrpc.htm>)

The rabies virus is inactivated by desiccation, ultraviolet irradiation, and disinfectants; therefore, it does not persist in the environment. In general, if the suspect material is dry, the virus can be considered non-infectious.

Can I receive the pre-exposure vaccine series?

Vaccine is not available for pre-exposure prophylaxis at this point in time.

Can I have my rabies titer checked?

Yes. Your state or local Health Department should be able to help you locate laboratories that perform the appropriate test. The rapid fluorescent focus inhibition test (RFFIT) is the only valid method at this time to verify rabies virus neutralizing antibodies. The minimum acceptable antibody level is complete virus neutralization at a 1:5 serum dilution. ELISA-based tests are not recognized.

Persons with possible rabies exposure should be evaluated as soon as possible by a health care provider. Since PEP is an urgent medical issue but not an emergency, it can be delayed until animal rabies testing or clinical observation of the animal (dog, cat or ferret) is completed.

Points of contact:

Your local Health Department

If you do not have the after-hours phone number for your local health department, contact the Statewide Emergency Number resource at 866 531-3068

Animals in Classrooms

As classes resume for another academic year, teachers may be interested in bringing an animal into the classroom. Positive interactions between students and animals in a classroom can enhance the students' learning as well as promote the students' sense of responsibility and respect for all living things. However, introducing animals into the classroom introduces the risk of zoonotic diseases as well.

The zoonotic disease potential varies with the species of animal that may be brought into the classroom.

Small Animals:



Small mammals may shed *Salmonella*. These harmful bacteria contaminate the animal's enclosure and the entire surface of the animal. Therefore, students can be exposed by holding, cuddling, or kissing the animals. Infected animals may not appear ill. Students should wash their hands immediately after handling the animals or any products that may be contaminated with the animal's feces.

Pet rodents can also become infected with, and shed, **lymphocytic choriomeningitis virus (LCMV)**. Pet rodents are typically infected with this virus after having contact with infected wild rodents at a breeding facility, pet store, or in a home / school. Infected rodents may not appear ill. Fortunately, human infections from pet rodents are rare.

The health department considers small rodents and rabbits to be low risk species for **rabies**. Therefore, when a rodent that lives in an enclosed environment and behaves normally bites a person, we do not recommend testing the animal for rabies or rabies post exposure prophylaxis for the victim.

Reptiles:



Reptiles may shed *Salmonella*. These harmful bacteria contaminate the animal's enclosure and the entire surface of the animal. Therefore, students can be exposed by holding, cuddling, or kissing the animals. Infected animals may not appear ill. Students should wash their hands immediately after handling these animals or any products that may be contaminated with the animals' feces.

Fish:



Some of the zoonotic agents that can be transmitted from ornamental fish to humans are: *Aeromonas spp.*, *Vibrio spp.*, *Edwardsiella spp.*, *Escherichia spp.*, *Salmonella spp.*, *Klebsiella spp.*, *Mycobacterium spp.*, *Streptococcus iniae*, and *Erysipelothrix rhusiopathiae*.

Exposures to these pathogens may result in localized skin infections or more severe illnesses like meningitis, heart disease or arthritis. Generally fish that are infected with the above-mentioned organisms will appear ill and unthrifty. Therefore, students should not handle the fish. Gloves should be worn when a student may have contact with the water. If students have contact with the fish or the water, they should wash their hands immediately.

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Birds:



Birds are often not recommended as classroom animals.

Psittacine birds such as parakeets and cockatiels may carry and transmit psittacosis. Psittacosis is a bacterial disease caused by *Chlamydophila psittaci*. Humans can become infected by inhaling dried secretions from infected birds.

Infected birds may not appear ill, so all birds should be managed appropriately.

Birds should be housed in a cage with a wire mesh bottom and litter that will not produce dust (e.g., newspapers) should be placed underneath the mesh. Cages, food bowls and water bowls should be cleaned daily. Soiled bowls should be emptied, cleaned with soap and water, rinsed, placed in a disinfectant solution, and rinsed again before reuse.

Baby chicks and ducks often carry *Salmonella* and / or *Campylobacter*. These harmful bacteria contaminate the animal's enclosure and the entire surface of the animal. Therefore, students can be exposed by holding, cuddling, or kissing the birds. It is difficult to know if chicks are carrying *Salmonella* or *Campylobacter* because the birds will not usually show signs of illness. Therefore, these animals are not recommended for the classroom or as pets.

To minimize the risk of disease,

- Animals that are brought into the classroom should have been bred in captivity.
- Animals must be handled with care to avoid bites and scratches.
- The animals' enclosures should be cleaned in utility sinks that are not used for food preparation or hand-washing.

Dogs, cats, wildlife and certain insects are not appropriate animals for a classroom.

For Additional Information:

- Center for Disease Control and Prevention, Healthy Pets Healthy People

<http://www.cdc.gov/HEALTHYPETS/>

- National Association of State Public Health Veterinarians, Compendium

<http://www.nasphv.org/documentsCompendia.html>

Virginia Department of Health, Zoonotic Diseases

<http://www.vdh.virginia.gov/epidemiology/dee/otherzoonosis/>

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