

Richard F. Daines, M.D.  
*Commissioner*

Wendy E. Saunders  
*Executive Deputy Commissioner*

July 28, 2009

**To:** Healthcare Providers, Hospitals, Local Health Departments

**From:** NYSDOH Bureau of Communicable Disease Control

**HEALTH ADVISORY: REVISED RABIES POSTEXPOSURE PROPHYLAXIS  
PROTOCOL—FIFTH DOSE OF VACCINE NO LONGER NECESSARY FOR MOST  
PERSONS**

Please distribute immediately to all staff in the Emergency Department; Departments of Infectious Diseases, Internal Medicine, Family Practice, and Pediatrics; Director of Nursing, Medical Director, Pharmacies, and all patient care areas.

**Effective immediately, the New York State Department of Health (NYSDOH) recommends that the rabies post-exposure prophylaxis (RPEP) protocol for healthy (non-immunosuppressed) persons not previously immunized for rabies include only 4 doses of vaccine given on days 0, 3, 7, and 14, rather than the previously recommended five doses of vaccine. For immunocompromised patients, five doses of vaccine should still be given as previously recommended. The recommendation for the administration of human rabies immune globulin (HRIG) has not changed.**

On July 10, 2009, the Advisory Committee on Immunization Practices (ACIP) published provisional recommendations for human rabies post-exposure prophylaxis (RPEP) which removes the need for a fifth dose of vaccine in most persons. Earlier this year, the ACIP reviewed evidence in support of changing to a four-dose vaccination schedule for RPEP for previously unvaccinated persons and concluded that a fifth dose of rabies vaccine 28 days after initiation of RPEP is no longer necessary for persons with no immunosuppression. For persons who previously received a complete vaccination series (pre-exposure or postexposure) with a cell culture vaccine or who have previously had a documented rabies virus neutralizing antibody titer following vaccination with non-cell-culture vaccine, the recommendation for a 2-dose post-exposure vaccination series has not changed at this time.

Under New York State Sanitary Code, NYCRR Part 2.14, healthcare providers must report all potential rabies exposures to the local health department (LHD). Rabies postexposure treatment should be initiated as soon as possible after an exposure to rabies has occurred, but only after consultation with and authorization by the LHD.

### **Rabies post-exposure prophylaxis protocol, 7/28/09**

All RPEP should begin with immediate thorough wound cleansing with soap and water and irrigation of the wound with a virucidal agent such as povidine-iodine solution when available. RPEP includes administration of both HRIG and vaccine, except in previously vaccinated persons.

#### **RPEP for previously unvaccinated persons:**

- A single 20 IU/kg body weight dose of HRIG, **infiltrated into and around the wound**, should be given when RPEP is initiated (day 0). If it is not possible to infiltrate the entire dose, the remainder should be administered intramuscularly (IM) at a site distant from the site of rabies vaccination.
- **Four** doses of vaccine (1 ml administered IM) in the deltoid area or, for small children, in the anterolateral aspect of the thigh. Rabies vaccine should never be given in the gluteal area. The first vaccine dose is given when RPEP is initiated on day 0 (the same day as HRIG is administered) and three additional doses are given 3, 7, and 14 days after the first vaccination.
- Persons with immunodeficiencies (either due to illness, medication, or therapy for the illness or condition) should continue to receive a fifth dose of rabies vaccine 28 days after the first vaccination. When administered to an immunosuppressed person, one or more serum samples should be tested for rabies virus neutralizing antibody to ensure that an acceptable antibody response has developed after completing the series. A patient who fails to seroconvert with an acceptable antibody response after the fifth and last dose should be managed in consultation with their physician and appropriate public health officials. Information on specific conditions is available at: [www.cdc.gov/vaccines/pubs/acip-list.htm](http://www.cdc.gov/vaccines/pubs/acip-list.htm). Information on titer testing at the NYSDOH Wadsworth Center Rabies Laboratory is available at: <http://www.wadsworth.org/rabies/prof/SerologyGuidelines.htm>.

#### **RPEP for previously vaccinated persons:**

- Previously vaccinated persons are those individuals who have received either:
  - A complete rabies pre-exposure or post-exposure prophylaxis regimen in accordance with ACIP recommendations with a modern, cell culture-derived rabies vaccine (such as Imovax<sup>®</sup> or RabAvert<sup>®</sup>); or
  - Rabies vaccination following another protocol or with another vaccine with a documented rabies virus neutralizing antibody titer.
- RPEP for previously vaccinated persons consists of **two** doses of rabies vaccine (1 ml administered IM) given on day 0 and day 3. HRIG is **not** given to previously vaccinated persons receiving RPEP.
- Persons having previously received a 4-dose RPEP regimen will be managed as "previously vaccinated" individuals in the event of a subsequent exposure.

If you have any questions about the revised RPEP protocol, please contact the NYSDOH Bureau of Communicable Disease Control at (518) 474-3186 or via email at [zoonoses@health.state.ny.us](mailto:zoonoses@health.state.ny.us).

# ACIP Provisional Recommendations for the Prevention of Human Rabies

Date of ACIP meeting and vote: June 24, 2009

Date of posting of provisional recommendations: July 10, 2009

On June 24, 2009, the ACIP approved new recommendations on the use of rabies vaccine for post-exposure prophylaxis for the prevention of human rabies.

A summary of the new provisional recommendations for the use of rabies vaccine follows:

## ***Post-exposure Prophylaxis for Unvaccinated Persons:***

**Vaccine Use.** A regimen of 4 one-mL vaccine doses of rabies vaccine (HDCV or PCECV) should be administered intramuscularly to previously unvaccinated persons with no immunosuppression. The first dose of the 4-dose course should be administered as soon as possible after exposure. This date is considered day 0 of the post-exposure prophylaxis series. Additional doses should then be administered on days 3, 7, and 14 after the first vaccination. Considerations for the site of the intramuscular vaccination remain unchanged.

**Rabies Immune Globulin Use.** The recommendations for use of immune globulin remain unchanged.

## ***Post-exposure Prophylaxis for Previously Vaccinated Persons:***

The recommendations for the post-exposure management of previously vaccinated individuals remain unchanged.

## ***Post-Vaccination Serologic Testing:***

No testing of healthy patients completing prophylaxis is necessary to document seroconversion, unless the person is immunosuppressed. When titers are obtained, specimens collected from 1 to 2 weeks after prophylaxis should completely neutralize challenge virus at a 1:5 serum dilution by the rapid fluorescent focus inhibition test (RFFIT).

## ***Precautions - Immunosuppression:***

Immunosuppression results from a wide variety of conditions. Primary or secondary immunodeficiencies may significantly reduce immune responses to vaccines. Given the large variety of immunocompromising conditions, as well as subsequent alterations in degrees of clinically significant immunodeficiencies, the evaluation of a potentially immunocompromised patient, as well as the decision about proper immunization of the immunocompromised patient, ultimately lies with the attending physician.

All rabies vaccines licensed in the U.S. are inactivated cell culture vaccines and as such can be administered safely to persons with altered immunocompetence. The effectiveness of such vaccinations and quality of elicited immune responses in immunocompromised patients could be suboptimal. Extensive monitoring of the immune response after rabies vaccination, specifically the determination of rabies virus-neutralizing antibodies, should be performed.

For persons with broadly defined immunosuppression, post-exposure prophylaxis should be administered using all 5 doses of vaccine, with the awareness that the immune response may still be inadequate. When administered to an immunosuppressed person, one or more serum samples should be tested for rabies virus neutralizing antibody by the RFFIT to ensure that an acceptable antibody response has developed after completing the series. A patient who fails to seroconvert with an acceptable antibody response after the fifth and last dose should be managed in consultation with their physician and appropriate public health officials.

The 2008 ACIP recommendations for the prevention of human rabies are otherwise unchanged, and are available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr57e507a1.htm>

This document can be found at:

<http://www.cdc.gov/vaccines/recs/provisional/downloads/rabies-July2009-508.pdf>