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TO: Local Health Departments, Regional Offices of Illinois Department of Public Health, Emergency Departments, Infectious Disease Physicians, Infection Control Professionals

FROM: Connie Austin, D.V.M., M.P.H., Ph.D.  
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DATE: May 19, 2011

SUBJECT: Rabies Post-exposure Prophylaxis Protocol, May 2011

It has come to our attention that several Illinois hospital emergency departments are reportedly not administering human rabies immune globulin (HRIG) as part of their rabies post-exposure prophylaxis (rabies PEP) regimen. This memorandum is to address the appropriate administration of rabies PEP.

The document containing recommendations for rabies PEP is entitled, "Human Rabies Prevention – United States, 2008. Recommendations of the Advisory Committee on Immunization Practices". This document can be found at:  
<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5703a1.htm>

The recommended rabies PEP regimen for an immunocompetent person not previously vaccinated for rabies includes concurrent administration of HRIG and rabies vaccine on day 0, followed by rabies vaccination on days 3, 7 and 14. A summary table of the rabies PEP regimen is provided at the end of this document. After the release of the ACIP on rabies prevention, the committee reviewed the data on rabies PEP and determined that the fifth dose of rabies vaccine on day 28 was not needed for immunocompetent individuals. Vaccine and HRIG on day 0 should be given at separate locations. HRIG provides an immediate supply of virus neutralizing antibodies to bridge the gap until the production of active immunity following vaccine administration. Active antibody response from vaccine takes 7 to 10 days to develop. Use of HRIG provides a rapid, passive immunity that persists with a half life of approximately 21 days. Three persons bitten by rabid animals in a study in China who were only administered rabies vaccines and not rabies immune globulin developed rabies and died. Therefore, the recommended protocol in the ACIP using HRIG and four doses of rabies vaccine should be used in the United States to prevent development of rabies after sufficient exposure to a suspect or confirmed rabid animal. **Failure to administer HRIG could result in an exposed patient developing rabies.**

In persons who are immunocompromised, an additional rabies vaccine dose should be administered on Day 28. In persons who are pre-exposure vaccinated for rabies or who have previously received rabies PEP, rabies PEP consists of two doses of rabies vaccine on days 0 and 3 with no need to administer HRIG.

Currently neither HRIG nor rabies vaccine is in short supply. Manufacturers have traditionally been able to fill orders for rabies biologics for PEP by overnight delivery when the order is placed by early afternoon. Information on rabies biologics can be found on the IDPH Intranet (Infectious disease, communicable disease, A-Z, rabies) for local health departments and others who have access to this site. Health care providers can contact their local health department for this information.

We are requesting that each hospital emergency department review their rabies PEP regimen protocol and make sure that it includes the administration of human rabies immune globulin as recommended in the rabies ACIP to avoid adverse patient outcomes. Hospital emergency department personnel can contact their local health department for any questions about rabies PEP and whether rabies PEP is recommended for any particular exposure.

#### Summary of the Rabies PEP Regimen

| <b>Product</b>  | <b>Recommended time of administration</b>   | <b>Administration details</b>  |
|---|---|--|
| HRIG  | Day 0 (if not administered on day 0 can be given up to and including day 7 of the series) | 20 IU/kg. If anatomically feasible, infiltrate the bite wound with the full dose. Any remaining volume should be given IM at a site distant from vaccine administration. If a non-bite exposure occurred, HRIG can be given IM at a site distant from vaccine administration. Not needed for patient previously given full series of rabies PEP or patient pre-exposure vaccinated for rabies. |
| Rabies vaccine dose 1                                       | Day 0   | Administered IM. In deltoid for adults. For children, anterolateral aspect of the thigh is also acceptable. The gluteal area should NEVER be used because it results in lower titers.  |
| Rabies vaccine dose 2                                       | Day 3   | See vaccine dose 1 information   |
| Rabies vaccine dose 3                                       | Day 7   | See vaccine dose 1 information   |
| Rabies vaccine dose 4                                       | Day 14  | See vaccine dose 1 information   |
| Rabies vaccine dose 5 (for immunocompromised patients only) | Day 28  | See vaccine dose 1 information   |