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To: Health Care Facilities, Local Health Departments (LHDs), Providers

From: New York State Department of Health, Bureau of Immunization

HEALTH ADVISORY: RECOMMENDATIONS FOR VACCINATION OF HEALTH CARE PERSONNEL (HCP)
Please distribute to the Employee Health Service, Infection Control Department, Infectious Disease Department, Nursing Director and Medical Director.

SUMMARY

- This advisory summarizes those immunizations that are required for health care personnel (HCP) according to the New York State Public Health Law (PHL) and New York Codes, Rules and Regulations (NYCRR). It also discusses recommendations of the Occupational Safety and Health Agency (OSHA), Advisory Committee on Immunization Practices (ACIP), the Healthcare Infection Control Practices Advisory Committee (HICPAC), and the Joint Commission concerning the use of immunizations in the health care setting.

- The New York State Department of Health (NYSDOH) and New York City Department of Health and Mental Hygiene (NYCDOHMH) strongly recommend protecting HCP and the patients they care for by promoting HCP vaccination initiatives.

- Maintenance of immunity is an essential part of prevention and infection prevention programs for HCP including, but not limited to, physicians, nurses, aides, respiratory therapists, radiology technicians, students (medical, nursing, and others), emergency medical personnel, dentists, social workers, chaplains, volunteers, and dietary, housekeeping and clerical workers.

- Updates to the previous 2007 advisory include recommendations for testing for proof of immunity for measles, mumps, rubella, varicella and hepatitis B; information regarding new influenza prevention regulations related to HCP and current ACIP recommendations for vaccination of HCP against tetanus, diphtheria, pertussis and meningococcal meningitis.

BACKGROUND

HCP are at risk for exposure to and are able to transmit vaccine-preventable diseases because of their contact with patients or infective material from patients. HCP include not only physicians, nurses and emergency medical personnel, but also those who have any contact with patients or materials used by patients, such as dental professionals, students, respiratory therapists, radiology personnel, social workers, chaplains, volunteers, and dietary, housekeeping and

clerical workers. Maintenance of immunity is an essential part of prevention and infection control programs for HCP. Although only some vaccines are required for HCP, the NYSDOH and NYCDOHMH strongly recommend that all health care facilities protect HCP and the patients or residents they care for by promoting all ACIP recommended vaccines.

- It has been demonstrated that HCP are vectors for the spread of communicable diseases to patients who are most vulnerable to complications and death. HCP vaccination helps to protect patients from these vaccine-preventable diseases and decreases patient morbidity and mortality.
- Vaccination against communicable diseases protects HCP by reducing or eliminating the spread of serious diseases and saves employees and employers money by reducing the need for medical visits, missed days of work due to illness, productivity loss, and medical errors committed by HCP working while ill.
- Vaccines are a cost-effective benefit and provide a safer environment for employees and patients. Although health care organizations may be concerned about the cost of vaccinating their employees, the costs of not doing so are much higher.

The recommendations and requirements summarized in this advisory can assist hospital administrators, infection prevention practitioners, employee health staff, and HCP in optimizing infection prevention and control programs. Background information for each vaccine-preventable disease and specific recommendations for the use of each vaccine may be found on the ACIP website at: http://www.cdc.gov/vaccines/hcp/acip-recs/index.html

VACCINE REQUIREMENTS

Measles, Mumps, Rubella (MMR)

All persons who work in health care facilities are required to be immune to measles and rubella according to New York State (NYS) regulations. It is also recommended that HCP be immune to mumps.

- Receipt of 2 documented doses of MMR vaccine, given on or after the first birthday and separated by at least 28 days is proof of immunity to measles, mumps, and rubella.
- **No serologic testing is required or recommended to confirm immunity. The NYSDOH, NYCDOHMH and CDC strongly discourage serologic testing when the complete measles, mumps and rubella vaccine history is available.**
    - Documented age-appropriate vaccination supersedes the results of subsequent serologic testing.
    - If a person who has 2 documented doses of measles- or mumps-containing vaccines is tested serologically and is determined to have negative or equivocal measles or mumps titer results, it is not recommended that the person receive an additional dose of MMR vaccine. Such persons should be considered to have presumptive evidence of immunity.
- Persons born in 1957 or later can be considered immune to measles, mumps, or rubella only if they have documentation of either:
    - Two doses of live measles and mumps vaccines administered on or after the first birthday and separated by at least 28 days, and at least one dose of live rubella vaccine administered on or after the first birthday; **OR**

- Laboratory evidence of measles, mumps, or rubella immunity. Persons who have an "indeterminate" or "equivocal" level of immunity upon testing should be considered susceptible if no documentation of vaccination is available.
- Note: although, according to NYS regulations, diagnosis of measles disease by a physician, nurse practitioner, or a physician's assistant is allowed as evidence of immunity, NYSDOH, NYCDOHMH and CDC recommend that health care facilities discontinue allowing employees born after 1957 to claim immunity to measles and mumps based on health care provider diagnosis alone. Health care provider diagnosis of rubella has never been permitted as evidence of immunity. Unless the employee has 2 documented doses of a measles-containing vaccine and one documented dose of a rubella-containing vaccine, serologic testing should be done to confirm measles and rubella immunity.

- Persons born before 1957:
  - Have acceptable presumptive evidence of measles and mumps immunity;
  - Birth before 1957 is **not** considered evidence of immunity against rubella for HCP and women who could become pregnant. Persons born before 1957 must have either one dose of live rubella vaccine administered on or after the first birthday or laboratory evidence of rubella immunity.
  - In addition, it is recommended that two doses of MMR vaccine be given to unvaccinated HCP born before 1957 without laboratory confirmation of measles and mumps disease or laboratory evidence of measles and mumps immunity.

  For HCP who do not have evidence of immunity, 2 doses of MMR vaccine are recommended during a measles or mumps outbreak, and one dose during an outbreak of rubella.

For more information on NYS regulations regarding immunity to measles and rubella, please refer to NYCRR Title 10, Sections 405.3 (hospitals), 415.26 (nursing homes), 751.6 (diagnostic and treatment centers), 763.13 and 766.11 (home health agencies and programs), and 793.5 (hospices). These regulations can be found at www.health.state.ny.us/regulations.

For more information on updated recommendations for measles, mumps and rubella immunity, please see the June 14, 2013 MMWR entitled, *Prevention of **Measles, Rubella, Congenital Rubella Syndrome, and Mumps**, 2013 Summary: Recommendations of the ACIP* available at: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6204a1.htm

VACCINE RECOMMENDATIONS

Varicella

It is recommended that all HCP be immune to varicella. Evidence of immunity in HCP includes any one of the following:

- Documentation of 2 doses of varicella vaccine given at least 28 days apart,
- History of varicella disease (chickenpox) or herpes zoster (shingles) diagnosed by a physician, nurse practitioner or physician assistant,
- Laboratory evidence of immunity, or
- Laboratory confirmation of disease.

Post-vaccination serologic testing for persons with 2 documented doses of varicella vaccine is NOT required or recommended to confirm immunity. If a person who has 2 documented

doses of varicella vaccines is tested serologically and is determined to have negative or equivocal titer results, it is not recommended that s/he receive an additional dose of varicella vaccine. Such persons should be considered to have presumptive evidence of immunity.

Hepatitis B

In accordance with OSHA regulation 29 CFR 1910.1030 (see also CPL 2-2.69), HCP who perform tasks that may involve exposure to blood or body fluids should receive a 3-dose series of hepatitis B vaccine at 0, 1, and 6-month intervals. HCP should be tested for hepatitis B surface antibody (anti-HBs) to document immunity 1 to 2 months after receiving dose #3.

Post-vaccination Serologic Testing

- If the level of anti-HBs is at least 10 mIU/mL (positive) after 3 immunizations, the HCP is immune. No further serologic testing or vaccination is recommended.
- If the level of anti-HBs is less than 10 mIU/mL (negative) after 3 immunizations, the HCP is considered unprotected against hepatitis B virus (HBV) infection. The recommendation is to revaccinate with another 3-dose series. Retest anti-HBs levels 1 to 2 months after the last dose (usually 6 doses total).
    - If anti-HBs is positive, the patient is immune. No further testing or vaccination is recommended.
    - If anti-HBs is negative following 6 doses of vaccine, the patient is a non-responder.

For non-responders: Persons who are non-responders should be considered susceptible to HBV and should be counseled regarding precautions to prevent HBV infection and the need to obtain hepatitis B immune globulin (HBIG) post exposure prophylaxis for any known or possible parenteral exposure to hepatitis B surface antigen (HBsAg)-positive blood. It is also possible that non-responders are persons who are HBsAg positive and testing is recommended. Persons found to be HBsAg positive should be counseled and receive a medical evaluation.

December 2013 CDC Options for Hepatitis B Protection of HCP

An increasing proportion of health care trainees and the health care workforce received routine 3-dose hepatitis B vaccination during infancy or adolescence. Since post-vaccination serologic testing is not recommended following routine childhood or adolescent hepatitis B vaccination, CDC has made the following recommendations to evaluate HCP for hepatitis B virus protection and for administering post-exposure prophylaxis:

- Post-exposure option: When an HCP reports a blood or bodily fluid exposure, s/he is assessed for anti-HBs and the source patient is assessed for HBsAg. If the source patient is HBsAg positive and the HCP is anti-HBs negative, the HCP should receive HBIG and hepatitis B vaccine; the HCP should complete the 3-dose vaccine series. If the source patient is HBsAg positive and the HCP is anti-HBs positive, then hepatitis B post-exposure prophylaxis is not indicated.
- Pre-exposure option: All HCP receive post-vaccination serology at hire, and only HCP with anti-HBs < 10mIU/mL receive 1 additional "challenge" dose of hepatitis B vaccine and repeat serology. HCP whose anti-HBs remains < 10 mIU/mL should complete the revaccination 3-dose series and retest anti-HBs levels 1 to 2 months after the last dose.

- Additional information can be found at: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6210a1.htm?s_cid=rr6210a1_w

Influenza

The standard of care in NYS is that all HCP should receive an annual influenza vaccination. PHL Article 21A, the Long-term Care Resident and Employee Immunization Act, requires that all long-term care facilities, adult homes, adult day healthcare facilities, and enriched housing programs must provide or arrange for influenza vaccine for all employees and residents, subject to certain conditions. (http://www.health.ny.gov/prevention/immunization/ltc_act/index.htm).

Section 2.59 of the State Sanitary Code within Title 10 of the NY Codes, Rules and Regulations (10 NYCRR Section 2.59) requires that facilities and agencies regulated pursuant to Article 28, 36 or 40 of the Public Health Law document the influenza vaccination status of all personnel to which the regulations apply each year and require unvaccinated personnel to wear a surgical mask at all times while in areas where patients or residents may be present during periods that the Commissioner of Health determines that influenza is prevalent.
Additional information regarding this PHL and regulations may be found at:
http://www.health.ny.gov/flumaskreg

Annual influenza vaccine recommendations and prevention information is available at
http://www.health.ny.gov/diseases/communicable/influenza/seasonal/

Tetanus/Diphtheria/Pertussis (Tdap/Td)

It is recommended that all HCP be vaccinated, as soon as is feasible, with one dose of Tdap to protect themselves, their patients, other HCP and the community primarily against pertussis. Priority should be given to vaccination of HCP who have direct contact with infants aged <12 months. There is no minimum interval between doses of Td and Tdap.

Adults who never completed a tetanus, diphtheria and pertussis primary series or have unknown vaccination status should receive a single dose of Tdap and complete the 3-dose series with 2 doses of Td. All adults should receive a Td booster every 10 years.

Meningococcal Meningitis

Vaccination is recommended for microbiologists who are routinely exposed to isolates of *N. meningitidis.* Use of meningococcal conjugate vaccine (MCV4 - Menactra™ or Menveo™) is preferred among person's ages 11–55 years and should be given as an intramuscular injection. If MCV4 is unavailable, then meningococcal polysaccharide vaccine (MPSV - Menomune™) is an acceptable alternative for persons ages 11 years and older. Use of MPSV is recommended for persons older than age 55 and is given as a subcutaneous injection. If MPSV is not available, administration of MCV4 can be considered.

ADDITIONAL INFORMATION

For further information, please contact your local health department, NYCDOHMH at (347)396-2400 or the NYSDOH Immunization Program at (518) 473-4437.

Additional information can be obtained at the CDC's National Immunization Program website at http://www.cdc.gov/nip/menus/groups.htm#hc-wkers.

Additional References:

- Immunization of Health-Care Personnel Advisory Committee: http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6007a1.htm
- Immunization Action Coalition's "Immunization and Health Care Workers": http://www.immunize.org/hcw/index.htm#recommendations.
- Infectious Diseases Society of America (IDSA) Mandatory Immunization of HCP: http://www.idsociety.org/HCW_Policy/
- New York State Bureau of Immunization: http://www.health.ny.gov/prevention/immunization/health_care_personnel/.
- Joint Commission: http://www.jointcommission.org/