

– Part 5 –

Immunization of Health Care Workers and Others Providing Personal Care

Hospital employees, students in health care disciplines, laboratory workers and other health care personnel are at risk of exposure to communicable diseases because of their contact with patients or material from patients with infections, both diagnosed and undiagnosed. Maintenance of immunity against vaccine-preventable diseases is an integral part of an occupational health program of health care facilities and personal care organizations. Optimal usage of immunizing agents in hospitals and for other health care staff will not only safeguard the health of staff members but may also, in some instances, prevent them from infecting patients. In certain circumstances, family members should also be considered as health care workers, since they provide a significant and growing amount of care and because in-home transmission of infectious disease does occur.

The immunization status of each worker should be assessed at the time of initial employment. A full vaccination history should be elicited and efforts made to obtain documentation of the doses received and dates of administration. People who cannot provide acceptable information or evidence of adequate immunity should be offered immunization at the earliest opportunity. Records of all immunizations and serologic tests should be kept by both employer and employee and a recall system for boosters instituted.

Immunization policies at individual institutions will vary, and decisions about which vaccines to be included should take account of the size and nature of the institution, the exposure risks for the health care worker and the nature of employment. It is important to include, as an educational objective in employee in-service, increased acceptance of vaccinations as well as increased awareness of illnesses or symptoms that require evaluation.

Vaccines Recommended for All Health Care Workers

Diphtheria and tetanus toxoid

Immunization against diphtheria and tetanus is recommended for all adults in Canada. The opportunity should be taken on entry into health care employment to ensure that the appropriate series and booster doses have been given. Booster doses of Td are recommended every 10 years for optimal protection.

Measles vaccine

Newly employed health care workers born after 1970 who will have patient contact should have proof of two live measles vaccinations, documentation of physician-diagnosed measles or laboratory evidence of immunity. For those workers who have already received one dose of measles vaccine, a second dose is recommended, generally as MMR vaccine. People born before 1970 have probably been infected naturally and may usually be considered immune. It is not necessary to initiate a serologic testing program to detect susceptible health care workers.

Polio vaccine

Primary immunization with inactivated poliomyelitis vaccine (IPV) is indicated for all health care workers who may be exposed to poliovirus and who have not had a primary course of poliovirus vaccine (OPV or IPV). OPV is not recommended for health care workers because they may shed the virus and inadvertently expose immunocompromised patients to live virus. People who have not been given a full primary course should have the series completed with IPV regardless of the interval since the previous dose. Booster doses of IPV are not required for health care workers in Canada.

Rubella vaccine

In health care settings, the rubella immune status of female employees of childbearing age should be carefully reviewed, and those without documented immunity should be immunized with MMR unless there are contraindications. In addition, vaccine should be given to susceptible people of either sex who may, through frequent face-to-face contact, expose pregnant women to rubella. Women should be advised to avoid pregnancy for 1 month after immunization.

Hepatitis B vaccine

Hepatitis B is the most important infectious occupational disease for health care workers. The risk of being infected is a consequence of the prevalence of virus carriers in the population receiving care, the frequency of exposure to blood and other body fluids and the contagiousness of hepatitis B virus. Hepatitis B vaccine is recommended for health care workers and others who may be exposed to blood or blood products, or who may be at increased risk of sharps injury, bites or penetrating injuries (for example, clients and staff of institutions for the developmentally challenged). Health care workers who have been exposed, either percutaneously or through the mucous membranes, to a source that is known or is likely to be positive for hepatitis B surface antigen should be assessed for the need for hepatitis B vaccine and immune globulin, according to the recommendations outlined in the chapter on hepatitis B (see pages 102-116).

Influenza vaccine

Annual influenza immunization is recommended for all health care personnel who have contact with individuals in high-risk groups. Such personnel include physicians,

nurses and others in both hospital and outpatient settings; employees of chronic care facilities who have contact with residents; and providers of home care, visiting nurses or volunteers, and household members of people at high risk. Influenza immunization of health care workers has been shown to reduce the mortality and morbidity of patients under their care in long-term settings and to reduce worker absenteeism during the influenza season.

Acetaminophen (650 mg taken 4, 8 and 12 hours after influenza immunization) has been shown to significantly reduce the incidence of side effects such as sore arm and nausea, and may reassure those for whom concern about side effects is an impediment to immunization. Vaccination should be available in the workplace.

Other vaccines

Indications for the use of other licensed vaccines are generally the same for health care workers as for the general population. However, additional vaccines may be indicated for certain workers believed to be at particularly high risk of exposure, such as laboratory workers in specialized reference or research facilities. For example, typhoid immunization should be considered for laboratory staff who frequently handle cultures of *Salmonella typhi*.

Vaccines for Specific Risk Situations

Hepatitis A

Prevention of hepatitis A transmission within a hospital should be based on the use of good hygienic practices and patient care techniques, especially proper hand washing and management of potentially infected materials.

There may be limited indications for hepatitis A vaccine, e.g. for those who are not immune and who have had unusually close contact with patients with hepatitis A, such as direct oral exposure to a patient's secretions or excretions soon after the onset of illness. However, immune globulin should be given if contacts are immunocompromised or if they are children < 1 year of age.

BCG vaccine

Comprehensive application of infection control practices remains the primary strategy to protect health care workers from infection with *M. tuberculosis*. However, outbreaks of multidrug-resistant tuberculosis in health care settings have led to a reconsideration of BCG immunization for health care workers in some situations. BCG immunization may be considered for health care workers (including medical laboratory workers) who are at considerable risk of exposure to tubercle bacilli, especially drug-resistant bacilli, when protective measures against infection are known to be ineffective or not feasible.

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