# 8. Healthy Health Care Workers

Adherence of health care workers to recommended infection prevention and control practices will decrease the transmission of infectious agents in health care settings. This will protect the health care provider, co-workers in the health care setting, patients, and visitors.

An occupational health program in a health care setting should include:

- Reinforcement of hand hygiene practices
- Pre-employment assessment for vaccination and immune history
- Ensuring immunity to standard vaccine preventable infectious diseases and tracking of these vaccinations/immunities
- Tuberculosis screening (pre-placement and routine screening)
- Annual influenza immunization
- Management of health care providers with infections
- Management of latex and other possible sensitivities
- Prevention of exposure to blood and body fluid exposure including a sharps safety guideline
- A post exposure follow-up process
- A respiratory protection program
- Training on selection and use of personal protective equipment and Additional Precautions
- Training and awareness of WHMIS
- Cleaning and disinfecting of medical equipment and healthy care facility.



All health care workers have a responsibility:

- to know their relevant immunization status (see below)
- to adhere to Routine Practices and Additional Precautions including appropriate and correct use of PPE and hand hygiene
- to use safe handling of sharps and
- to report exposures and symptoms that put themselves at risk for transmission of infections.

Staff who consume food or beverages in care areas (e.g. patient environment, nursing station, charting areas) are at increased risk for acquiring serious foodborne gastrointestinal infections. Outbreaks in institutions involving staff have been reported, particularly with hepatitis A, cryptosporidiosis and norovirus.

It is good practice to wash your hands before eating and drinking in the workplace to reduce the risk of infectious or other substance exposure.

# Hierarchy of Controls:

The most effective forms of prevention are in this order where possible.

- 1. At the source: elimination of exposure: for example, keep contagious persons away from shared clinical areas
- 2. Along the path: interruption of transmission: for example, putting a procedure mask on a coughing/sneezing person
- 3. At the exposed: individual interruption of exposure: for example, N95 respirator for the caregiver of a patient with TB



## Hazards from infectious waste and sharps

Infectious waste may contain microorganisms which may enter the body by various routes:

- Through a break in the skin (puncture, abrasion or cut)
- Through mucous membranes
- By inhalation
- By ingestion from contaminated hands

Personal protective equipment should be selected and worn depending on the route of transmission of the infectious organism.

### Immunity and exposure history:

Recommended immunization for health care workers includes the following:

- Hepatitis B (for those at risk of exposure to blood or body fluids)
- Influenza (annually)
- Measles, mumps and rubella (MMR)
- Tetanus, diphtheria and polio and pertussis (Tdap)
- Varicella.



Health care worker immune status: The immune status should be considered when assigning a health care provider to a particular patient (e.g. rubella, mumps, varicella, and hepatitis B immunity.)

**Hepatitis A:** The National Advisory Committee on Immunization (NACI) does not recommend routine immunization of HCWs.

**Hepatitis B:** Recommended for all susceptible HCWs who may be exposed to blood or body fluids, or who may be at increased risk of sharps injuries or bites. The schedule is 3 doses of hepatitis B vaccine given at 0, 1 and 6 months intervals.

Post immunization serologic testing for anti-HBs should be conducted 1-6 months after the third dose to determine immunity. If the HCW has completed HB immunization more than 6 months ago, testing for anti-HBs should still be done.

If anti-HBs is >10mIU/mL and documented at any time, repeat serology or reimmunization is not required.

If anti-HBs is <10 mlU/mL, administration of additional doses with testing for response after each dose should be undertaken.

Those who fail to respond to three additional doses of vaccine are not likely to benefit from further immunization.

**Influenza**: Annual vaccination for influenza is essential for all as the circulating virus changes each year.

Measles: Documentation of 2 doses of live measles virus vaccine on or after the 1st birthday or laboratory evidence of immunity to measles.

Note: The previously accepted assumption of immunity in HCWs born before 1970 is no longer valid, due to recent cases of measles in Ontario in persons born before 1970. While this is an acceptable assumption for the general public, it is not sufficient for HCWs.

Meningococcal disease: Meningococcal vaccine is not routinely recommended for most health care workers. It is recommended that laboratory personnel who are routinely exposed to preparations or cultures of Neisseria



meningitides receive the quadrivalent meningococcal vaccine.

Mumps: Documentation of 2 doses of mumps vaccine (given as a combined MMR vaccine) on or after the first birthday OR laboratory evidence of immunity to mumps OR documentation of laboratory confirmed mumps.

**Pertussis**: A single dose of Diphtheria, Tetanus, Acellular Pertussis(Tdap) should be offered to all HCWs who have not previously received an adolescent or adult dose of Tdap. There is no routine antibody testing available to determine immune status to pertussis.

Previous immunization against pertussis or a history of natural pertussis infection does not provide lifelong immunity.

Polio: Documentation of a primary series of a minimum to 3 doses.

Adult boosters are not routinely recommended for those who have completed the primary series except in certain situations such as travel to an area with endemic disease.

Rubella: Documentation of 1 dose of rubella vaccine on or after the first birthday OR laboratory evidence of immunity to rubella.

**Tetanus**, **diphtheria**: Documentation of a primary series of minimum 3 doses of a combined Tetanus diphtheria (Td) vaccine. A booster dose of Td is recommended every 10 years.

Varicella/Zoster: Any person who has a definite history of chickenpox (varicella) or shingles (herpes zoster) can be assumed to be immune. For staff who have not had chickenpox or are not certain whether or not they have had chickenpox, an option is to perform serologic testing to determine the need for immunization. Up to 80% of people will be immune despite a negative history of having the disease.

If there is no history of the disease or no serologic proof of immunity, the HCW should be immunized with 2 doses of varicella vaccine, 6 weeks apart.

#### See:

- Canadian Immunization Guide/ Immunization for Workers/Health
  Care Workers website.
- Nunavut Immunization Guide.



**Tuberculosis**: Tuberculosis exposure history should be obtained at time of hire. HCWs whose tuberculin status is unknown and those previously identified as tuberculin negative require a baseline two-step Mantoux skin test (TST) unless they meet one of the following criteria, in which case a single step test may be administrated:

- Documented results of a prior two-step mantoux skin test
- Documentation of a negative TST within the last 12 months OR

A history of BCG vaccine is not a contraindication to TB testing. HCWs who have had previous BCG vaccine may still be at risk of infection.

The local Medical Officer of Health can advise on the need for routine testing depending on the prevalence of tuberculosis in your community.

#### See:

- Canadian Tuberculosis Standards 2013
- Nunavut Tuberculosis Manual

#### Staff education/orientation:

1. Staff in a health care setting should receive education on when to stay home from work due to illness

#### This includes:

- Febrile respiratory illness.
- Vomiting and/or diarrhea of infectious or unknown origin. Stay off work until 48 hours after last episode.
- Dermatitis on hands.
- Shingles (with lesions that can't be covered).
- Diagnosis of a contagious illness.
- 2. Staff should be educated on the appropriate personal protective equipment (PPE) available, how to decide what PPE is appropriate and how to use it effectively.



3. Staff should be educated on recognizing the need for and initiating Additional Precautions. They should also be aware of the reporting of specific infectious type symptoms in patients.

See: Nunavut Communicable Disease Manual.

- 4. Staff should be provided with information at the time of hire about vaccination and TB skin testing recommendations/requirements.
- 5. Staff should be aware of post exposure follow-up: protocols.

