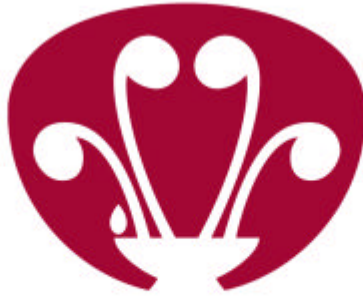


Practice Guideline:
INFECTION PREVENTION AND CONTROL



Nurses Association
OF NEW BRUNSWICK



MANDATE

The Nurses Association of New Brunswick is a professional organization that exists to support nurses and to protect the public by promoting and maintaining standards for nursing education and practice, and by advocating for healthy public policy

The Nurses Association of New Brunswick endorses the principles of self-regulation, that is, promoting good practice, preventing poor practice and intervening when practice is unacceptable.

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Introduction

The Nurses Association of New Brunswick (NANB) is committed to promoting the provision of high quality nursing care to the people of New Brunswick, at a level appropriate to each individual's needs. This *Practice Guideline: Infection Prevention and Control* document has been developed to support the role of the registered nurse in all care settings by providing guidance and direction in making informed decisions. These guidelines are intended to support professional judgement and foster flexible decision-making in practice.

In the health care setting infection can easily spread from person to person. With the growing concerns of the rapid spread of viruses, bacterial resistance to antibiotics and utilizing nontraditional areas in hospitals as treatment areas, it is important for nurses to be diligent regarding infection control practices.

Quality nursing care includes safe and effective infection prevention and control practices. As partners, employers and nurses have a shared responsibility to create environments that support quality practice.

PURPOSE

The purpose of this document is to outline the responsibilities and accountabilities of registered nurses when dealing with infection prevention and control practices in the workplace.

Registered nurses should be aware of employer policies that outline their responsibilities and accountabilities in the area of infection prevention and control. There are four guidelines, each with accompanying indicators, that describe a nurse's accountabilities related to infection prevention and control.

PREVENTING TRANSMISSION OF INFECTION

Preventive practice focuses on interrupting the transmission of an infectious agent and includes four major elements. Practices will vary according to practice setting, the level of care that is being provided, and the inherent risk to the client and client population if transmission occurs.

The four major elements to preventive practice are:

1. Hand washing. Hand washing is the single most-important infection prevention and control practice. It is vital that nurses follow hand washing protocols that are appropriate for their clients and workplace
2. Protective barriers. Examples of protective barriers include gloves, masks, eyewear, gowns and plastic aprons. The appropriate barrier should be used when blood, secretions or bodily fluids are likely to come in contact with the nurse's skin or mucous membranes, or could penetrate clothing.
3. Care of equipment. This involves the appropriate disposal of waste, contaminated laundry and sharps; and the cleaning, sterilization and disinfection of equipment, instruments and devices. Nurses should follow manufacturer and facility protocols in all circumstances.
4. Health practices of the nurse. Nurses who believe they have been contaminated with an infectious agent should contact their primary health care provider or an occupational health department for follow-up and advice. The nurse should assess the risk of transmitting the infectious agent to others and take appropriate precautions. Nurses should also know and review their immunization status with their primary health care provider. Because of their contact with patients or infective material from patients nurses are at risk for exposure to and possible transmission of vaccine-preventable diseases. Maintenance of immunity is therefore an essential part of prevention and infection control programs for nurses.



Guidelines

Guideline One: Nurses understand and apply evidence-based measures to prevent and control transmission of micro-organisms that are likely to cause infection by:

- adhering to Routine Practices and Additional Precautions when necessary for all client cases;
- following hand hygiene protocols that are applicable to their work unit;
- using a systematic approach to care (for example, nursing process) based on current infection control principles and research;
- knowing their personal immunization status relevant to the practice setting and taking appropriate action to ensure client protection;
- knowing a client's immunization status relevant to the practice setting and taking appropriate action to ensure protection of clients, others and self (for example, information, referral, isolation, etc.);
- taking measures necessary to prevent the transmission of infection from the nurse to clients or other health care providers (for example, immunization and personal protective equipment);
- seeking advice from her/his primary health care provider regarding the potential for transmission to clients or other health care providers when the nurse has a potentially transmissible disease; and taking appropriate action to ensure client/co-worker protection;
- maintaining competence in infection control practices by accessing appropriate resources (for example, infection control practitioners, current research);
- advocating for an environment and equipment that reduce the risk for disease transmission; and
- advocating for the establishment of and compliance with infection control practices relevant to the practice setting.

Guideline Two: Nurses exercise professional judgement relevant to each client situation and infection prevention and control practices by:

- assessing situations for potential or actual infectious disease transmission;
- selecting and using the appropriate prevention measures when micro-organisms are likely to come into contact with the nurse's skin, mucous membranes or clothing;
- modifying her/his practice appropriately when there is a risk of transmitting a disease to clients or other health care providers;
- selecting, in collaboration with the health care team, the appropriate agency, manufacturer and government guidelines regarding the use and fit of personal protective equipment (PPE); and
- advocating for change when agency, manufacturer or government guidelines do not meet infection control requirements regarding the appropriate use and fit of PPE.



Guideline Three: Nurses reduce the risk to self and others by appropriately handling, cleaning and disposing of materials, equipment and waste by:

- participating in education on the use of safer medical devices and work practices relevant to the practice setting;
- adhering to best practices or manufacturer's guidelines on the cleaning, disinfecting and disposal of wastes or hazardous material;
- using safety devices (for example, needle-less IV systems, sharps disposal containers, disposable stethoscopes, closed laundry systems) when available and following established guidelines when disposing of biomedical waste;
- identifying hazards and the potential for injury;
- intervening and providing appropriate care when an exposure has occurred to client, self or another health care provider;
- reporting a breach in infection control technique and taking action to limit damage;
- advocating for safety devices; and
- advocating for changes in practice based on an evaluation or evidence (for example, single-use items).

Guideline Four: Nurses use appropriate and timely communication strategies with clients and their significant others, the health care team and the community when discussing infection prevention and control issues by:

- incorporating the psychosocial needs of clients and their significant others into the plan of care;
- using appropriate teaching strategies to communicate health information to clients;
- developing creative or innovative communication strategies to overcome factors that could inhibit the therapeutic nurse-client relationship (for example, isolation, masks);
- maintaining open communication with the health care team, including support staff;
- communicating safety concerns to the appropriate authority; and
- advocating for communication systems that protect client confidentiality.



References

College of Nurses of Ontario (2009). *Practice Standard: Infection Control and Prevention*,
http://www.cno.org/docs/prac/41002_infection.pdf



Appendix A: Transmission of Infection

The spread of infection requires an **infectious agent** — a pathogen that has the potential to cause infection. The pathogen may be viral, bacterial, fungal or parasitic.

The infectious agent needs a **reservoir** where it can live, grow and reproduce. Reservoirs are warm, moist places. Humans, animals or the inanimate environment (for example, water, food, soil and soiled medical equipment) are potential reservoirs. Human reservoirs include individuals with an acute infectious disease, and those who are in the incubation period of the disease and asymptomatic carriers.

The transmission of infection also requires a **susceptible host**. Susceptibility to an infectious agent varies among individuals. Factors that influence a person's susceptibility include age; general physical, mental and emotional health; the amount and duration of exposure to the agent; and the immune status and inherent susceptibility of the individual. Factors such as a chronic debilitating disease, shock, coma, traumatic injury, surgical procedures or treatment with irradiation or immunosuppressive agents increase a person's susceptibility to infection.

How the infectious agent is transmitted from the reservoir to the susceptible host is called the **mode of transmission**. Transfer requires a route for the infectious agent to exit the reservoir (a portal of exit), a mode of travel to the susceptible host (a mode of transmission) and a route to enter the susceptible host (a portal of entry). An infectious agent can exit the reservoir and enter the host through various body systems (for example, respiratory, gastrointestinal, genitourinary tracts, skin lesions) and through mucous membranes.

Nursing uniforms, shoes or any jewelry worn while at work can act as a mode of transmission for potential infections, as can medical equipment used between patients such as stethoscopes. The nurse should exercise care in between clients taking the appropriate steps of changing gloves, washing hands and sterilizing equipment. In this same regard once off duty the nurse should ensure clothing, shoes or jewelry are not worn in public areas.

There are five main modes of transmission.

1. Contact transmission

Direct contact transmission involves contact between the infectious agent and the susceptible host. Indirect contact transmission involves contact between a susceptible host and a contaminated intermediate object such as a needle, instrument or other equipment.

2. Droplet transmission

Droplet transmission involves contact of the conjunctivae or mucous membranes of the nose or mouth of a susceptible host with large particle droplets (larger than five microns) that contain an infectious agent. Droplets are released through talking, coughing or sneezing, and during procedures such as suctioning and bronchoscopy. Large particle droplets do not remain suspended in the air and generally travel less than one meter through the air.

3. Vehicle transmission

Food, water or medication contaminated with an infectious agent can act as a vehicle for transmission when consumed. Contaminated instruments or devices that come in contact with body tissue or the vascular system can also act as a vehicle for transmission.

4. Airborne transmission

Small particle residue (five microns or smaller) of evaporated droplets may remain suspended in the air for long periods of time, or dust particles may contain an infectious agent. Infectious agents carried in this manner can be widely dispersed by air currents and can become inhaled by, or deposited on, a susceptible host in the same room or over a longer distance, depending on environmental factors.

5. Vectorborne

Vectors such as insects may harbour an infectious agent and transfer it to humans through bites (for example, West Nile virus).



Appendix B: Common Infection Prevention and Control Terminology.

Alcohol-based hand rinse: a waterless antiseptic designed for application to the hands to reduce the number of viable micro-organisms. In Canada, such preparations usually contain 70 percent ethyl alcohol.

Antiseptic: a substance that destroys or stops the growth of micro-organisms on living tissue (for example, skin).

Blood-borne pathogens (BBPs): viruses found in blood which produce infection, such as hepatitis B virus (HBV), hepatitis C virus (HCV) or human immunodeficiency virus (HIV).

Carrier: an individual who is found to be colonized (culture-positive) for a particular organism, at one or more body sites, but has no signs or symptoms of infection.

Disinfectant: a chemical agent with a drug identification number (DIN) used on inanimate (non-living) objects to kill micro-organisms.

Disinfection: a process that destroys or kills some, but not all, disease-producing micro-organisms on an object or surface.

Exposed: a circumstance of being in contact with an infected person or item in a manner that may allow for the transfer of micro-organisms, either directly or indirectly, to another person.

Germicide: an agent that destroys micro-organisms, especially pathogenic organisms. A product with the suffix “-cide” indicates that it is an agent that destroys the micro-organism identified by the prefix (for example, virucide, fungicide, bactericide). Germicides may be used to inactivate microorganisms in or on living tissue (antiseptic) or on environmental surfaces (disinfectants).

Hand hygiene: a general term that applies to handwashing, antiseptic handwash, antiseptic hand rub (for example, alcohol-based hand rinse) or surgical hand antisepsis.

Isolation: the physical separation of infected individuals from uninfected individuals for the period of communicability of a particular disease.

Personal protective equipment (PPE): specialized clothing or equipment (for example, gloves, masks, protective eyewear, gowns) worn by an employee for protection against an infectious hazard. PPE reduce the risk of exposure of the health-care worker's skin or mucous membranes to potentially infective materials. General work clothes (for example, uniforms, pants, shirts or blouses) are not intended to function as protection against a hazard and are not considered personal protective equipment.

Routine Practices and Additional Precautions (formally referred to as Universal Precautions): refers to the practice of avoiding contact with patients' bodily fluids by means of wearing nonporous articles such as medical gloves, goggles, and face shields. Under Routine Practices and Additional Precautions all patients are considered to be possible carriers of blood-borne pathogens. Implementation of Routine Practices and Additional Precautions reduces the risk of transmitting micro-organisms from client to client, client to health care worker, and health care worker to client.



Appendix C: Additional Sources of Infection Prevention and Control Information

Accreditation Canada; <http://www.accreditation.ca/en/search.aspx>

Canadian Patient Safety Institute;

<http://www.patientsafetyinstitute.ca/English/pages/search.aspx?k=INFECTION%20CONTROL>

Community and Hospital Infection Control Association – Canada; <http://www.chica.org/>

Public Health Agency of Canada: Disease Prevention and Control Guidelines;

<http://www.phac-aspc.gc.ca/dpg-eng.php>

Institute for Healthcare Improvement: Infection Control;

<http://www.ihl.org/ihl/search/searchresults.aspx?searchterm=infection+control&searchtype=basic>

SAFER Healthcare Now;

<http://www.saferhealthcarenow.ca/En/pages/search.aspx?k=INFECTION%20CONTROL>

