



Nurses Association
OF NEW BRUNSWICK

STANDARDS FOR:

Infection Prevention and Control



Mission

The Association is a professional regulatory organization that exists to protect the public and to support nurses by promoting and maintaining standards for nursing education and practice, and by promoting healthy public policy.

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Preamble

Standards are authoritative statements that provide direction to registered nurses¹ (RNs) about the legal and professional expectations for nursing practice. They inform RNs about their accountabilities and responsibilities, assisting them with reflective practice. Standards are broad statements that serve to guide, support and promote safe, competent and ethical nursing care.

RNs, as professionals, are committed to the development and implementation of practice standards through the ongoing acquisition, critical application and evaluation of relevant knowledge, skill and judgement. Standard statements describe how RNs must practise nursing. Statements are further explained by indicators that are illustrative, action oriented examples of how the standards can be met or demonstrated. Since indicators are not an exhaustive list of how standards are met, RNs need to consider how the standards apply to their practice setting or role.

¹ In this document the term registered nurse includes nurse practitioner.

Introduction

The standards outlined in this document define the expectations and responsibilities of RNs in relation to infection prevention and control (IP&C). Patients receiving healthcare are at risk of developing infection as a result of their compromised state of health, underlying medical conditions, or as a result of contact with health care interventions such as surgery, diagnostic testing or invasive devices.

In addition, healthcare settings can provide ideal conditions for microorganisms to be transmitted between those who receive and give care. The close proximity and contact between care provider and patients and the continuous contact in a shared working and living environment all contribute to transmission.

Micro-organisms are opportunistic, exploiting chances to colonize or enter the body, which may result in infection. Health care associated infections (HCAIs) are avoidable if sustainable and robust systems are in place to manage risks associated with infection. They are not confined to hospitals, and RNs who practise in community settings (e.g., doctor's offices, Community Health Centres and patients' own homes) have the same responsibilities as RNs working in hospitals for prevention and control of infections.

RNs have the responsibility to ensure that they practise safely and competently at all times. Specific clinical practices in IP&C may evolve as a result of new evidence. For this reason the standards in this document are written as broad statements and do not include specific clinical practice information. A RN is expected to consult appropriate resources for clinical advice. These resources may include, but are not limited to, an infection prevention & control professional (ICP), employer policies, and guidelines from the Public Health Agency of Canada.

Principles²

1. Consistent application of **routine practices** is expected for the care of all patients, at all times, across the continuum of care.
2. Adherence to routine practices can reduce the transmission of microorganisms in healthcare settings.
3. Individual components of routine practices are determined by a **point-of-care risk assessment** (PCRA).

² Public Health Agency of Canada. (2012). *Routine practices and additional precautions for preventing the transmission of infection in healthcare settings*. Retrieved from: http://www.ipaccanada.org/pdf/2013_PHAC_RPAP-EN.pdf

4. Microorganisms may be transmitted from symptomatic and asymptomatic individuals, emphasizing the importance of adhering to routine practices at all times for all patients in all healthcare settings.
5. In addition to routine practices, **additional precautions** should be used for patients with suspected or known infections or colonization with microorganisms for which routine practices are insufficient to prevent transmission.
6. Application of additional precautions may vary between acute care, long term care, and home care settings.

Standards

Standard One: Registered nurses consistently apply evidence-informed measures to prevent and control transmission of micro-organisms.

Registered nurses:

- 1.1 utilize routine practices for all patients at all times in all settings and incorporate additional precautions as required of the clinical situation;
- 1.2 follow hand hygiene protocols that are applicable to their workplace;
- 1.3 use a systematic approach to care (e.g., nursing process) based on current infection control principles and best practices;
- 1.4 know their personal immunization status and take appropriate action to ensure patient protection;
- 1.5 identify a patient's immunization status and take appropriate action to ensure protection of patients, others and self (e.g., information, referral, isolation);
- 1.6 seek advice from their primary health care provider regarding the potential for transmission to patients or other health care providers when the RN has a potentially transmissible disease; and takes appropriate action to ensure patient/co-worker protection; and
- 1.7 maintain competence in infection control practices by reviewing authoritative resources (e.g, ICPs, employer policies, and guidelines from the Public Health Agency of Canada).



Standard Two: Registered nurses exercise clinical judgement relevant to each patient situation and infection prevention and control practices.

Registered nurses:

- 2.1 perform a point-of-care risk assessment (PCRA) prior to every patient care interaction to assess for infectious risk;
- 2.2 select and use the appropriate personal protective equipment when micro-organisms are likely to come into contact with their skin, mucous membranes or clothing;
- 2.3 modify their practice appropriately when there is a risk of transmitting a disease to patients or other health care providers;
- 2.4 select, 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
- 2.5 advocate for an environment and equipment that reduces the risk for the transmission of infection.

Standard Three: Registered nurses reduce the risk to self and others by handling, cleaning and disposing of materials, equipment and waste according to best practice.

Registered nurses:

- 3.1 participate in education on the use of safer medical devices and work practices relevant to the practice setting;
- 3.2 adhere to best practices or manufacturer's guidelines on the cleaning, disinfecting and disposal of biomedical waste or hazardous material;
- 3.3 use available safety devices (e.g., needle-less IV systems, sharps disposal containers, and closed laundry systems);
- 3.4 identify hazards with the potential for injury and take measures to address them;
- 3.5 intervene and provide appropriate care when an exposure has occurred to patient, self or another health care provider;
- 3.6 report breaches in infection control technique and take action to limit damage;
- 3.7 advocate for safety devices; and



3.8 advocate for the establishment, compliance with, and ongoing evaluation of infection control practices based on evidence.

Standard Four: Registered nurses use effective and timely communication strategies with patients and their significant others, the health care team and the community when discussing infection prevention and control issues.

Registered nurses:

4.1 use multiple strategies to communicate IP&C information;

4.2 develop strategies to overcome factors that could inhibit the therapeutic nurse-client relationship (e.g., isolation, masks);

4.3 maintain open communication with the health care team, including support staff;

4.4 follow guidelines for the mandatory reporting of infectious diseases; and

4.5 communicate IP&C safety concerns to the appropriate authority.



References

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

Infection and Prevention Control Canada (iPAC) <http://www.ipac-canada.org/>

Public Health Agency of Canada. (2012). *Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings*. Ottawa: Author. Retrieved at http://www.ipac-canada.org/pdf/2013_PHAC_RPAP-EN.pdf

Public Health Agency of Canada. (2012). *Hand Hygiene Practices in Healthcare Settings*. Ottawa: Author. Retrieved at http://publications.gc.ca/collections/collection_2012/aspc-phac/HP40-74-2012-eng.pdf

Appendix A: Breaking the Chain of Infection

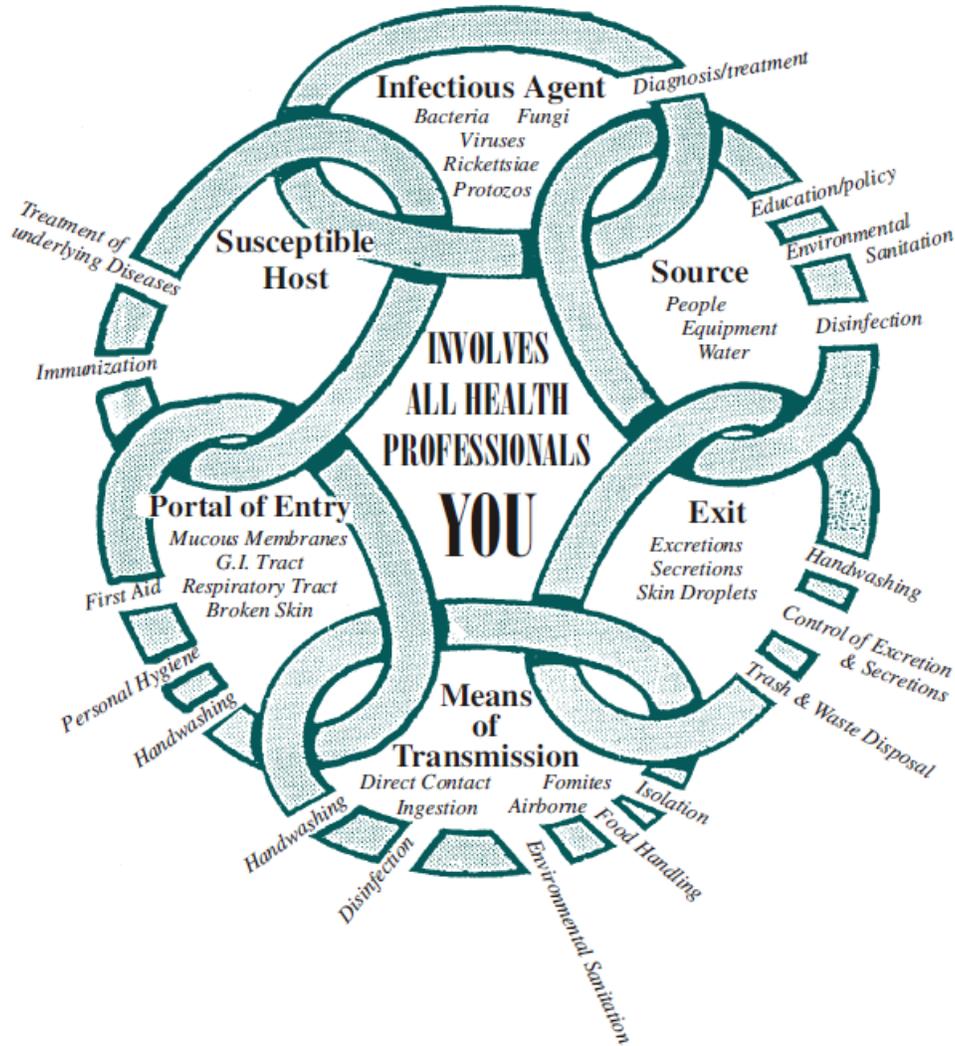


Illustration Source: http://www.healthunit.org/infectious/id_factsheets/chain_of_infection.pdf

In order for infections to occur, a series of events must happen. This is called the chain of infection. There are six links in the chain and each link must connect for an infection to occur. The goal is to break the chain and stop the infection from occurring. To do this, it is essential to understand each link and how they connect.

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** (source) 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.

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

Additional Precautions: Extra measures, when routine practices alone may not interrupt transmission of an infectious agent. They are used in addition to routine practices – not in place of. These precautions are also used when medical procedures increase the risk of transmission of specific infectious agent (e.g. aerosol generating medical procedures) or when the clinical situation prevents consistent application of routine practices. Additional precautions are divided into:

- Contact precautions, for microorganisms of very low infective dose or situations where heavy contamination of the patient's environment is anticipated.
- Droplet precautions, for microorganisms primarily transmitted by the large droplet route.
- Airborne precautions, for microorganisms transmitted through the air over extended time and distance by small particles.

Some infections may need a combination of additional precautions (contact, droplet, airborne), since some microorganisms can be transferred by more than one route.

Aerosol-generating medical procedures (AGMPs): medical procedures that can generate aerosols as a result of artificial manipulation of a person's airway. There are several types of AGMPs associated with a documented increased risk of TB or SARS transmission: intubation and related procedures, CPR, bronchoscopy, sputum induction, nebulized therapy, and non-invasive positive pressure ventilation.



Antimicrobial-Resistant Microorganisms: microorganisms that have developed resistance to the action of one or more antimicrobial agents and are of special clinical or epidemiologic significance. Examples of microorganisms included in this group are Methicillin-resistant *Staphylococcus aureus* (MRSA) and Vancomycin-resistant *Enterococcus* (VRE).

Blood-borne pathogens (BBPs): pathogenic microorganisms that are present in human blood and cause disease in humans. They include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

Carrier: a person or animal who harbours and spreads an organism that causes disease in others but does not become ill.

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.

Fit-testing: the use of a qualitative or quantitative method to evaluate the fit of a specific make, mode and size of respirator on an individual.

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

Healthcare-associated infection (HCAI): infections that are transmitted within a healthcare setting (also referred to as nosocomial) during the provision of healthcare.

Personal protective equipment (PPE): specialized clothing or equipment (for example, gloves, masks, protective eyewear, gowns) worn by an employee to provide a barrier that will prevent potential exposure to infectious microorganisms. 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.

Point-of-care risk assessment (PCRA): an activity carried out by RNs (and other healthcare workers) prior to every patient interaction to assess the infectious risk posed to themselves and other patients, visitors and healthcare workers by a patient, situation or procedure. The PCRA is an evaluation of the risk factors related to the interaction between the RN, the patient and the patient's environment to assess and analyze their potential for exposure to infectious agents and identify risks for transmission. RNs should routinely perform PCRA's many times a day to apply control measures for their safety and the safety of patients and others in the healthcare environment.



Routine practices: The infection prevention and control measures for use in the routine care of all patients at all times in all healthcare settings. Routine practices aim to minimize or prevent healthcare acquired infections (HCAIs) in all individuals in the healthcare setting.

Routine practices include:

- Point-of-care risk assessment
- Hand hygiene program (including point-of-care alcohol based hand rinse)
- Source control (triage, early diagnosis and treatment, respiratory hygiene, spatial separation)
- Patient placement, accommodation and flow
- Aseptic technique
- Use of personal protective equipment
- Sharps safety and prevention of bloodborne pathogene transmission
- Management of the patient care environment
 - Cleaning of the patient care environment
 - Cleaning and disinfection of non-critical patient care equipment
 - Handling of waste and linen
- Education of patients, families and visitors
- Visitor management





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