

Infection Prevention and Control Standards

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Approved by the College and Association of Registered Nurses of Alberta (CARNA) Council, March 2019.

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Purpose

The purpose of the *Infection Prevention and Control Standards* is to outline expectations for regulated members¹ responsibility to protect the health and safety of their clients, themselves, staff, and the public by preventing and reducing the transmission of infection.

Regulated members demonstrate leadership in protecting those in their care. They support others in improving client care and promoting client safety through professional practice.

Infection prevention and control interventions and activities that are implemented, minimize and eliminate the potential spread of infection in the practice environment. In health-care settings, the immune status of a client may be reduced by the disease, injury, or illness that brought them to that setting. When a susceptible client develops a **HEALTH CARE-ASSOCIATED INFECTION**² (HAI) there may be increased length of stay, and increased risk of morbidity and mortality (Alberta Health, 2015).

These standards apply at all times to all nurses regardless of role or setting and are specific to regulated members engaged in IP&C practices. The standards are grounded in the foundational *Practice Standards for Regulated Members* (CARNA, 2013) and the Canadian Nurses Association (CNA) *Code of Ethics for Registered Nurses* (2017). The directions, concepts, and principles in this document align with other CARNA documents:

- *Guidelines for Medication and Vaccine Injection Safety* (2016)
- *Guidelines for Hand Hygiene* (2016)
- *Documentation Standards for Regulated Members* (2013)

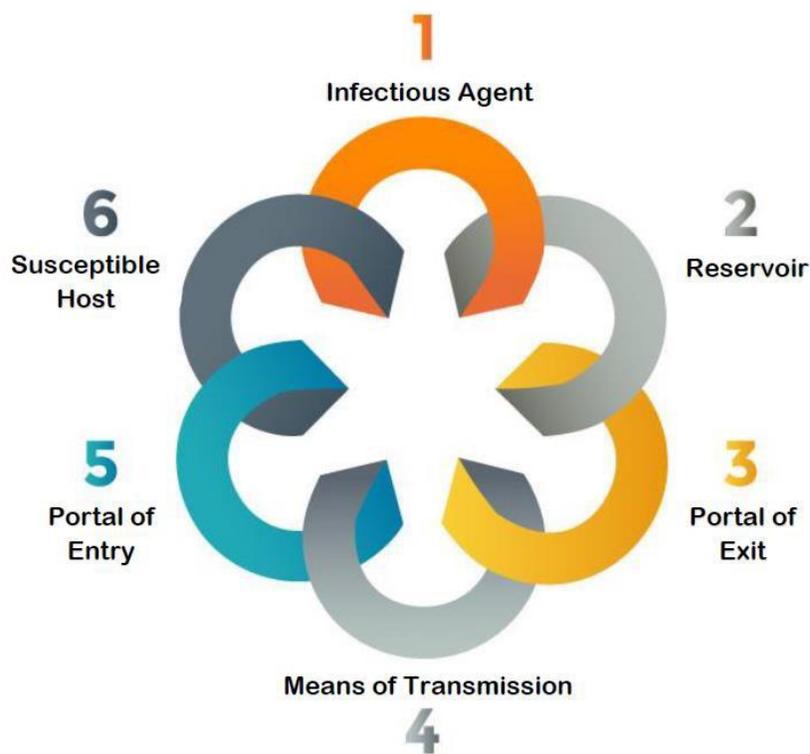
New and evolving infectious diseases, new research leading to **BEST PRACTICES**, and advancing technology are constantly changing the practice of IP&C. The key purpose of any IP&C program is to break the chain of transmission to protect clients, staff, and the public from infection.

¹ The term “regulated members” includes RNs, NPs, CGNs, GNs, GNP, and courtesy permit holders

² Words or phrases in **BOLD CAPITALS** upon first mention are defined in the glossary.

Chain of Transmission

The chain of transmission is a concept used to understand the infection process. It has six unique links: infectious agent, reservoir, portal of exit, means of transmission, portal of entry, and susceptible host. Each link represents a condition or interrelationship that must be present for the transmission of microorganisms. Knowledge and understanding of the conditions and interrelationships of the chain of infection are important to apply IP&C best practices that can help break one or more links in the chain of transmission.



Links to the chain of transmission:

- 1.** Infectious Agent: the microorganism (e.g. bacteria, virus, or fungi). Ways to break this link are the rapid, accurate identification of the microorganism followed by taking steps to interrupt its ability to cause an infection.
- 2.** Reservoir (source): a host that allows the microorganism to live, and possibly grow and multiply. People, animals, the environment, and equipment can all be reservoirs for microorganisms. Ways to break this link include cleaning, disinfecting or sterilizing medical devices and the client care environment.

3. Portal of Exit: the way in which the microorganism moves or escapes from the reservoir. Some examples include blood, respiratory tract, skin and mucous membranes, genitourinary tract, gastrointestinal tract, and the transplacental route from mother to unborn infant. Ways to break this link include wearing personal protective equipment, hand hygiene, respiratory etiquette, and safe waste disposal.
4. Means of Transmission: some microorganisms cannot travel on their own and require a vehicle to carry them to other people and places. Transmission can occur through direct and indirect contact, for example:
 - Direct contact: direct physical contact with a body fluid such as from an infected wound.
 - Indirect contact: the fluids from a cough or sneeze that can land on surfaces that are then touched by other people.

Ways to break this link include additional precautions, proper food handling, appropriate airflow control, hand hygiene, cleaning the environment, and medical device cleaning, disinfection or sterilization.

5. Portal of Entry: the path for the microorganism to enter a new host. Some paths are the gastrointestinal tract, respiratory tract, mucous membranes, and broken skin. Ways to break this link include using aseptic technique when providing wound and catheter care.
6. Susceptible Host: a person susceptible to the microorganism such as those who are immunocompromised, diabetic, post-operative, or who have extensive burns or cardiopulmonary disease etc. Ways to break this link include vaccination, the recognition of high-risk clients, treatment of underlying disease and maintaining a healthy lifestyle e.g. nutrition and exercise.

Standards for Infection Prevention and Control

These standards outline the expectations for regulated members providing care which incorporates IP&C best practices. The criteria illustrate how the standard must be met and are not written in order of importance.

Standard 1: Responsibility and Accountability

A regulated member is responsible and accountable for implementing infection prevention and control interventions and activities.

Criteria

The regulated member must:

- 1.1 practice in accordance with current legislation and regulation (for example the *Public Health Act*) and standards related to IP&C;
- 1.2 practice in accordance with IP&C **ADMINISTRATIVE CONTROLS**;
- 1.3 identify the need for IP&C for administrative controls and question if they do not support best practice;
- 1.4 perform IP&C interventions competently;
- 1.5 intervene and provide appropriate care when a client has been exposed to a microorganism that puts them at higher risk for infection;
- 1.6 report, using required methods, when IP&C administrative controls, standards, or legislation have not been followed;
- 1.7 report communicable diseases according to legislative and administrative control requirements;
- 1.8 maintain sterility of sterile objects and areas;
- 1.9 **REPROCESS MEDICAL DEVICES** according to standards, administrative controls, or manufacturer's instructions; and
- 1.10 Use only those devices which have had the required level of reprocessing.

Standard 2: Knowledge-based Practice

A regulated member consistently applies evidence-informed measures and best practices that prevent and control transmission of microorganisms.

Criteria

The regulated member must:

- 2.1** be knowledgeable about the principles of IP&C, and the microbiology and pathology of microorganisms that cause infection;
- 2.2** understand the chain of transmission and their role in breaking that chain;
- 2.3** consistently use routine practices:
 - a.** perform a **POINT OF CARE RISK ASSESSMENT**,
 - b.** practice the **FOUR MOMENTS OF HAND HYGIENE** as outlined in the Guidelines for Hand Hygiene (2016),
 - c.** use appropriate personal protective equipment (PPE) according to administrative controls and guidelines (e.g., gloves, gown, mask/shield/goggles),
 - d.** implement environmental infection control strategies to reduce transmission of microorganisms (e.g., sharps disposal, cleaning protocols for environment and equipment, ventilation, etc.),
 - e.** implement administrative controls such as IP&C training and required immunizations, and
 - f.** follow standards, administrative controls, and manufacturers' guidelines related to safe use, cleaning, disinfection, and sterilization of medical devices;
- 2.4** assess and implement **ADDITIONAL PRECAUTIONS** if required;
- 2.5** assess the client's immunization status;
- 2.6** assess client's knowledge of immunization and provide education as needed;
- 2.7** support research of IP&C activities;
- 2.8** assess the client's and family's understanding of IP&C best practices and provide appropriate educate;

- 2.9 document care and education provided; and
- 2.10 complete the necessary reporting forms and contribute to data collection as required for IP&C.

Standard 3: Ethical Practice

A regulated member has a responsibility to ensure ethical and safe client care by reducing the transmission of infection.

Criteria

The regulated member must:

- 3.1 reduce the risk of infection by following IP&C best practices;
- 3.2 obtain informed consent for any IP&C interventions;
- 3.3 maintain the confidentiality of the client's health information related to their immune and infectious status;
- 3.4 provide client care with dignity and maintain a therapeutic relationship, especially for clients on additional precautions;
- 3.5 advocate for an environment, equipment and safety devices that reduce the risk of transmission of microorganisms;
- 3.6 respect the client's right to refuse care (e.g. immunization) following informed consent and provision of education; and
- 3.7 advocate for an IP&C program in their practice setting if not already established.

Standard 4: Service to the public

A regulated member has a duty to provide safe, competent, and ethical nursing care in the assessment, prevention, treatment, and control of infection.

Criteria

The regulated member must:

- 4.1 collaborate with the client and family and the health-care team in developing and explaining the care plan;
- 4.2 participate in quality improvement and innovation related to IP&C;
- 4.3 identify hazards that increase the risk of transmission to clients, staff, and the public;
- 4.4 provide care, education, and guidance to the client, staff, and public who have been exposed to microorganisms; and
- 4.5 act as an antimicrobial steward and/or participate in an [ANTIMICROBIAL STEWARDSHIP](#) program.

Standard 5: Self-regulation

A regulated member must meet their professional obligations for infection prevention and control.

Criteria

The regulated member must:

- 5.1 engage in continuing competence, and mentor others in their continuing competence, related to IP&C;
- 5.2 take action to promote implementation of IP&C best practices;
- 5.3 be aware of their personal immunization status and how it could impact risk related to the transmission of infection; and
- 5.4 recognize if they are ill or unwell, and take action to reduce transmission of infection to others, including consultation with a health-care professional as appropriate.

Glossary

ADDITIONAL PRECAUTIONS – measures used when routine practices alone may not prevent transmission of an infectious agent (Public Health Agency of Canada, 2012).

ADMINISTRATIVE CONTROLS – measures put in place to reduce the risk of infection to staff or to patients (e.g., infection prevention and control policies/ procedures, education/ training) (Public Health Ontario, 2012).

ANTIMICROBIAL STEWARDSHIP – promotes the judicious use of antimicrobials to limit the development of antimicrobial resistant organisms. Antimicrobial stewardship programs support coordinated interventions designed to improve and measure the appropriate use of antimicrobials including selection, dosing, duration of therapy and route of administration (Public Health Ontario, n.d.). There are several specific nursing interventions outlined by Choosing Wisely Canada (n.d.).

BEST PRACTICES – evidenced-informed guiding principles leading to the most appropriate courses of action in certain standard practice situations (Potter, Astle, Stockert, & Hall, 2019).

FOUR MOMENTS OF HAND HYGIENE – AHS Hand Hygiene Policy outlines four moments when hand hygiene must be performed in relation to patient care. These moments are based on risk of microorganism transmission related to the patient care activity and the physical environment. These 4 moments are derived from the World Health Organization's (WHO) Five Moments for Hand Hygiene (Alberta Health Services, 2018).

HEALTH-CARE ASSOCIATED INFECTIONS – health-care associated infections, also known as nosocomial infections, are infections a client acquires in a setting where health care is delivered, such as a health-care facility or in a home care arrangement. HAIs are not present or developing in the client at the time they are admitted to the health-care facility or home care program, or when they started treatment. The World Health Organization suggests that HAIs are global and affect health-care systems around the world (Public Health Agency of Canada, 2018).

MEDICAL DEVICE – any instrument, apparatus, appliance, material, or other article, whether used alone or in combination, including the software necessary for its proper application, intended by the manufacturer to be used for a human being for any of the following purposes:

- diagnosis, prevention, monitoring, treatment, or alleviation of disease
- diagnosis, monitoring, treatment or alleviation of, or compensation for, an injury or handicap
- investigation, replacement or modification of the anatomy, or of a physiologic process or control of conception (Alberta Health, 2012).

POINT OF CARE RISK ASSESSMENT – an individual assessment of each client/patient/resident’s potential risk of transmission of microorganisms. This must be performed by all health care providers and other staff who come into contact with them. Based on that risk assessment and a risk assessment of the task, one may determine appropriate intervention and interaction strategies (e.g., hand hygiene, waste management, use of PPE and client/patient/resident placement) that will reduce the risk of transmission of microorganisms to and from the individual (Public Health Ontario, 2012).

REPROCESS – the steps performed to prepare a used medical device for reuse (Alberta Health, 2012).

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