Version	Date	Comments/Changes
1.0	June 2015	Initial Clinical Practice Guideline released
2.0	March 2017	Revision
3.0	June 2020	Appendix M updated

1. FOCUS

The following document describes Routine Practices and Additional Precautions (RPAP) that have been implemented in Fraser Health to minimize or prevent healthcare-associated infections in all individuals in the healthcare setting, including patients, healthcare providers (HCPs), other staff, visitors and contractors

2. BACKGROUND

Routine Practices and Additional Precautions are the core principles of Infection Prevention and Control principles.

Routine Practices are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection. Routine Practices are applied to all patients all of the time, regardless of presumed colonization or infection status. Additional Precautions are used ***in addition to*** Routine Practices and are a means to interrupt the known routes of transmission of specific organisms. Additional Precautions are designed for patients who are diagnosed with or are suspected of having a specific infectious organism. Additional precautions include Airborne, Droplet, Contact and Contact Precautions Plus.

Additional precautions do not have an "order of preference". As each class has interventions not necessarily captured in other levels, one class of additional precautions may need to be added to another. In Fraser Health, the variety of Additional Precautions that a person may be on includes:

Airborne Precautions	Contact Precautions Plus
Droplet Precautions (used to be known as Droplet/Contact)	Airborne and Contact Precautions (e.g. chickenpox)
Contact Precautions	Airborne and Droplet (e.g. measles)
Enhanced Contact Precautions	

3. DEFINITIONS

Additional Precautions — Interventions used in addition to Routine Practices when the presence of infectious microorganisms is suspected or confirmed. These precautions are based on the mode of transmission (e.g. contact, droplet, or airborne).

Aerosol-Generating — An aerosol generating procedure is any process that involves manipulation of a patient's airway in a manner that may stimulate coughing and /or promote the generation of aerosols. Nebulized therapies, use of bag-valve

Procedures (AGPs)	mask to ventilate a patient, endotracheal intubation, sputum induction, open airway suction, non-invasive positive pressure ventilation (CPAP, BIPAP) and bronchoscopy are examples of AGPs.
Airborne Precautions	Additional Precautions used for patients who are suspected or known to carry a microorganism transmitted by the airborne route (i.e. by small droplet nuclei that remain suspended in the air and may be inhaled). These are used in both respiratory and non-respiratory illnesses (e.g. Tuberculosis, disseminated Herpes Zoster and Chickenpox).
Antibiotic Resistant Organism (ARO)	A microorganism that has developed resistance to the action of several antimicrobial agents.
Asepsis / Aseptic Techniques	Asepsis is the process of reducing the number of microorganisms (germs) to an irreducible minimum for the purpose of preventing transmission of infection. It is not the same as sterility which is complete absence of all organisms. Medical Aseptic Techniques are procedures used to reduce the number of micro-organisms to prevent their spread. Examples include hand hygiene and "no touch" dressing changes.
Cleaning	The physical removal of foreign material (e.g., dust, soil) and organic material (e.g., blood, secretions, excretions, microorganisms). Cleaning physically removes microorganisms rather than killing them. It is accomplished with water, detergents and mechanical action. Cleaning must be performed before disinfection or sterilization can occur.
Cohorting	Grouping of people, such as health care providers or patients, exposed to or infected with designated diseases.
Contact Precautions	Additional Precautions used for patients who are suspected or known to have a microorganism that can be transmitted via contact with the patient or contaminated environmental surfaces.
Contact Precautions Plus (CPP)	Additional Precautions that include elements over and above the basic requirements of Contact Precautions. Contact Precautions Plus (CPP) requires additional cleaning and disinfection steps as well as the use of a dedicated toilet or commode. CPP are implemented when a person exhibits signs of gastrointestinal illness.
Disinfection	A process that kills most disease-producing microorganisms, but rarely kills spores. Thorough cleaning must occur before effective disinfection can take place.

Discharge Clean	Refers to the process of cleaning and disinfection which is undertaken upon discharge of a patient from a room. The patient room, cubicle, or bed space, bed, bedside equipment, environmental surfaces, hand washing sink and bathroom should be thoroughly cleaned before another patient is allowed to occupy the space.
Droplet Precautions	Additional Precautions used for patients suspected or known to have an infection caused by microorganisms that are transmitted via large droplets. Droplets are in the air only immediately after someone coughs or sneezes and then settle onto environmental surfaces. Droplets settled on surfaces are a risk if a person comes into contact with them; therefore Droplet Precautions encompass Contact Precautions. Droplet Precautions were previously known as Droplet/Contact Precautions.
Engineering controls	Removal or isolation of a hazard through technology. Negative pressure rooms, HVAC systems, sharps injury prevention devices and sharps containers are examples of engineering controls.
Enhanced Contact Precautions	Additional Precautions that include elements over and above the basic requirements of Contact Precautions. Enhanced Contact Precautions (ECP) require additional cleaning and disinfection steps as well as the use of PPE by staff and visitors upon every entry into the patient room. ECP are initiated for patients colonized or infected with carbapenemase-producing organisms (CPO).
Healthcare-Associated Infections (HAI)	An infection that is acquired within a healthcare setting during the provision of health care (also known as nosocomial infections).
Healthcare Provider (HCP)	Individual providing or supporting health care services that bring them into contact with patients/clients/ residents. These include, but are not limited to: emergency service providers, physicians, dentists, chiropractors, nurses, podiatrists, respiratory therapists and other allied health professionals, students, support services (e.g. housekeeping, dietary, facility maintenance) and volunteers.
Isolation Discharge Clean	Refers to the process of cleaning and disinfection which is undertaken upon discharge of a patient from a facility or discontinuation of any Additional Precautions. In addition to the Discharge clean, privacy and shower curtains are changed; toilet paper, paper towel, glove box, toilet brush and any remaining personal items are discarded and replaced.

N95 Respirator	A high filtration mask used to prevent inhalation of small particles that may contain infectious microorganisms transmitted via the airborne route (e.g. measles).
Personal Protective Equipment (PPE)	A barrier between an infectious source and clothing, skin, mucous membranes and airways to prevent exposure to microorganisms. PPE may include gowns, gloves, eye protection, procedure masks and N95 respirators.
Point of Care Risk Assessment (PoCRA)	An evaluation process undertaken before each interaction with a patient or their environment whether on Routine Practices or Additional Precautions. It is used to determine appropriate PPE based on assessed risks as well as the need to initiate Additional Precautions. The PoCRA includes: • The presence of Additional Precautions signage • Assessment of known patient characteristics and medical equipment (tubes, lines, drains, immunizations and known infections) • Assessment of new signs and symptoms not yet captured • Assessment of tasks and potential risks (including direct contact, splashes, sprays, aerosol-generating procedures)
Respiratory Etiquette (also known as cough etiquette)	Personal practices that help prevent the spread of microorganisms found in respiratory secretions; to be adopted by any person entering a healthcare facility. Respiratory hygiene includes covering a cough with tissue or sleeve, using tissues for a runny nose, disposing of tissues after each use, and performing hand hygiene after coughing and using tissues.
Routine Practices	A set of infection control practices and protocols designed to protect workers from exposure to potential sources of infectious diseases. Routine practices are based on the premise that all blood, body fluids, secretions, excretions, mucous membranes, non-intact skin and soiled items are potentially infectious. These practices should be adopted by all HCPs who may become exposed to infectious microorganisms.
Sharps	Devices that can cause occupational injuries to healthcare providers, specifically lacerations or punctures. Some examples of sharps include needles, lancets, blades and clinical glass.

Abbreviations

CPO	Carbapenemase Producing Organism
HCP	Healthcare Provider
HVAC	Heating, Ventilation and Air Conditioning System
MDRO	Multidrug Resistant Organism
PoCRA	Point of Care Risk Assessment
PPE	Personal Protective Equipment

RPAP	Routine Practices and Additional Precautions
SOP	Standard Operating Procedures

4. EXPECTED OUTCOMES

Consistent and correct application of RPAP will result in:

- Reduction in healthcare associated infections caused by the transmission of infectious microorganisms;
- Reduction in occupational risk to healthcare providers associated with exposures to blood and body fluids.

5. ASSESSMENT

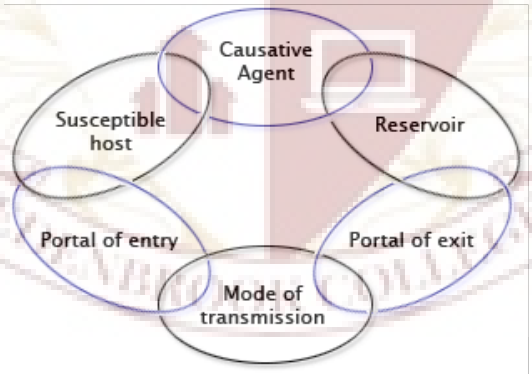
5.1. Chain of Infection

The chain of infection is a basic concept in infection control and is the basis for the Point of Care Risk Assessment performed prior to every entry into the patient care environment.

The transmission or spread of infection is best described as a chain with six links (see Figure 1):

Transmission in a hospital occurs when an infectious agent, living in a reservoir, exits the reservoir through a portal, travels to a person/patient and gains entry through another portal.

Figure 1. Chain of Infection



Transmission of infection is stopped by breaking the chain at any point by using control measures targeted to each link on the chain.

1. *Causative (infectious) agents* include bacteria, viruses, fungi, prions and parasites. The link can be broken by eliminating or inactivating the agent, or preventing the agent from exiting the reservoir. Examples include practicing good hand hygiene, sterilizing surgical instruments, treating infectious individuals, providing safe food and drinking water.

2. *The reservoir or "home"* of the infectious agent includes the human body, animals and the environment (water, food). This link can be broken by providing vaccinations, treating infectious individuals, handling and disposing of body fluids appropriately, handling food safely, and monitoring water for contamination.

3. *Portal of exit* is the path by which an infectious agent leaves the reservoir or "home" including any break in the skin or any bodily fluid including secretions, excretions and blood. This link can be broken by covering coughs and sneezes, covering draining wounds and containing diarrhea.

4. *Mode of transmission* describes how the infectious agent travels from a reservoir to a susceptible host. The primary modes of transmission in healthcare include:
   - Airborne – organisms are contained within droplet nuclei (five microns or smaller in size) or dust particles in the air and the infectious agent is widely dispersed by air currents and inhaled by a susceptible host (e.g. tuberculosis).
   - Contact – immediate person to person spread (direct contact) or spread from a contaminated surface or inanimate object to person spread (indirect contact).
   - Droplet – large particles that produced when an infected person talks, sneezes or coughs and which land on another person's mucous membranes or settle on environmental; droplets can travel 1 - 2 metres.
   - Vector-borne – transmission from a reservoir to a person via living intermediaries including animals, birds, insects, parasites, e.g. mosquitoes are vectors for malaria.
   - Vehicle – transmission in which a single contaminated source spreads the infection to multiple individuals, e.g. contaminated food, multi-dose vials and equipment.

   This link can be broken by applying barriers including appropriate PPE, spatial separation, engineering controls, hand hygiene, cleaning of environment, and disinfection/sterilization of contaminated equipment.

5. *Portal of entry* is the path an organism takes to enter a susceptible host. Pathways can be through mucous membranes, directly into the GI or respiratory tracts or through broken skin. All portals of entry have natural protective barriers. These barriers are usually effective but may allow organisms to enter if the barriers are damaged or if they have been compromised by invasive medical devices or procedures (e.g. scopes, surgeries, tubes, lines, drains). This link can be broken by wearing appropriate PPE, using aseptic technique when required,, following best practice techniques with wound and catheter care, and eliminating invasive devices when safe to do so.

6. *Susceptible hosts:* a host can become susceptible for a number of reasons e.g. age, chronic condition, poor nutirtion and drug therapy, etc. This link can be

broken by maintaining good health, treating underlying diseases and immunization.

5.2. Point of Care Risk Assessment (Appendix A)

A **Point of Care Risk Assessment (PoCRA)** is an evaluation of the risk factors related to the patient, the patient's environment and the healthcare provider. It is used to assess the risk of a HCP of being exposed to an infectious agent(s). The PoCRA must be performed before **each interaction** with the patient or their environment to determine which interventions are required to prevent transmission of microorganisms. A PoCRA is based on the HCP's judgement of the clinical situation (including the patient's clinical condition, physical, emotional and mental state) and the environment (including clutter or contamination from blood and body fluids). Control measures that include Additional Precautions and a choice of PPE are based on the risk factors identified.

Examples of PoCRA are:

Patient

- Known colonization/infection and their location
- New onset respiratory symptoms, unable to follow respiratory etiquette
- New onset gastrointestinal symptoms
- Undiagnosed fever
- Recent exposures to infectious diseases (e.g. contact of tuberculosis, chickenpox, measles, ARO)
- Is the patient immunocompromised?
- Recent travel history or hospital stay outside of Canada
- Open, draining wounds or uncontained drainage from tubes, lines or drains (e.g. Foley catheters, central lines, ostomies)
- Cooperativeness and compliance of the patient

Tasks

- Task will bring the HCP in contact with BBF
- Risk of exposure to microorganisms, blood, body fluids, mucous membranes or non-intact skin in the task about to be performed?
- Risk of sprays or splashes
- Aerosol Generating Procedure

Environment

- Patient in a single-occupancy room or correct cohorted
- Environmental clutter

6. INTERVENTIONS

6.1. Routine Practices

Routine practices are based on the following assumptions:

- all patients are potentially infectious, even when asymptomatic,
- the same safe standards of practice should be used routinely with all patients
- the purpose is to prevent exposure to blood and body fluids, secretions, excretions, mucous membranes, non-intact skin and soiled items

Routine practices apply when interacting with all patients in any healthcare setting. Use Routine Practices for every patient, every time, regardless of their location, diagnosis or infection/colonization status. Appendix B provides the details of Routine Practices.

6.2. Additional Precautions

6.2.1. Guiding Principles

Additional precautions are used in addition to Routine Practices for patients known or suspected to be colonized or infected with particular organisms. Additional precautions interrupt transmission through the known mode of transmission for that specific organism. Additional precautions use environmental controls and barriers when interacting with the patient (e.g. signage, bed allocation, single occupancy (or negative pressure rooms if required, PPE).

- Signage and accommodation and for patients on Additional Precautions includes:
  - Physical separation including single occupancy room and private toileting facilities for patients on Additional Precautions
  - Drawing curtains around the patient in the Emergency Department.
  - Posting appropriate signage precautions at the entrance to the patient's room and over the patient's bed space (if not in a single occupancy room)
- PPE must be nearby and readily available Isolation gowns and gloves should not be used by patients
- Equipment:
  - Use disposable equipment whenever possible
  - Dedicate non-disposable equipment to the patient; and keep it in the room until precautions are discontinued or the patient is discharged; clean and disinfect accordingly prior to use on another patient
  - Non-dedicated equipment must be cleaned and disinfected between use on different patients
  - Cleaned and disinfected equipment should be labeled (e.g. Green Means Clean tape) and stored in a designated clean holding area
- Stock minimal supplies in the patient rooms as any items that cannot be cleaned and disinfected will be discarded when the patient leaves
- Meal tray delivery and collection – see Appendix C.
- Additional cleaning measures may be required for the patient environment – see specific Additional Precautions
- Patient mobility, transport and transfer :
  - Patients cannot leave the room without the permission of the healthcare provider
  - Patients may not enter other patient rooms
  - Clean and disinfect equipment used for transport after each use
  - Before leaving the unit, clinical staff must notify the receiving area/unit of patient's isolation status This includes Emergency Medical Services (EMS) staff and other transport staff

- Before patients leave their room, clinical staff must educate/assist them to:
  - Perform hand hygiene
  - Provide clean clothing or hospital gown/housecoat for patient to change into
  - Cover all patient's open wounds
  - Change and secure incontinence products
  - Cover infected wounds with dry dressing
- Patients on Droplet or Airborne Precautions must wear a procedure mask when outside of the room.

- Cohorting of patients and HCPs may be required under some circumstances.
- Provide educational material to the patient where available.
- Staff should provide education to the patient and family on the following:
  - why the precautions are required
  - what to expect from staff
  - what to expect from patients
  - duration of precautions
  - activity and visitor restrictions
  - PPE required of visitors
  - hand hygiene requirements
- Visitors:
  - Visitors to patients on Addition Precautions should check–in at the nursing station before entering the patient room and follow instruction concerning PPE use
  - Visitors are restricted to two at any one time.
  - Children under 12 years of age are discouraged from visiting unless there are exceptional circumstances.
- Eating utensils (trays, plates, dishes, crockery, cups, glassware, and cutlery) utensils are not considered sources of infections. No special precautions are needed for items leaving a room on additional precautions. See Appendix D for more details.
- Human waste management:
  - The principles of human waste management do not change for patients on Additional Precautions. Dedicated bathroom/toilet is always a preferred method. See Appendix E for more details and options when a dedicated bathroom/toilet is not available.
- Personal pet visits: In general, animals are not permitted to enter acute care sites. See Appendix F for more details on rules for personal pet visits.
- Immunocompromised patients: the placement of immunocompromised patients require special consideration. See Appendix G.
- Specimen transporting: see Appendix H for IPC guidelines for safe transport of specimens.
- Toys: see Appendix I for IPC guidelines for management of toys.

6.2.2. Initiating Additional Precautions

- Additional Precautions can be initiated by unit staff based on PoCRA; a physician order is not required. Additional Precautions should be applied as soon as colonization or infection is suspected or contamination of the patient environment is likely.
- Choose Additional Precautions based on clinical presentation and/or suspected organism confirmed (see A-Z Table in Related Resources).

6.2.3. Discontinuing Additional Precautions

- Additional Precautions should remain in place until there is no longer a risk of transmission; contact IPC Practitioner before discontinuing Additional Precautions.
- Call Environmental Services for an "Isolation Discharge Clean" when Additional Precautions are discontinued or the patient is transferred or discharged.

6.2.4. Types of Additional Precautions

6.2.4.1. Additional Precautions used in Fraser Health include:

- Contact Precautions: patients colonized or infected with organisms spread by direct contact with the patient or the patient's environment (e.g. Methicillin Resistant Staphylococcus Aureus) (Appendix J)
- Contact Precautions Plus: patients with infectious vomiting or diarrhea (e.g. suspected or confirmed Noro-like illness and *Clostridium difficile* infection) (Appendix K)
- Enhanced Contact Precautions: patients who are colonized or infected with CPE (Appendix L).
- Droplet Precautions: patients with infections spread by the droplet route (e.g. suspected or confirmed influenza) (Appendix M)
- Airborne Precautions: patients with infections spread by the airborne route (e.g. suspected or confirmed measles and tuberculosis (Appendix N)

6.2.4.2. Signage for Additional Precautions (Appendix O)

7. DOCUMENTATION

Additional precautions must be documented in the patient Kardex and health record. Documentation should include rationale for precautions, type of precautions, and dates and time of initiation and discontinuation.

8. EDUCATION

Staff should receive education on RPAP as part of the new employment orientation. Healthcare providers should also complete the online IPC education module on hand hygiene annually. In addition, ongoing education and support are available through site based IPC Practitioners.

Unit staff members are responsible for education of patients and visitors on RPAP when required.

9. EVALUATION

The unit leadership is responsible to ensure that Routine Practices are applied and every patient encounter and Additional Precautions are applied as required.

Tools are available to monitor staff compliance to RPAP:

- Hand hygiene
- PPE (Appendix P)
- Declutter Review (Appendix Q)
- Contact Precautions Plus (Appendix R)
- Soiled Utility Review (Appendix S)

Hand hygiene audits should be conducted regularly as per Fraser Health Hand Hygiene Policy and Guidelines.

10. MONITORING

IPC program conducts surveillance of healthcare-associated colonizations and infections. These data should be used by sites, units and clinical programs to identify gaps and create improvement plans.

11. REFERENCES

Alberta Health Services.

Australian Government 2010. Australian Guidelines for the Prevention and Control of Infection in Healthcare.

Interior Health. (2012). Infection Prevention and Control Manual.

PIDAC. Routine Practices and Additional Precautions.

Public Health Agency of Canada. (2012). Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings.

12. APPENDICES

Appendix A: Point of Care Risk Assessment
Appendix B: Routine Practices Standard Operating Procedure (SOP)
Appendix C: Meal Tray Delivery and Collection Standard Operation Procedure (SOP)
Appendix D: Eating Utensils Standard Operating Procedure (SOP)
Appendix E: Portable Human Waste (Excreta) Disposal Methods (Alternative to Toilets) Standard Operating Procedure (SOP)
Appendix F: Personal Pet Visits Standard Operating Procedure (SOP)
Appendix G: IPC Guidelines for Immunocompromised Patients Standard Operating Procedure (SOP)
Appendix H: Safe Transport of Specimens Standard Operating Procedure (SOP)

Appendix I: IPC Guidelines for Management of Toys Standard Operating Procedure (SOP)
Appendix J: Contact Precautions Standard Operating Procedure (SOP)
Appendix K: Contact Precautions Plus Standard Operating Procedure (SOP)
Appendix L: Enhanced Contact Precautions Standard Operating Procedure (SOP)
Appendix M: Droplet Precautions Standard Operating Procedure (SOP)
Appendix N: Airborne Precautions Standard Operating Procedure (SOP)
Appendix O: Signage

- Airborne Precautions
- Contact Precautions
- Contact Precautions Plus
- Droplet Precautions
- Enhanced Contact Precautions

Appendix P: IPC PPE Audit Tool
Appendix Q: Declutter Review Tool
Appendix R: Contact Precautions Plus Review Tool
Appendix S: Soiled Utility Room Review Tool