Interim Guidance – Novel Coronavirus (nCoV)

Infection Prevention and Control Guidance for Acute Care[a] Settings

The Public Health Agency of Canada (the Agency) has developed this document to provide infection prevention and control (IPC) guidance to healthcare organizations and healthcare workers (HCWs) for the management of patients presenting to healthcare facilities in Canada, who have travelled from the Arabian Peninsula or neighbouring countries within 10 days before onset of illness and are suspected or confirmed to have a novel coronavirus infection or who have had close contact with a confirmed or probable case of novel coronavirus infection, while the case was ill, within 10 days before onset of illness.

The content of this guidance has been informed by technical advice provided by members of the Agency's Infection Prevention and Control - Expert Working Group. This guidance is based on current, available scientific evidence and is subject to review and change as new information becomes available.

The following guidance should be read in conjunction with relevant provincial and territorial, and local legislation, regulations, and policies.

Infection Prevention and Control (IPC) Precautions[b]

(Refer to *Recommended IPC Measures* section below for details)

Routine Practices	For all patients, at all times, in all healthcare settings including performing a point-of-care risk assessment (Appendix A), and adhering to respiratory hygiene and hand hygiene.
Contact and Droplet Precautions *(should be implemented empirically)*	Wearing gloves and a long sleeve gown upon entering the patient's room[c] Wearing facial protection (mask[d] and eye protection, or face shield, or mask with visor attachment) when within two metres of a patient suspected or confirmed to have nCoV infection.
Airborne Precautions	When performing aerosol-generating medical procedures (AGMPs)[e]. Wearing a respirator and face/eye protection should be used by all HCWs present in a room where an AGMP is being performed on a patient suspected or confirmed to have nCoV infection.

Notes

[a] Acute care - A facility/setting where a variety of inpatient services is provided, which may include surgery and intensive care. For the purpose of this document, acute care also includes ambulatory care settings such as hospital emergency departments, and free-standing ambulatory (day) surgery or other day procedures (e.g., endoscopy) centres.

[b] IPC measures included in this interim guidance are considered the minimum recommendations. A point-of-care risk assessment approach (Appendix A) should be used by the HCW prior to every patient interaction to support the use of additional measures where indicated, such as what level of respiratory and other personal protection.

[c] Patient's room, cubicle or designated bedspace.

[d] Surgical or procedure masks.

[e] Whenever possible AGMPs should be performed in an airborne infection isolation room.

Recommended Infection Prevention and Control Measures

The following guidance is based primarily on recommendations in the Agency's *Hand Hygiene Practices in Healthcare Settings* guideline,[1] *Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Health Care* guideline,[2] the *Infection Prevention and Control Measures for Healthcare Workers in Acute Care and Long-term Care Settings guidance-Seasonal Influenza*,[3] *Infection Control Guideline for the Prevention of Healthcare-associated Pneumonia* guideline,[4] and the *Canadian Pandemic Influenza Plan for the health sector - Annex F,*[5] along with the World Health Organization's guidance.[6]

In addition to routine practices, patients suspected or confirmed to have nCoV infection should be managed with **Contact and Droplet Precautions,** along with **Airborne Precautions for aerosol generating medical procedures (AGMP).**

1. ORGANIZATIONAL CONTROLS

A major role of all healthcare organizations is to minimize the risk of exposure to, and transmission of, microorganisms within healthcare settings. This can be achieved by having policies, procedures and programs based on the following engineering and administrative measures.

a) Engineering Measures

Facility design should include single rooms for the routine care of inpatients (with in-room private toilets, designated patient sinks, alcohol-based hand rub (ABHR) dispensers and designated staff hand washing sinks), with an appropriate supply of and accessibility to personal protective equipment (PPE); accessible hands-free waste receptacles for disposal of paper towels, tissues, gloves, etc.; functioning dispensers for hand hygiene products (soap, lotion, paper towels and ABHR); designated staff hand washing sinks; and readily accessible point-of-care ABHR dispensers.

b) Administrative Measures

Policies and procedures should be developed and implemented for the prevention and control of the transmission of microorganisms including the application of routine practices and additional precautions, education programs, environmental cleaning, compliance for hand hygiene and auditing practices. Healthcare facilities should provide tissues and masks for respiratory hygiene, as well as instructions on how and where to dispose of them, and on the importance of performing hand hygiene after handling these materials.

2. TRIAGE/SCREENING/ASSESSMENT

Signs to direct patients with symptoms of acute infection (e.g., cough, fever, vomiting, diarrhea, coryza, rash, conjunctivitis) should be posted in specific waiting areas. A physical barrier (e.g., plastic partition at triage desk) should be located between infectious sources (e.g., patients with symptoms of a respiratory infection) and susceptible hosts. Patients presenting with suspected or confirmed nCoV infection should be assessed in a timely manner and placed on contact and droplet precautions. Accompanying individuals should be screened for symptoms of acute respiratory infection and managed as per this guidance document.

3. SURVEILLANCE:

Refer to the National Interim Case Definition-Novel Coronavirus (see www.phac-aspc.gc.ca/eri-ire/coronavirus/case-definition-cas-eng.php) and the Emerging Respiratory Pathogens and Severe Acute Infection (SARI) Case Report Form (see www.phac-aspc.gc.ca/eri-ire/coronavirus/form-formulaire-eng.php).

4. LABORATORY TESTING/REPORTING

All requests from acute care facilities for laboratory testing should be forwarded to your Provincial Public Health Laboratory. Should confirmation or further testing be required, the Provincial Public Health Laboratory may forward the sample to the National Microbiology Laboratory (NML). Standard practice is for the results generated by the NML to be reported to the submitting Provincial Public Health Laboratory.

The World Health Organization has published interim recommendations for laboratory testing for the novel coronavirus (see www.who.int/csr/disease/coronavirus_infections/NovelCoronavirus_InterimRecommendationsLaboratoryBiorisk_190213/en/index.html).

5. IMMUNIZATION

There is no vaccine available at this time.

6. RESPIRATORY HYGIENE

Respiratory hygiene should be encouraged for patients and accompanying individuals who have signs and symptoms of an acute respiratory infection, beginning at the point of initial encounter in any healthcare setting (e.g., inpatient, triage, reception and waiting areas in emergency departments, outpatient clinics, etc.). Respiratory hygiene includes coughing into one's sleeve or preferably using tissues, masks when coughing, sneezing, or for controlling nasal secretions, and immediate disposal of tissues in an appropriate receptacle followed immediately by hand hygiene.

7. HAND HYGIENE

HCWs should perform hand hygiene frequently and in particular after removing gloves and gown; before removing a mask/facial protection or respirator; after touching respiratory secretions and after leaving the room; preferably using an alcohol based hand rub (60-90%) or soap and water if hands are visibly soiled.

8. SPATIAL SEPARATION

There should be at least a two metre separation between patients who have signs and symptoms of a suspected or confirmed nCoV infection and all other patients/visitors.

9. PATIENT PLACEMENT AND ACCOMMODATION

Patients suspected or confirmed to have nCoV infection should be cared for in single rooms, if possible, with designated private toilets and patient sinks. If cohorting is necessary, only patients who are confirmed to have nCoV infection should be cohorted together. Infection prevention and control signage should be placed at the room entrance indicating contact and droplet precautions required upon entry to the room. Airborne infection isolation rooms should be used for aerosol-generating medical procedures whenever possible.

10. PATIENT FLOW/ACTIVITIES

Patients suspected or confirmed to have nCoV infection should be restricted to their room and from group activities until symptoms have resolved. Patient movement/transport should be restricted to essential diagnostic and therapeutic tests only. If patients need to leave their room, they should wear a mask, be instructed on respiratory hygiene, be instructed on, or assisted with, hand hygiene, and be provided with clean clothes.

Transfer within facilities should be avoided unless medically indicated. If a medically indicated transfer is necessary the following measures should be taken:

i) The transferring service and receiving unit should be advised of the required contact and droplet precautions for the patient being transported;

ii) A request to have the patient promptly seen to minimize time in waiting areas should be considered;

iii) The transport personnel should remove and dispose of their personal protective equipment and perform hand hygiene prior to transporting patients; and

iv) The transport personnel should put on clean personal protective equipment, if necessary to handle the patient during transport and at the transport destination.

11. PERSONAL PROTECTIVE EQUIPMENT

HCWs should use a point-of-care risk assessment approach (Appendix A) before each patient interaction to evaluate the likelihood of exposure.

Personal protective equipment (PPE) for contact and droplet precautions should be provided outside the room of the patient suspected or confirmed to have nCoV infection. HCWs, families and visitors should use the following PPE:

a) Gloves

Gloves should be worn upon entering the patient's room (for care of the patient and for contact with the patient's environment).

b) Gowns

A long-sleeved gown should be worn upon entering the patient's room.

c) Facial protection

Facial protection (masks and eye protection, or face shield, or mask with visor attachment) should be worn when within two metres of a patient suspected or confirmed with nCoV infection.

In a shared room/cohort setting of patients with confirmed nCoV infection, facial protection may be worn for the care of successive patients.

d) Respiratory Protection

Wearing a respirator is recommended when performing aerosol generating medical procedures on a patient suspected or confirmed with nCoV infection (refer to Section 12).

Gloves, gown and facial protection should be removed before leaving the patient's room and discarded into a hands-free receptacle.

The respirator should be removed after leaving the patient's room and discarded in a hands-free waste receptacle.

Hand hygiene should be performed after removing gloves and gown, before removing facial protection and respirator, and upon exiting the patient's room.

12. AEROSOL GENERATING MEDICAL PROCEDURES (AGMPs)

AGMPs should be performed on patients suspected or confirmed to have nCoV infection only if medically necessary. The number of HCWs present during an AGMP should be limited to only those essential for patient care and support. A respirator and face/eye protection is recommended for all HCWs present in a room where an AGMP is being performed on a patient suspected or confirmed to have nCoV infection.

AGMPs should be performed in airborne infection isolation rooms, whenever feasible. If not feasible, AGMPs should be carried out using a process and in an environment that minimizes the exposure risk for HCWs, ensuring that non-infected patients/visitors and others in the healthcare setting are not unnecessarily exposed to the nCoV virus.

13. PATIENT CARE EQUIPMENT

All equipment/supplies should be identified and stored in a manner that prevents use by or for other patients. Reusable non-critical equipment (e.g., blood pressure cuffs, stethoscopes, pulse

oximeters, commodes, bedpans, walkers, etc.), along with toys, electronic games, personal effects, etc. should be dedicated to the use of the patient, and should be cleaned and disinfected before reuse with another patient. Single-use devices should be discarded in a hands-free waste receptacle after use.

14. ENVIRONMENTAL CLEANING

Hospital-grade cleaning and disinfecting agents are sufficient for environmental cleaning for the nCoV virus. All horizontal and frequently touched surfaces should be cleaned at least twice daily and when soiled. The healthcare organization's terminal cleaning protocol for cleaning of the patient's room following discharge, transfer, or discontinuation of contact and droplet precautions should be followed.

15. HANDLING LINEN, DISHES, CUTLERY

No special precautions are recommended; routine practices are sufficient.

16. WASTE MANAGEMENT

No special precautions are recommended; routine practices are sufficient.

17. DISCONTINUING PRECAUTIONS

Contact and droplet precautions for patients with nCoV infection should be discontinued upon resolution of symptoms, or in accordance to provincial/territorial guidance or the organization's policy. The duration of precautions should be determined on a case-by-case basis when patient symptoms are prolonged or when the patient is immune suppressed. The patient with persistent symptoms should be re-evaluated for underlying chronic disease or a secondary infection. Repeat microbiological testing may sometimes be warranted. Discontinuation of precautions should be made in conjunction with the infection prevention and control professional or delegate.

18. EDUCATION OF HEALTHCARE WORKERS, PATIENTS, FAMILIES/VISITORS

a) Healthcare Workers (HCWs)

All HCWs should receive education on the nCoV, including measures to control its spread and to reinforce routine practices, contact and droplet precautions, and safe work practices (e.g., no eating or drinking in patient care areas).

b) Patients, Families/Visitors

Patients, families/visitors should receive education about the precautions being used; the duration of precautions; the prevention of transmission of infection to others; and use of appropriate PPE.

19. MANAGEMENT OF VISITORS

Individuals with symptoms of an acute respiratory infection should be referred for medical assessment and restricted from visiting except for compassionate reasons. Those who do visit should be instructed in respiratory hygiene, use of PPE, and performing hand hygiene, and should limit their movement within the facility by visiting the patient directly and exiting directly after the visit.

Visitors should be instructed to speak with a nurse before entering the room of a patient on contact/droplet precautions to evaluate the risk to the health of the visitor and the ability of the visitor to comply with precautions, including PPE and hand hygiene. The number of visitors for a patient on contact/droplet precautions should be minimized to essential visitors (e.g., immediate family member/parent, guardian or primary caretaker) only. Visitors should be restricted to visiting only one patient who is on contact/droplet precautions. If the visitor must visit more than one patient, the visitor should be instructed to use PPE as HCWs and perform hand hygiene before going to the next patient's room.

20. HANDLING DECEASED BODIES

Routine practices should be used, along with contact precautions as required, for handling deceased bodies, preparing them for autopsy, or transferring them to mortuary services.

References

1. Public Health Agency of Canada. *Hand Hygiene Practices in Healthcare Settings*, released March 2013.
2. Public Health Agency of Canada. *Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings*, released April 2013.
3. Public Health Agency of Canada. *Guidance: Infection Prevention and Control Measures for Healthcare Workers in Acute Care and Long-term Care Settings-Seasonal Influenza,* 2010. Available at: http://www.phac-aspc.gc.ca/nois-sinp/guide/pubs-eng.php
4. Public Health Agency of Canada. *Infection Prevention and Control Guideline for the Prevention of Healthcare-associated Pneumonia,* 2010. Available at: http://www.phac-aspc.gc.ca/nois-sinp/guide/pubs-eng.php
5. Public Health Agency of Canada. *Canadian Pandemic Influenza Plan for the health sector - Annex F, Prevention and Control of Influenza during Pandemic in All Healthcare Settings*, updated May 2011. Available at: http://www.phac-aspc.gc.ca/cpip-pclcpi/index-eng.php
6. World Health Organization. World Health Organization. *Infection Prevention and Control of Epidemic and Pandemic Prone Respiratory Diseases in Health Care*, (2007). Available at: http://www.who.int/csr/resources/publications/swineflu/WHO_CDS_EPR_2007_6/en/index.html

Appendix A

Point-of-Care Risk Assessment for the Novel Coronavirus (nCoV)

Prior to any patient interaction, all healthcare workers (HCWs) have a responsibility to always assess the infectious risk posed to themselves and to other patients, visitors, and HCWs. This risk assessment is based on professional judgment about the clinical situation and up-to-date information on how the specific healthcare organization has designed and implemented engineering and administrative controls, along with the availability and use of personal protective equipment (PPE).

Point-of-Care Risk Assessment (PCRA) is an activity that should be performed by the HCW **before every patient interaction**, to:

1. Evaluate the likelihood of exposure to the novel coronavirus,
   - **from a specific interaction** (e.g., performing/assisting with aerosol-generating medical procedures, other clinical procedures/interaction, non-clinical interaction (i.e., admitting, teaching patient/family), transporting patients, direct face-to-face interaction with patients, etc.),
   - **with a specific patient** (e.g., infants/ young children, patients not capable of self care/hand hygiene, have poor-compliance with respiratory hygiene, copious respiratory secretions, frequent cough/sneeze, early stage of influenza illness, etc.),
   - **in a specific environment** (e.g., single rooms, shared rooms/washrooms, hallway, influenza assessment areas, emergency departments, public areas, therapeutic departments, diagnostic imaging departments, housekeeping, etc.),
   - **under available conditions** (e.g., air exchanges in a large waiting area or in an airborne infection isolation room, patient waiting areas);

   AND

2. Choose the **appropriate actions / PPE** needed to minimize the risk of patient, HCW/other staff, visitor, contractor, etc. exposure to the novel coronavirus.

PCRA is not a new concept, but one that is already performed regularly by HCWs many times a day for their safety and the safety of patients and others in the healthcare environment. For example, when a HCW assesses a patient and situation to determine the possibility of blood or body fluid exposure or chooses appropriate PPE to care for a patient with an infectious disease, these actions are both activities of a PCRA.

References:

1. Health Canada, December 17, 2003. Infection Control Precautions for Respiratory Infections Transmitted by Large Droplet and Contact: Infection Control Guidance if there is a SARS Outbreak Anywhere in the World, When an Individual Presents to a Health Care Institution With a Respiratory Infection (Draft)
2. New York State Nursing Association (NYSNA), Nursing Practice Alert. Emergency Department Overcrowding/Preparedness. Website accessed May 2, 2009. http://www.nysna.org/practice/alerts/alert_1104.htm