



## Prevention and management of cases of influenza-like-illness (ILI) that may be due to pandemic (H1N1) 2009 influenza virus on cruise ships

**Updated: 15 September 2009**

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 Canadian and International guidance documents. The Public Health Agency of Canada will be posting regular updates and related documents at [www.phac-aspc.gc.ca](http://www.phac-aspc.gc.ca).

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### Introduction

This document has been developed by the Public Health Agency of Canada to provide guidance to cruise ship operators, medical staff and crew calling on ports in Canada on the prevention and management of influenza-like illness (ILI) that may be due to pandemic (H1N1) 2009 influenza virus in passengers or crew.

### Background

Pandemic (H1N1) 2009 influenza virus is a type A influenza virus that began circulating in the spring of 2009. Infection with this virus results in an influenza-like illness (ILI) similar to seasonal influenza or flu. The surveillance case definition for ILI is defined as the acute onset of respiratory symptoms with fever and cough and one or more of the following symptoms: sore throat, muscle aches, joint pain, or weakness. Gastrointestinal symptoms may also be present and fever may not be prominent.

Pandemic (H1N1) 2009 influenza virus is spread from person to person predominantly through droplets created by coughing or sneezing. Spread can also occur through contact with surfaces and objects contaminated with the virus from affected persons. The incubation period for pandemic (H1N1) 2009 influenza virus is understood to be up to 4 days and the period of communicability up to 7 days from onset of symptoms in uncomplicated cases, this may be longer (up to 10 days) in individuals with severe illness and children in whom symptoms and virus shedding may persist.

Consistent with seasonal flu transmission of the pandemic (H1N1) 2009 influenza virus is most likely during the initial days of infection when the individual is symptomatic and has a high viral load.

The risk of transmission of pandemic (H1N1) 2009 influenza virus may be increased on cruise ships due to increased proximity and prolonged contact between passengers and crew in a semi-closed environment. There is also potential for increased morbidity and mortality due to pandemic (H1N1) 2009 influenza virus on cruise ships due to the more limited availability of medical and other resources while at sea.

## Recommendations Regarding Infection Prevention and Control for Medical Staff and Crew

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In addition to routine practices, the following infection prevention and control measures should be used by medical staff or crew on cruise ships when managing passengers or crew with ILI.

Where possible, the recommendations in this are consistent with guidance provided in the following related Public Health Agency of Canada documents: [Infection Prevention and Control Measures for Health Care Workers in Acute Care Facilities](#) [PDF](#) and [Interim Guidance for Clinicians in Ambulatory Care Settings](#) [PDF](#).

### 1. Screening

*Passengers* – All passengers should be screened for symptoms of ILI upon boarding the ship. In keeping with the recommendation that individuals with ILI remain home until they are symptom-free, feeling well and able to fully participate in their regular activities, passengers who are currently experiencing symptoms of ILI should not board the ship. Passengers should be warned of this possibility in advance of the sailing date.

*Crew* - Crew should be asked to perform self-assessments for symptoms of ILI and instructed to report immediately to a designated crew member if symptoms develop. Cruise ship operators may wish to develop mechanisms to facilitate and encourage reporting.

### 2. Hand Hygiene and Respiratory Cough Etiquette

All persons on board should practice good hand hygiene. Medical Staff and crew should perform hand hygiene frequently using soap and water or alcohol based hand rubs (60-90% alcohol concentration). Soap and water should be used if hands are visibly soiled. Alcohol-based hand rub (60-90% alcohol concentration) should be readily available.

All persons on board should also practice good respiratory etiquette. This includes the practice of coughing or sneezing into a tissue or into one's sleeve or elbow. Used tissues should be immediately placed in a waste receptacle and hand hygiene performed.

Cruise ship operators may wish to consider the development of signage reinforcing good hand hygiene and respiratory etiquette.

### 3. Contact Precautions

Gloves should be worn when entering the room of or having direct contact with a person with ILI. Gloves should be removed just before leaving the room and disposed of in a hands-free waste receptacle.

Gowns should be worn only when there is a risk of contamination with splashes and sprays of respiratory secretions and excretions. When worn, remove the gown just before leaving the room and dispose of it in a hands-free waste receptacle.

Hand hygiene should be performed after removing gowns and gloves.

### 4. Droplet Precautions and Respiratory Protection

Decisions regarding the appropriate use of respiratory protection and droplet precautions should be made in conjunction with medical staff, where possible.

The use of respiratory protection, including surgical masks facemasks or N95 respirators is not recommended for crew members engaging in general work activities.

The following recommendations should be followed by medical staff or crew engaging in work activities that involve contact with a person with ILI:


- A *surgical or high-quality procedure mask* should be worn when within 2 meters of a person with ILI.
- A *fit-tested N95 respirator* should be worn if conducting an aerosol-generating medical procedure, such as tracheal or oral suctioning (see AGMP<sup>1</sup> below for a list of AGMP examples) on a suspect ILI case. Limit staff in the room to only those necessary and all individuals in the room should wear an N95 respirator.
- The mask or N95 respirator should be removed by the straps, being careful not to touch the mask or respirator itself, after leaving the room and disposed of in a hands-free waste receptacle.
- Whenever a mask or respirator is required, face or eye protection (i.e. goggles, safety glasses or face shield) should also be worn. Face or eye protection should be removed after leaving the room and disposed of in either a hands-free waste receptacle (if disposable) or in a separate receptacle to go for reprocessing (if reusable).
- Hand hygiene should be performed before and after removing respiratory, face or eye protection and after leaving the room.

## 5. Cleaning and Disinfection

Clean and disinfect equipment and surfaces that may have become contaminated with droplets or respiratory secretions according to Health Canada's Recommended Cleaning and Disinfection Procedures for Cruise Ships for H1N1 flu virus that have been distributed to cruise ship operators (available on request from phb\_bsp@hc-sc.gc.ca).

## Management of Passengers and Crew with ILI

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Clinical management of passengers and crew with ILI should be as per the Public Health Agency of Canada's [Interim Guidance for Clinicians in Ambulatory Care Settings](#) .

Otherwise healthy passengers and crew with ILI and no underlying medical conditions, should be treated with supportive care. Treatment with antiviral medications is recommended for pregnant women in their second and third trimester and people with high-risk conditions such as an immune deficiency, diabetes, cardiovascular disease or lung disease (such as asthma or chronic obstructive lung disease). Passengers and crew with ILI requiring more supportive care should be transferred to an acute care setting when possible.

Passengers and crew with ILI should self isolate in their cabin quarters until they are symptom-free, feeling well and able to fully participate in regular cruise ship activities. They should be instructed in hand hygiene and respiratory etiquette. Isolated passengers and crew should be monitored closely for signs of clinical deterioration and/or development of complications.

Consider isolating sick passengers with a family member or companion who has been instructed in [How to look after someone at home with H1N1 flu virus](#). When there is close contact between the caregiver and the person with ILI, both the caregiver and the person with ILI should wear a mask. The caregiver should also wear eye protection when within 2 meters of a person with ILI. Caregivers of persons with ILI do not need to be isolated if feeling well, but they should be advised to isolate themselves at the first sign of ILI.

Passengers and crew with ILI should only leave their rooms for medical reasons or other necessities; whenever a person with ILI leaves the room they should wear a mask if tolerated.

If disembarkation, transfer or travel is necessary prior to the end of the isolation period, the traveller should be advised to complete the isolation period at home (if at their final destination) or

to arrange accommodation at the point of disembarkation (if in transit) in order to complete the balance of the isolation period before traveling again.

## Reporting

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*International Vessels* - The *Quarantine Act* requires the operator of a ship arriving in Canada to, as soon as possible before it arrives at its destination in Canada, inform a Quarantine Officer of suspicion that a person on board might have a communicable disease listed in the Act. As influenza A is listed in the Act, the operator of a cruise ship with a suspected case of pandemic (H1N1) influenza virus on board would be required to report that case to a Quarantine Officer.

This reporting can take place through the procedures described in the Radio Aids to Marine Navigation, Part 4, General Procedures, under the heading Quarantine Message:

**Cruise ships operating in the Atlantic, St. Lawrence, Great Lakes, Lake Winnipeg and Eastern Arctic should refer to:** <http://www.ccg-gcc.gc.ca/folios/00026/docs/part-4a-2009-eng.pdf> (p. 4-43) 

**Cruise ships operating in the Pacific and Western Arctic should refer to:** <http://www.ccg-gcc.gc.ca/folios/00026/docs/part-4p-2009-eng.pdf> (p. 4-38) 

Once notified of an ill traveller on board a cruise ship arriving in Canada, the Quarantine Officer will assess the situation and advise on whether further action under the *Quarantine Act* is required. The Quarantine Service will also notify Health Canada, for follow-up regarding cleaning and disinfection procedures.

*Domestic Vessels* - The operator of a ship with a domestic itinerary may also wish to consider reporting cases of infectious disease to the public health authority responsible for the jurisdiction they are entering.

## Patient Transfer

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Passengers or crew with ILI who require transfer to an acute care facility should wear a mask during transfer, if tolerated.

In addition to routine practices, medical staff or crew involved in transfer should follow the recommendations above for medical staff or crew engaging in work activities that involve contact with a person with ILI.

A disembarkation plan, which includes organizing safe and timely exit routes for ill persons and other travellers and crew, should be developed to limit the possibility of spreading the infection.

Ensure that the port authority, cruise ship terminal, emergency medical services and receiving hospital are notified, as appropriate, that they will be receiving a patient with ILI so they can take any required actions.

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<sup>1</sup> Aerosol-generating Medical Procedures (AGMP): any procedure carried out on a patient that can induce the production of aerosols of various sizes. Examples include: non-invasive positive pressure ventilation (BIPAP, CPAP); endotracheal intubation; respiratory/airway suctioning; high-frequency oscillatory ventilation; tracheostomy care; chest physiotherapy; aerosolized or nebulized medication administration; diagnostic sputum induction; bronchoscopy procedure; autopsy of lung tissue.

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