

**PREVENTION MEASURES  
IN THE CONTEXT OF  
AN INFLUENZA PANDEMIC:  
FOR EMPLOYERS AND WORKERS IN QUÉBEC**



Organisation  
de la sécurité civile  
du Québec



**INFLUENZA  
PANDEMIC**

Québec 



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**The contents of this document are based on current knowledge. It could be modified should new knowledge come to light or as the result of new government policy directives.**

This guide is for employers and workers in Québec. Its purpose is to provide them with information about the influenza virus and about protecting themselves and those around them during a pandemic.

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*Ce document est aussi disponible en français.*

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## INFLUENZA: USEFUL INFORMATION

### Definitions

Influenza is an infection of the cells that line the lungs and the airways.

An influenza pandemic is said to occur when a flu virus affects a continent or the entire planet. A pandemic is caused by a virus that has undergone major changes, making it different from seasonal flu. Since the population has little or no natural immunity to the new virus, it can affect a much larger number of people than seasonal viruses and cause more deaths.

Three human influenza pandemics occurred in the last century: The Spanish flu (1918–1919), the Asian flu (1957–1958), and the Hong Kong flu (1968–1969). The experience acquired in dealing with these other outbreaks enables us to better prepare should another pandemic occur.

### Means of Transmission of the Influenza Virus

The influenza virus is highly contagious. Individuals can transmit the virus up to seven days or more starting the day before the first symptoms appear. The virus spreads very rapidly in droplets of nasal and mouth secretions, especially when infected people cough or sneeze, which is why it is very important to cover your mouth when you cough or sneeze. The virus, which can travel at least 1 m (3 feet) in the air, can survive on surfaces for several hours. Infection can result from touching an infected person (such as from an embrace or handshake) or an object that has been contaminated by the virus (telephones, doorknobs, dishes, handrails, etc.) and then touching your nose, mouth, or eyes. The virus spreads easily through crowds and where people live, work, or study.

The role of airborne transmission (by aerosol in the air) in influenza outbreaks is poorly understood. Nevertheless, it has been recognized that medical interventions and procedures can produce aerosols (e.g. intubation and aerosol therapy) and consequently increase the dissemination of small particles immediately around an infected person. For this reason, care settings are subject to specific recommendations.

### Survival of the Influenza Virus

The influenza virus can survive for up to 5 minutes on the hands; from 8 to 12 hours on fabric, paper, and facial tissues; and from 24 to 48 hours on hard surfaces, such as telephones, door-knobs, dishes, and handrails.

## Influenza Symptoms and Signs

Influenza symptoms become evident several days after infection with the virus. The following table lists influenza symptoms and compares them to cold symptoms.

**TABLE 1: Comparison of influenza and cold symptoms and signs**

SYMPTOMS	INFLUENZA (FLU)	COLD
Fever	Usual Between 38–40°C Sudden onset Lasts 2 to 5 days	Rare
Headaches	Usual, sometimes severe	Rare
Aches and pains	Usual, sometimes severe	Rare
Intense fatigue	A few days Sometimes longer	Rare
Nausea and vomiting	Usual, especially in children under 6	Rare
Nasal congestion and runny nose	Rare	Usual
Sneezing	Rare	Usual
Sore throat	Rare	Usual
Chest pains	Usual, sometimes severe	Occasional, light to moderate
Coughing	Common Lasts around 2 weeks	Usual, but light to moderate

## Influenza Severity

Most healthy people get over influenza naturally. Certain population groups, however, are more likely to develop very serious complications as the result of flu. Some may even die. These groups are said to be “at risk.”



## People at Risk

During outbreaks of seasonal influenza, depending on the specific virus, some people are at greater risk for developing complications because of their age or their state of health. It is expected that the at-risk groups will be about the same in a pandemic.

They are:

- Very young children (under the age of two)
- Elderly people
- Cancer patients
- People with HIV or AIDS
- People who have received transplanted organs
- People with a chronic heart or lung diseases
- People with a liver disease
- People with diabetes.



Past influenza pandemics, however, have shown that other people or groups, such as pregnant women, may also be at high risk. The surveillance system that will be put into place should a pandemic occur will enable authorities to review the list of at-risk groups and adjust interventions accordingly.

## PREVENTION MEASURES FOR EMPLOYERS

In the case of a pandemic, it is important to have intervention strategies to prevent the transmission of influenza. For most businesses, worker protection will consist in emphasizing good basic hygiene (hand washing, respiratory hygiene, regular cleaning of the workplace and work surfaces) and in applying social distancing (reducing the frequency, proximity, and the length of contact between people).

More specifically, individual basic hygiene, which means **hand washing** and **respiratory hygiene**, must be **encouraged and rigorously applied in all workplaces**. Similarly, collective measures, such as the normal, regular cleaning of the workplace, work surfaces, and equipment, must be strengthened. Lastly, additional measures adapted to the workplace must be implemented.



## Basic Personal Hygiene for Workers

- **Encourage workers to practise hand hygiene.** (See Appendix 1)
  - > Make sure that workers have received information about:
    - Effective hand washing with soap and water.
    - Effective hand disinfection with an alcohol-based hand rub.
  - > Distribute a leaflet about hand hygiene.
  - > Put up posters about hand hygiene.
- **Encourage workers to practise respiratory hygiene.** (See Appendix 1)

Respiratory hygiene is a series of simple measures that should be carried out whenever a person coughs or sneezes to prevent the infection from spreading.

  - > Make sure that workers have received information about respiratory hygiene.
  - > Distribute a leaflet about respiratory hygiene.
  - > Put up posters about respiratory hygiene.
- **Make the necessary purchases.**
  - > Buy sufficient quantities of the products needed to implement hand hygiene and respiratory hygiene measures:
    - Soap
    - Paper towels
    - Alcohol-based hand rub (minimum of 60% alcohol)
    - Garbage cans
    - Garbage bags
    - Facial tissues.

## Collective Measures for Workers

- **Customer access**

As far as possible, limit access to the workplace by people with flu symptoms, by posting notices at entry points.
- **Workplace hygiene**

Work areas must be adequately maintained and cleaned. Appendix 3 describes the measures that should normally be carried out in businesses. The employer must ensure that they are carried out correctly and effectively.

To this end, a workplace maintenance policy should be drawn up, primarily setting out maintenance methods, purchasing of cleaning products, waste management, and safe procedures for maintenance personnel.

## Additional Measures

Additional measures can be applied in an attempt to limit transmission.

Putting into place adequate work-organization measures adapted to the workplace characteristics calls for defining the levels of exposure of workers as they perform their duties.

**TABLE 2: Levels of exposure in the workplace<sup>1</sup>**

LEVEL OF EXPOSURE	DEFINITION	EXAMPLES
Low	Minimum contact with the public and coworkers at the workplace	<ul style="list-style-type: none"> <li>• Office personnel</li> </ul>
Moderate	Frequent and close contacts (less than 1 m or 3 feet) with customers and coworkers	<ul style="list-style-type: none"> <li>• Employees of retail stores and day-care centers</li> </ul>
High	High risk of exposure to known or suspected sources of pandemic influenza	<ul style="list-style-type: none"> <li>• Health-care staff</li> <li>• Personnel transporting infected or suspected medical patients in a closed vehicle (ambulance attendants)</li> <li>• Staff performing autopsies on infected cadavers<sup>2</sup></li> </ul>
Very High	<ul style="list-style-type: none"> <li>• Procedures on patients with known or suspected pandemic influenza that generate aerosols</li> <li>• Collection or handling of clinical specimens from patients with known or suspected pandemic influenza</li> </ul>	<ul style="list-style-type: none"> <li>• Health-care staff performing procedures that generate aerosols</li> <li>• Laboratory staff</li> </ul>

The following measures should be implemented to limit spread of the influenza virus during a pandemic.

- **Encourage social distancing.**
  - > Keep close contacts at the workplace to a minimum:
    - Avoid calling unessential face-to-face meetings.
    - Reduce meeting length.
    - Hold meetings in large rooms.
    - Use information technologies and network tools for communications with and between workers.
    - Avoid unnecessary travel.
    - Cancel or postpone unnecessary meetings, workshops, and training sessions.
    - Practice “ghost” shift changes, whenever work organization allows it, with the shift going off duty leaving the workplace before the new shift enters.
    - Introduce staggered breaks so that all employees are not on break at the same time.
    - Keep social distance to at least 1 m (3 feet) in the cafeteria and other places where people gather.<sup>3</sup>

1. The levels of exposure are adapted from Occupational Safety and Health Administration’s (OSHA) *Guidance on preparing workplaces for an influenza pandemic*, OSHA 3327-02N 2007.

2. CINQ. *Recommandations – Mesures de prévention et contrôle de l’influenza pandémique pour les établissements de soins et les sites de soins non-traditionnels*. 2006 (includes public and private long-term care institutions – in French) [www.inspq.qc.ca/publications/default.asp?E=p&NumPublication=495](http://www.inspq.qc.ca/publications/default.asp?E=p&NumPublication=495)

3. **Minimum** distance currently recommended. It is subject to revision as knowledge changes.

- **Develop a work-attendance policy**

A policy on work attendance of staff presenting signs and symptoms of influenza during a pandemic should be developed as part of preparation. Workers should be informed about the procedure to follow as soon as flu symptoms appear:

- > Workers should avoid going to work wherever possible.
- > When they must be at work, however, they should wear a mask (surgical or procedure mask) and remain as far as possible from other workers.

- **Install physical barriers**

For example, the receptionist’s station and that of other customer-service personnel could be equipped with protective glass or plastic barriers in busy public-service buildings.

- **Provide personal protective equipment**

The use of personal protective equipment such as surgical or procedure masks could also be considered when maintaining social distance or installing physical barriers is either difficult or even impossible.

**When not used with other measures to control an infection (hand washing and respiratory hygiene), the use of personal protective equipment is of limited efficacy and could give a false sense of security.**

**TABLE 3: Measures recommended according to worker level of exposure**

LEVEL OF EXPOSURE	RECOMMENDED MEASURES
Low	<p><b>Individual measures:</b> hand hygiene and respiratory hygiene</p> <p><b>Collective measures:</b> limiting customer access and cleaning</p> <p><b>Additional measures:</b> encourage social distancing</p>
Moderate	<p><b>Individual measures:</b> hand hygiene and respiratory hygiene</p> <p><b>Collective measures:</b> limiting customer access and cleaning</p> <p><b>Additional measures:</b></p> <ul style="list-style-type: none"> <li>• Encourage social distancing</li> <li>• Install physical barriers</li> <li>• Provide protective equipments (surgical or procedure masks) when it is not possible to apply social distancing or install a physical barrier</li> </ul>
High and Very High	See the recommendations of the Comité des infections nosocomiales du Québec (CINQ) for health-care personnel <sup>4</sup>

4. CINQ. Recommendations – Mesures de prévention et contrôle de l’influenza pandémique pour les établissements de soins et les sites de soins non-traditionnels. 2006 2006 (includes public and private long-term care institutions – in French) [www.inspq.qc.ca/publications/default.asp?E=p&NumPublication=495](http://www.inspq.qc.ca/publications/default.asp?E=p&NumPublication=495)

## PREVENTION MEASURES FOR WORKERS

### Recommendations for Protection against Influenza in the Workplace

- Follow the recommendations below to avoid spreading the infection in the workplace and for your own protection.
  - > Wash your hands often with warm water and soap.
  - > Use an alcohol-based hand rub to disinfect your hands if you do not have access to soap and running water.
  - > Clean hard objects and surfaces around you that can be touched or handled by others.
  - > Keep your office door closed if possible in your work setting.
  - > Use the stairs instead of elevators.
  - > Cancel nonessential meetings. Use other communication methods, such as conference calls, videoconferences, and e-mail to transmit information.
  - > If you must meet coworkers in person, maintain a distance of more than 1 m (3 feet) between each other.
  - > Avoid shaking hands.
  - > If possible, walk or ride a bicycle to work instead of taking mass transit.
  - > If your employer agrees, try working from home or with a flexible schedule to avoid peak hours.
  - > Stay home if you are sick. Ask your employer about guidelines for returning to work or follow medical advice, if applicable.
  - > When the vaccine against the pandemic influenza strain becomes available, visit a mass vaccination clinic.

### Recommendations in Cases of Influenza

- Follow the recommendations below to avoid spreading the infection in the workplace and for your own protection.
  - > Stay at home as much as possible from the outset of symptoms.
  - > Rest:
    - The flu causes weakness and fatigue that lasts until the fever drops. Resting helps fight the infection.
  - > Limit contacts with others until you are well again.
  - > Drink plenty of fluids:
    - Drink more than you normally do to replace fluids lost due to fever (sweating). Drink hot or cold fluids, whichever you prefer (e.g. water, juice, milk, or broth).
  - > Protect those around you:
    - Stay in one room to avoid contaminating those around you.
    - Cover your nose and mouth with a facial tissue or, if that is not possible, with your arm when coughing or sneezing to prevent contaminating your hands.
    - Limit the number of visitors.
    - When sick, wear a surgical or procedure mask when you are around other people in a care setting or public place.
    - Wear a surgical or procedure mask whenever you are around a sick person who is not wearing a mask (e.g. a young child).

### **Important**

In case of fever, individuals belonging to one of the groups at risk for developing complications (specified in Section 1) should call Info-Santé or visit one of the care locations designated by the local health services.

### **Cleaning Your Home**

Since the influenza virus can survive for as long as two days on hard surfaces, it is important to wash counters, sinks, and all other surfaces frequently touched by hands. This is very effective in eliminating the virus. Use hot water and soap or household detergents. A disinfectant such as a bleach solution (1 part bleach to 50 parts water) is very effective in eliminating the virus on fixtures such as toilets and sinks.

## **INFORMATION RELATED TO EMPLOYER AND WORKER RIGHTS AND RESPONSIBILITIES**

During a pandemic, the efforts of employers and workers are indispensable in achieving the prevention objectives in the *Occupational Health and Safety Act* (OHSA) to safeguard worker health, safety, and physical well-being. In this context, training and information about the rights and obligations of both parties take on even greater importance.

### **Employer Obligations**

The OHSA stipulates that the employer is obligated to take the measures required to adequately protect workers. These measures relate mainly to workplace conditions, implementing safe working procedures, providing personal protective equipment when required, and taking part in occupational health and safety mechanisms.

### **Worker Obligations**

Workers must take the measures necessary to ensure their health, safety, and physical well-being. They must comply with the requirements of the prevention program put into place by the employer, if applicable, and where the personal protective equipment provided, when necessary. They must take part in the management mechanisms under the framework of the preventive measures implemented by the employer.

## Other Conditions

- **Worker Right of Refusal**

Under the provisions of the OHS Act, workers have the right to refuse to perform a particular job if they believe that it represents an immediate threat to their health, safety, or physical well-being.

Indeed, workers can exercise their right to refuse to perform work if they have reasonable grounds to believe that carrying out the work represented a danger to their health, safety, or physical well-being.

A CSST inspector shall determine whether or not a danger exists that would justify exercising the right of refusal in the specific context. The inspector if the protective measures implemented by the employer are adequate and appropriate for the degree of danger. If such is the case, the right of refusal is deemed unjustified. That notwithstanding, exercising this right must not jeopardize the life, health, safety, or physical well-being of another person.

- **Complaints**

Workers also have the right to submit complaints to the Commission de la santé et de la sécurité du travail (CSST). Complaints will be handled anonymously by the appropriate regional office.

The provisions related to right of refusal and complaints shall be in effect during a pandemic, just as they would be at any other time.



## HAND WASHING

### When to Wash

- Whenever your hands are visibly dirty.
- After sneezing or coughing.
- After blowing your nose.
- After using the restroom.
- After changing a baby's diaper.
- Before preparing, handling, or serving food.
- Before eating.
- Before putting on or taking out contact lenses.
- After handling garbage.

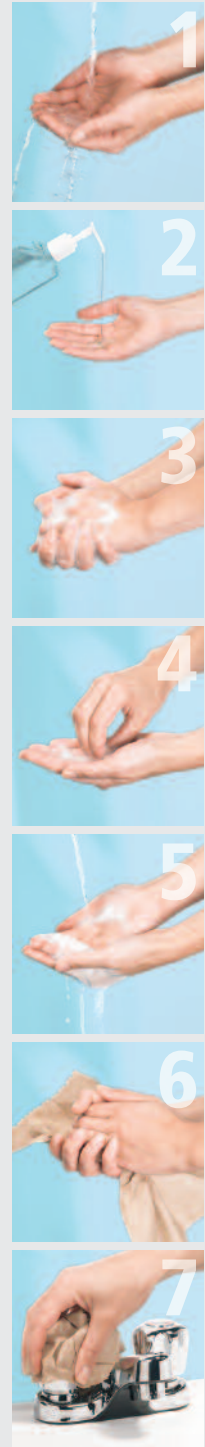
### What to Use

- With ordinary soap and water; antibacterial soap is not necessary.
- If a sink and running water are not available, you can use alcohol hand wipes or alcohol-based hand rub (60% to 70%) gels, foams, or liquids.

### Hand Washing with Soap and Water

1. Wet your hands.
2. Apply soap.
3. Rub your hands vigorously together for at least 15 to 20 seconds without neglecting any part.
4. Scrub all surfaces, including between your fingers, fingertips, and wrists.
5. Rinse your hands under running water.
6. Dry your hands with a clean or disposable towel.
7. Use the towel or a paper towel to turn off the faucet.

Do not share your towel with other family members. Cloth towels should be changed every day.





## Using an Alcohol-based Hand Rub (waterless soap)

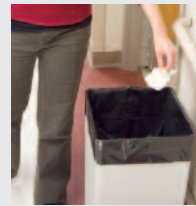
**A hand sanitizer should only be used when your hands are not visibly dirty.**

- Apply 5 mL (1 teaspoon) of sanitizer to your hands.
- Rub your hands vigorously together for at least 15 to 20 seconds without neglecting any part.
- Scrub all surfaces, including between your fingers, fingertips, and wrists.
- Let your hands dry in the air.

If a sink is not readily available or if there are not enough sinks, disinfectant wipes can be used to remove any visible dirt on your hands before you use the alcohol-based hand sanitizer.

## RESPIRATORY HYGIENE

- Cover your mouth, ideally with a facial tissue, when you cough or sneeze. Wash your hands afterwards.
- If you don't have a tissue, cough into the bend of your elbow or your upper sleeve since these locations are not normally in contact with people or objects.
- Spit into a facial tissue.
- Dispose of used tissues in a lidded, lined garbage can. If the can does not have a lid, keep it out of the reach of children. Once the container is full, tie the garbage bag securely closed and put it out for regular trash pickup. Afterwards, wash your hands.





## USING A FACE MASK

(surgical or procedure mask<sup>5</sup>)

### How to put on a mask

- Wash your hands before touching the mask.
- Place the mask over your mouth and nose with the flexible nosepiece upwards. If the mask is colored, the colored side should face outward.
- Shape the flexible nosepiece to the bridge of your nose.
- Position the bottom edge under your chin. The mask should completely cover your nose, mouth, and chin.
- The strings should be tied behind your head or the elastic loops placed behind your ears. The mask must fit snugly on your face.

Do not allow the mask to hang around your neck. Avoid touching the mask once it is in place

### When to Change Your Mask

- A mask should only be used once. Your mask should be changed if it:
  - > Becomes damp or wet.
  - > Makes breathing difficult.
  - > Becomes damaged or visibly soiled.

Dispose of used masks in a lidded, lined garbage can. If the can does not have a lid, keep it out of the reach of children. Tie the garbage bag securely closed and put it out for regular trash pickup. Wash your hands after removing your mask.



5. Not to be confused with an N-95 respirator use for protection against aerosols.

## KEEPING THE WORKPLACE CLEAN

### Adequate Workplace Cleaning

- **What to Clean**
  - > All common areas (handrails, doorknobs, elevator buttons, safety rails, and any other surface that personnel or customers regularly touch with their hands, kitchenette, etc.).
  - > All lavatory facilities (toilets and sinks).
  - > All individual work stations, such as work surfaces, computer keyboards, telephone handsets, and fax or photocopier controls.
- **What to Use**
  - > Hot water and soap or household detergents.
  - > Disinfectant wipes can be more practical for certain surfaces, such as computer keyboards and telephone handsets.
- **How to Disinfect**
  - > Use a solution of household sodium hypochlorite (bleach):
    - Disinfecting surfaces: 1 part bleach to 50 parts water (0.1% or 1000 ppm).
    - Significant blood or biological fluids:  
1 part bleach to 9 parts water (0.5% or 5000 ppm).<sup>6</sup>
  - Do not mix bleach with other cleaning products. Follow the manufacturer's directions.*
- **Cleaning Frequency<sup>7</sup>**
  - > Common areas should be cleaned at least once every work day. Areas for greeting customers can be cleaned more often.
  - > Lavatories (toilets, sinks) should be cleaned and disinfected at least once a day.
  - > Work stations should be cleaned daily by the maintenance crew and as needed by workers, who shall be provided cleaning products

### Preventive Maintenance of Heating, Ventilation, Air-Conditioning Systems (HVAC)

Based on current knowledge, normal maintenance of HVAC systems should be adequate in the case of influenza, which is transmitted primarily by droplets and contact.

- Perform normal preventive maintenance on heating, ventilation, and air-conditioning systems as provided for in the Quebec Construction Code (clause 6.2.2, section 6.22.1). The Corporation d'hébergement du Québec guide, *La qualité de l'air intérieur dans les établissements du réseau de la santé et des services sociaux*, contains an entire chapter on cleaning ventilation systems. [www.chq.gouv.qc.ca](http://www.chq.gouv.qc.ca).
- If preventive maintenance has not been performed regularly on HVAC systems, it would be better to err on the side of caution and consult someone before maintenance is performed.

6. Health Canada, Canada Communicable Disease Report *Infection Control Guidelines. Hand Washing, Cleaning, Disinfection and Sterilization in Health Care* December 1998, Vol. 24, S8, p. 17.

7. The frequency of cleaning and disinfection is determined based on the type of surface to be cleaned, the number of people in the space, and the amount of activity in the area. Horizontal surfaces have a higher number of microorganisms than vertical surfaces, ceilings, and smooth, intact walls. In most workplaces (except care settings), only intact skin comes into contact with facilities and equipment.

REF.: Health Canada *Infection Control Guidelines. Hand Washing, Cleaning, Disinfection and Sterilization in Health Care*. 1998.





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