

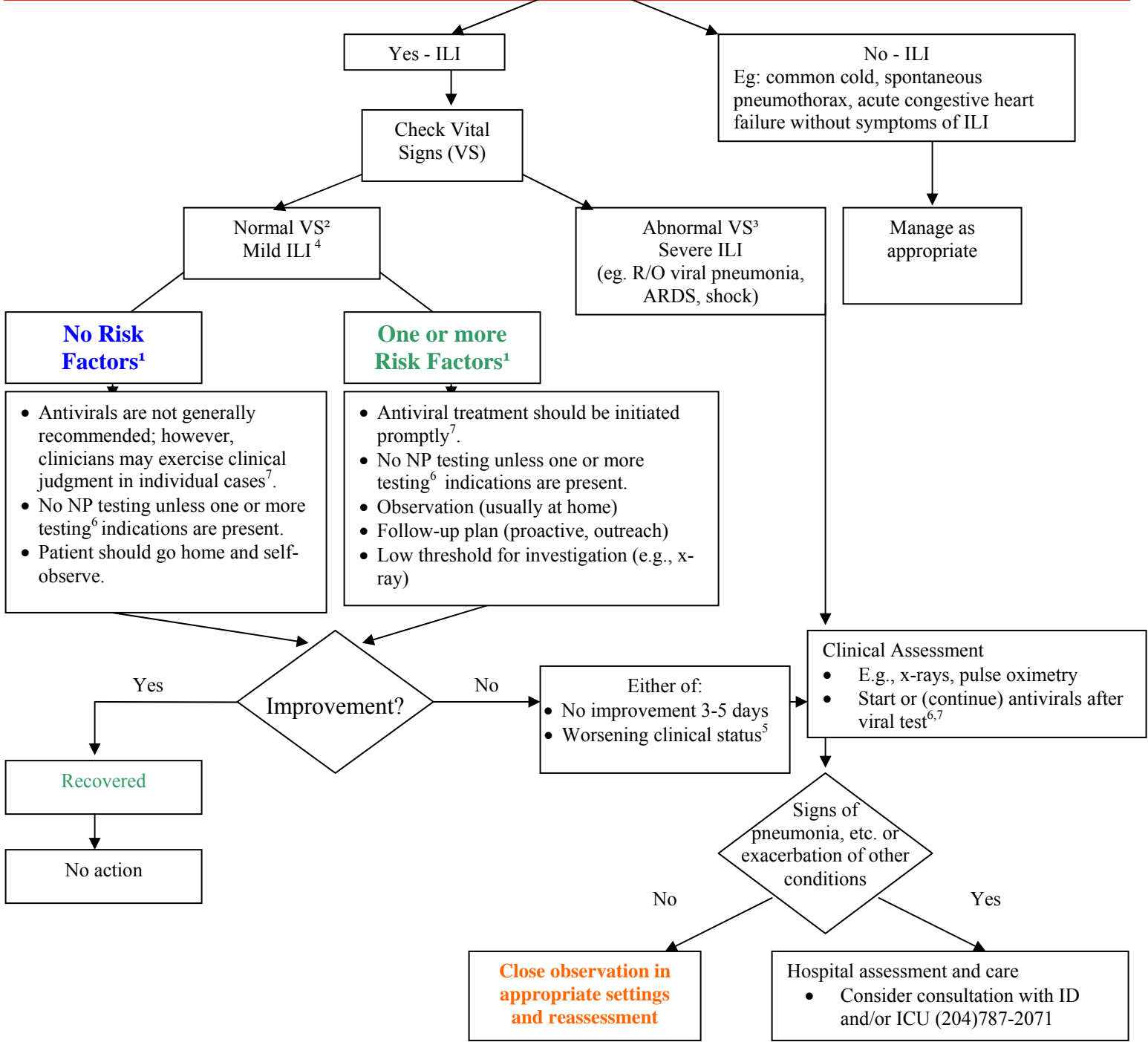
CLINICAL DECISION MAKING ALGORITHM FOR ADULTS/ADOLESCENTS*
Presenting with Symptoms of Acute Respiratory Illness
During a Pandemic Influenza Period (H1N1)

Does the Patient Have Symptoms of Mild Influenza-like Illness (ILI)?

Current PHAC definition: Acute onset of respiratory illness with fever and cough and one or more of the following: sore throat, arthralgia, myalgia or prostration.

Note I: The following symptoms have been observed during the first wave of pandemic H1N1 and should also be considered in the clinical diagnosis of ILI at this time:
Almost always: Cough and Fever
Common: Fatigue, Muscle Aches, Sore Throat, Headache
Sometimes: Nausea, Vomiting, Diarrhea

Note II: Young children and the elderly may not present with fever or a history of fever. Fever may be muted in patients undergoing cancer and blood disorder treatments, and with receipt of acetaminophen, ibuprofen, corticosteroids or immunosuppressive drugs.



¹Risk Factors for Complications of Pandemic H1N1 Influenza:

- Children < 5 years of age (especially those < 2 years).
- Individuals ≥ 65 and others < 65 but who may be frail, have mobility problems or live alone.
- Chronic diseases (lung including asthma, heart, kidney, central nervous system including neuromuscular diseases, endocrine system including diabetes mellitus).
- Immune disorders or immunosuppression (such as cancer patients on treatment, autoimmune diseases or rheumatologic diseases on TNF inhibitors or corticosteroids, transplant patients, HIV infection).
- Children under 19 years of age with conditions treated with long-term acetylsalicylic acid (ASA).
- Severe obesity and/or malnutrition.
- Other conditions (i.e., smoking, substance abuse, alcoholism, homelessness) considered to increase the risk of complications from influenza or be associated with delays in seeking or receiving care for mild or severe influenza-like-illness.
- Persons of Aboriginal ancestry have had increased risk for severe illness even in the absence of known risk conditions.
- Pregnant women, especially later pregnancy, and women within six weeks post-partum.

*The recommendations apply to patients presenting with ILI with or without prior antiviral treatment and with or without previous immunization with seasonal or pandemic H1N1 vaccine.
 H1N1 Adult/Adol Algorithm November 20, 2009 FINAL

² **Normal vital signs:**

Pulse, blood pressure, respirations and O₂ saturation by pulse oximetry if available, that are within range of normal values for age.

³ **Abnormal vital signs:**

One or more of pulse, blood pressure, respirations and O₂ saturation by pulse oximetry < 92% (if available), that are not within range of normal for age. Hypotension, tachycardia and tachypnea may be early indicators of serious illness.

⁴ **Management of Mild Illness:**

Patients with mild illness should: 1) be assessed and provided with advice; 2) be encouraged to stay at home; 3) use acetaminophen-containing medications to ease fever and myalgias; and 4) follow routine precautions to prevent spread to family members and the community. If the patient's condition worsens they should seek medical help by calling their primary care provider or [Health Links-Info Santé at 788-8200 in Winnipeg](tel:788-8200) or [toll-free at 1-888-315-9257](tel:1-888-315-9257), or if severe 911.

⁵ **Worsening Clinical Status:**

Progression of signs and symptoms (including increasing dyspnea, prostration, hypotension, tachycardia and tachypnea, dehydration, shock) indicative of pending serious illness e.g., severe ILI.

⁶ **Nasopharyngeal (NP) Test Sampling:** The specimen will not be processed unless one or more of the following indications are recorded on the Cadham Provincial Laboratory (CPL) requisition:

- hospitalized patients (for differential diagnosis and monitoring for severity);
- immunocompromised patients (monitoring for antiviral resistance);
- patients being observed in emergency departments, observation units, etc (for surveillance);
- patients seen at designated sentinel sites, as authorized by regional and provincial public health authorities (for surveillance).

If the indication and other information is not recorded, specimen testing may be delayed. In exceptional circumstances, specimens may not be tested. Inadequately labeled or packaged specimens (e.g., leaking) may not be processed. Questions about the procedure for testing should be directed to the Cadham Provincial Laboratory Guide to Services, Section 4 Virus detection/4.2 Specimen Collection-Nasopharyngeal swab: http://www.gov.mb.ca/health/publichealth/sri/docs/nasopharyngeal_collection.pdf

⁷ **Treatment:**

- Oseltamivir (Tamiflu®) must be given within 48 hours of symptom onset.** NOTE: Clinical benefit from antiviral treatment has been documented if instituted within 48 hours of illness onset, but there are limited data beyond this time. If the duration of illness is greater than 48 hours when the patient presents to a health care provider, consultation is recommended with Infectious Diseases to determine if antivirals are still appropriate. **Infectious Diseases may be paged at (204) 787-2071.**
- Adults and children ≥ 13 years of age:** Oseltamivir (Tamiflu®) 75 mg orally twice daily for 5 days.
- Children < 13 years of age:** by weight, as per the table below.

Antiviral Use in Pregnant and Post-partum Women: Antiviral treatment should be strongly considered as soon as practical, preferably within 48 hours of onset of symptoms in all women who are pregnant or within 6 weeks post-partum who develop ILI, unless contraindicated. For more information refer to the MHL document *Manitoba Interim Clinical Care Guidance for Pregnant and Post-partum Women During a Pandemic Influenza Period (H1N1)* available at: http://www.gov.mb.ca/health/publichealth/sri/docs/interim_guidance_clinicians_pregnancy.pdf.

Other considerations for the use of antivirals for treatment of H1N1 influenza:

Recommendations for use of antiviral medications may change as information on antiviral effectiveness, clinical spectrum of illness, adverse events from antiviral use, or resistance among circulating viruses become available. At this time, oseltamivir-resistant 2009 H1N1 viruses have rarely been identified and are typically found among persons who develop illness while receiving oseltamivir for chemoprophylaxis or among immunocompromised patients with influenza who are being treated. For more information on H1N1 antiviral resistant strains, refer to *WHO Pandemic (H1N1) 2009 briefing note 12- Antiviral use and the risk of drug resistance*. http://www.who.int/csr/disease/swineflu/notes/h1n1_antiviral_use_20090925/en/index.html.

Antiviral treatment dosing* recommendations for Adults and Children [Table based on IDSA guidelines for seasonal influenza, *CID* 2009; 48: 1003-1032: www.idsociety.org/content.aspx?id=9202#flu] and Public Health Agency of Canada Interim Guidance for emergency use of oseltamivir (Tamiflu®) in children under one year of age in the context of 2009 (H1N1) pandemic at <http://www.phac-aspc.gc.ca/alert-alerte/swine-porcine/guidance-orientation-07-20-eng.php>].

Age Group	Weight	Drug	Dosing Schedule
Infants and children	≤ 15 kg	Oseltamivir (Tamiflu®)	2 mg/kg/dose orally twice daily x 5 days
Children < 13 years of age	>15-23 kg	Oseltamivir (Tamiflu®)	45 mg orally twice daily x 5 days
	>23-40 kg	Oseltamivir (Tamiflu®)	60 mg orally twice daily x 5 days
	> 40 kg	Oseltamivir (Tamiflu®)	75 mg orally twice daily x 5 days
Adults and Children ≥ 13 years of age		Oseltamivir (Tamiflu®)	75 mg orally twice daily x 5 days
Adults and Children ≥ 7 years of age		Zanamivir (Relenza®)	2 inhalations twice daily x 5 days

* Dosages may need to be modified based on the presence of renal disease or other co-morbidities. Refer to product monograph for details and/or consult with an Infectious Diseases specialist, Nephrologist or Pharmacist. For potential medication errors with liquid Tamiflu®, please see: http://www.hc-sc.gc.ca/ahc-asc/media/advisories-avis/2009/2009_158-eng.php for more information.

Antimicrobial Therapy: Due to the high risk of bacterial superinfections in patients with influenza, there should be a low threshold for starting antimicrobial therapy in patients. Consider initiation of antimicrobial therapy based upon clinical history & assessment. Consultation with Infectious Diseases is recommended (204) 787-2071.

More information on both of these antiviral medications (oseltamivir and zanamivir) including reconstitution guidelines/instructions can be found in the Product Monograph. For recent Health Canada drug advisories please refer to: <http://www.hc-sc.gc.ca/dhp-mps/medeff/advisories-avis/new-neuf-advisories-avis-eng.php> Adverse reactions should be reported to the Marketed Health Products Directorate at Health Canada at: http://www.hc-sc.gc.ca/dhp-mps/pubs/medeff/guide/2009-ar-ei_anti_guide-ldir/index-eng.php

**These guidelines may change as more information on infection with pandemic influenza (H1N1) becomes available. Updated guidelines are at: <http://www.gov.mb.ca/health/publichealth/sri/index.html>