

Severe Acute Respiratory Infection (SARI) Guidelines

Chief Public Health Office
Department of Health & Wellness



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Severe Acute Respiratory Infection (SARI) Guidelines

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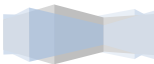
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Severe Acute Respiratory Infection (SARI) Guidelines

Background

Surveillance for the clinical signs and symptoms of severe acute respiratory infection (SARI) is increasingly important. Humans, and viruses, can now easily circumnavigate the globe in less than 24 hours. When a new respiratory virus is introduced to a naive population clinical signs and symptoms of SARI will present first. Unlike with known pathogens, health professionals cannot rely on laboratory confirmation and routine reporting mechanisms for SARI.

An inherent quality of new, emerging respiratory viruses is they are not yet fully characterized; surveillance for the clinical symptoms of SARI introduces a more sensitive case definition designed to detect infections of emerging respiratory pathogens prior to laboratory confirmation.

Prompt recognition of SARI and reporting to public health facilitates epidemiological investigation which can potentially curb the spread of disease. In addition to the importance of recognizing SARI for surveillance purposes, prompt recognition of SARI assists health care workers in implementing appropriate infection prevention and control measures to protect not only themselves, but other patients and those in contact with the case.

This document serves as a guide for health professionals when they encounter a case of SARI on Prince Edward Island and was created by adapting both national and other provincial/territorial documents.

Increased vigilance is needed for surveillance of SARI since the emergence of Avian Influenza A (H7N9) in China and Middle East Respiratory Syndrome Coronavirus (MERS-CoV) on the Arabian Peninsula.

Since February 2013, well over 100 human cases of A/H7N9 have been reported with a case fatality of 33%. To date, all cases have been confined to China (exception Taiwan). Although the etiology remains unknown, the majority of cases report contact with poultry.

Since the emergence of MERS-CoV in Saudi Arabia in September 2012, there have been over 160 cases with a case fatality of 42%. The majority of cases have occurred in Saudi Arabia, however other Middle Eastern countries have been implicated. Cases in Europe with links to the aforementioned countries have also occurred. The reservoir for this novel coronavirus has yet to be elucidated, although bats and camels have been postulated. While no sustained human to human transmission of MERS-CoV has been identified, several clusters of transmission have occurred in both family contacts and amidst health care workers and other patients in health care settings.



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Duty to Report

Clinician should be alert for patients presenting with SARI (see case definition, p.8) in particular with appropriate travel history or contact with someone with a travel history. Physicians should report any hospitalized patients with suspected SARI to the Chief Public Health Office¹ (as per Public Health Act requirements). The **Case Report Form** available in Appendix A will need to be completed as soon as possible.

The Chief Public Health Office will follow-up immediately to facilitate² any contact tracing using the **Contact Tracing Form** (Appendix B). Contacts that will be investigated include:

- Anyone who stayed at the same place (e.g. lived with, visited within the same room) as a probable or confirmed case while the case was symptomatic OR
- Anyone who provided direct care for a case (confirmed or probable), including health workers and family members or anyone who had other similarly close physical contact

Infection Control Measures

Prior to any patient interaction, all healthcare workers (HCWs) have a responsibility to assess the infectious risk posed to themselves and to other patients, visitors, and HCWs. Infection control precautions are important to protect HCW and other patients and visitors. Recommendations for infection prevention and control measures for patients presenting with suspected or confirmed infection or co-infection with SARI in all health care settings include:

1. Routine Practices: For all patients, at all times, in all healthcare settings including when performing a point-of-care risk assessment, and adherence to respiratory hygiene and hand hygiene.

2. Contact and Droplet Precautions (*should be implemented empirically*):

- Wear gloves and a long-sleeved gown upon entering the patient's room, cubicle or bedspace.
- Wear facial protection (surgical or procedure mask and eye protection, or face shield, or mask with visor attachment) when within 2 metres of a patient suspected or confirmed to have SARI infection.

3. Airborne Precautions: When performing aerosol-generating medical procedures (AGMPs³). 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 SARI infection. Whenever possible, AGMPs should be performed in an airborne infection isolation room.

Further infection prevention and control information for **MERS-CoV** can be found here:

<http://www.phac-aspc.gc.ca/eri-ire/coronavirus/guidance-directives/nCoV-ig-dp-eng.php> and for **H7N9** here: <http://www.phac-aspc.gc.ca/eri-ire/h7n9/guidance-directives/h7n9-ig-dp-eng.php>

¹ Chief Public Health Office: 368-4996 or fax: 620-3354 or after hours on-call number: 629-9624

² Assistance with contact tracing may include: ICPs, occupational health and safety and public health nursing

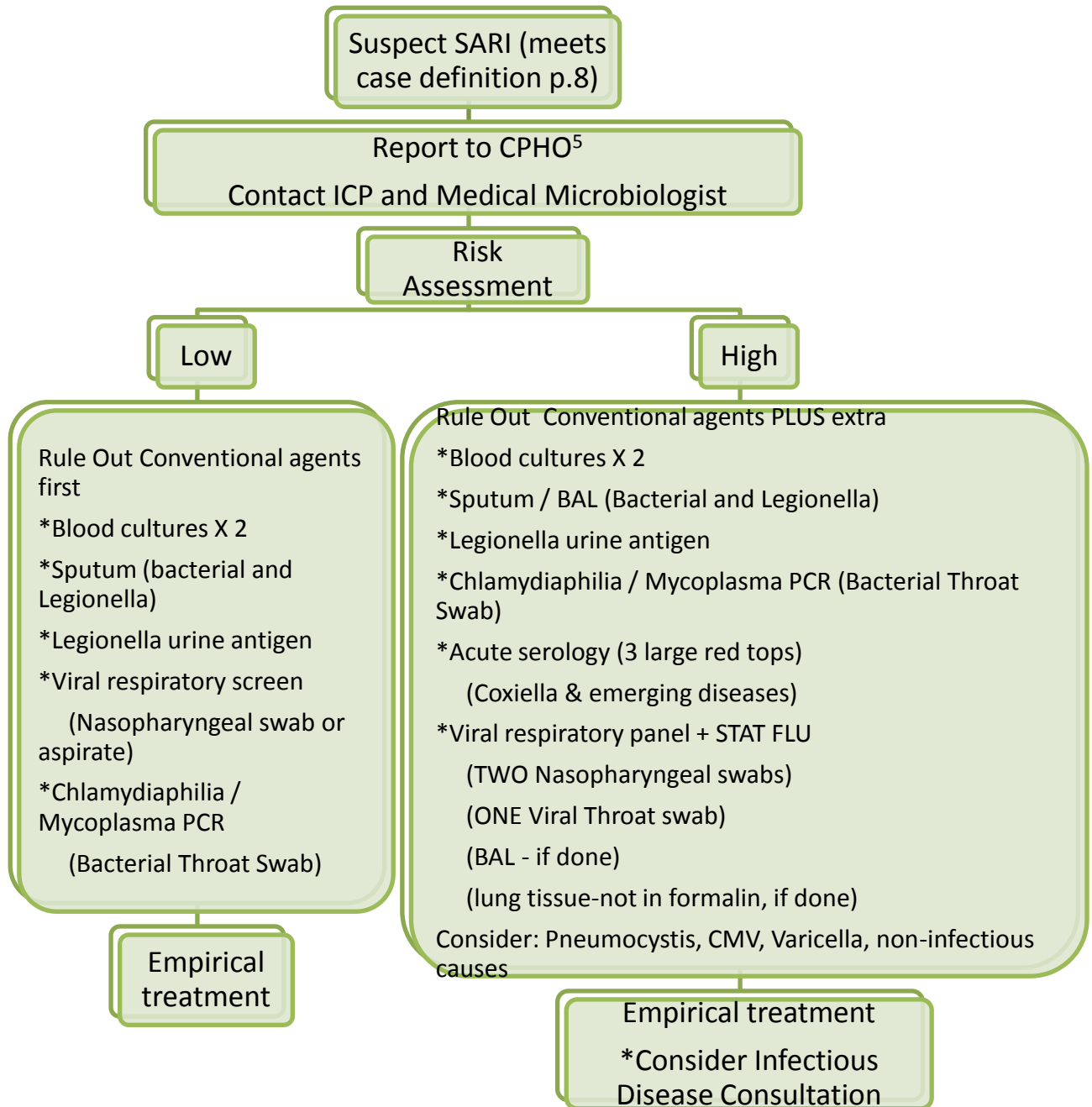
³ Procedures that can generate aerosols including: intubation, manual ventilation, open endotracheal suctioning, cardiopulmonary resuscitation, sputum induction, nebulization, surgery, non-invasive positive pressure ventilation (CPAP, BiPAP) and autopsy.



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Laboratory Information⁴

- **Think** about the possibility of an emerging respiratory infection, e.g. novel influenza virus
- **Tell** the Chief Public Health Office⁵
- **Test** for pathogen only after appropriate consultation and based on clinical symptoms



⁴ Above algorithm was adapted from Canadian Public Health Laboratory Network. Full document can be accessed at: <http://www.phac-aspc.gc.ca/eri-ire/proto-sari-iras-eng.php>.

⁵ Chief Public Health Office: 368-4996 or fax: 620-3354 or after hours on-call number: 629-9624

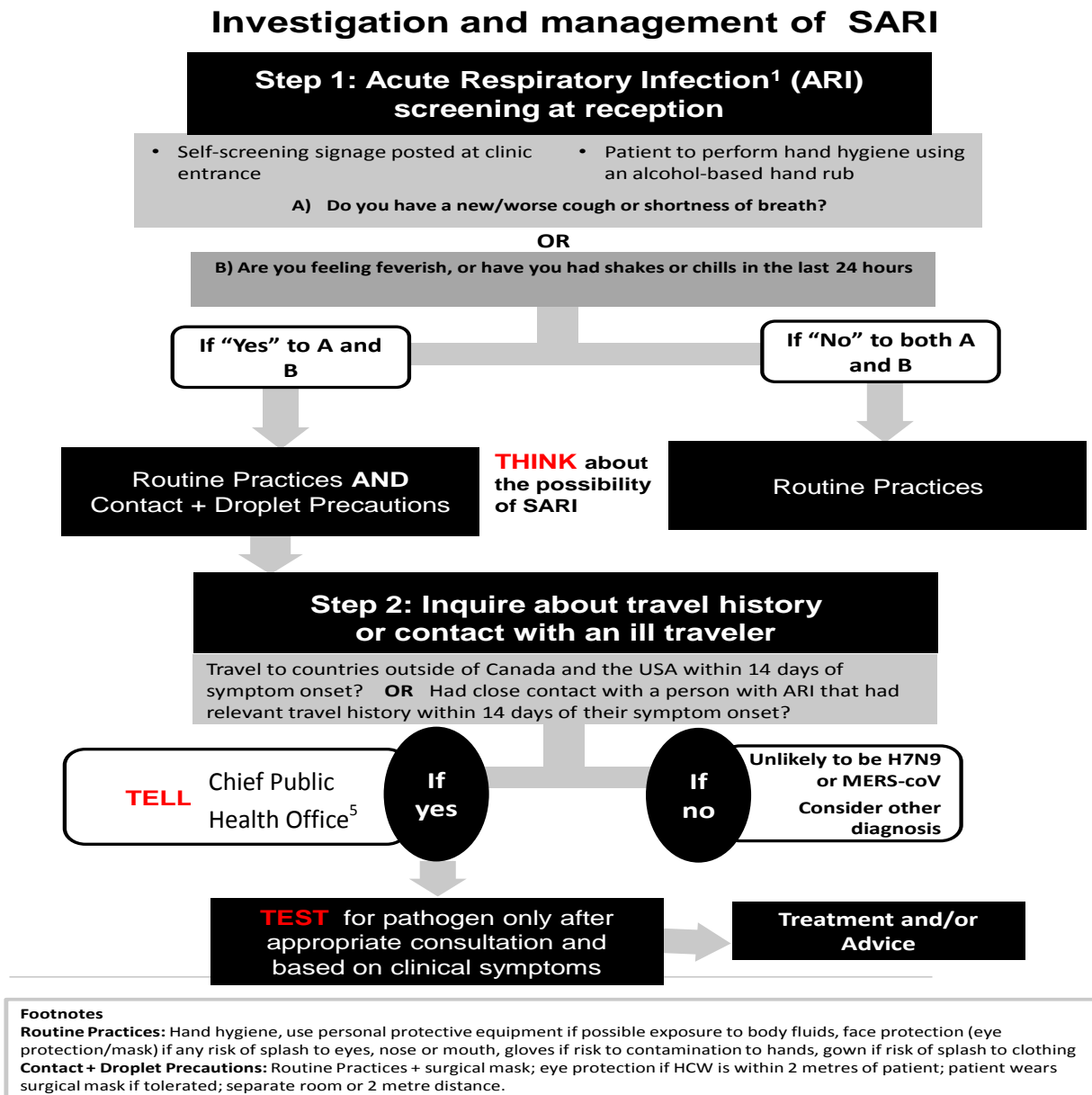


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Health Care Algorithm

Front-line staff are asked to continue to use the **Febrile Respiratory Screening Tool** at triage as per usual practice.

If a patient is admitted to **Intensive Care** please use the following algorithm for SARI screening:



⁵ Chief Public Health Office: 368-4996 or fax: 620-3354 or after hours on-call number: 629-9624



Severe Acute Respiratory Infection (SARI) Guidelines

Case Definition⁷

The provincial case definition for SARI is applicable to any person meeting **all of the following four criteria (I, II, III, and IV)**:

I. Respiratory symptoms

- Fever (≥ 38.0 degrees Celsius)¹ **AND**
- New onset of (or exacerbation of chronic) cough or breathing difficulty

AND

II. Evidence of illness progression

- Either radiographic evidence of infiltrates consistent with pneumonia, or a diagnosis of acute respiratory syndrome (ARDS) or severe ILI²

AND

III. ICU/ventilation

- Admission to intensive care unit or other area of facility where critically ill patients are cared for **OR** mechanically ventilated

AND

IV. No alternative diagnosis within the first 96 hours of facility-stay

- Results of preliminary clinical and/or laboratory investigations, within the first 96 hours, cannot ascertain a diagnosis that reasonably explains the illness

For Chief Coroner's Office use ONLY: SARI following autopsy

A deceased person with the following:

I. History of respiratory symptoms

- History of unexplained acute respiratory illness with fever and cough (or exacerbation of chronic cough or breathing difficulty) resulting in death

AND

II. Autopsy performed with findings consistent with SARI

- Autopsy findings consistent with the pathology of ARDS without an identifiable cause

AND

III. No alternate diagnosis that reasonably explains the illness

¹As per the influenza-like illness (ILI) definition, fever may not be prominent in patients under 5 years or 65 years older as well as in immuno-suppressed individuals. Failure to take temperature should not rule out a history of self-reported fever. Clinical judgment should always prevail with regard to these groups.

²Severe ILI: In addition to the symptoms of ILI, severe ILI may include complications such as encephalitis, myocarditis or other severe and life-threatening complications

³Close contact is defined as: Anyone who provided care of the patient, including a health care worker or family member, or who had other similarly close physical contact; anyone who stayed at the same place (e.g. lived with, visited) as a probable or confirmed case while case was ill.

⁷Case definition was adapted from the Public Health Agency.

