



18. SEVERE RESPIRATORY ILLNESS (SRI)

A severe respiratory illness is defined as a respiratory infection causing severe illness with no alternative diagnosis. SRIs have potential for rapid spread, increased morbidity and mortality, and can lead to large-scale epidemics and pandemics. Severe respiratory illness is a term used to refer to acute respiratory infections of significant public health importance, including infections caused by either emergence of new variants of known respiratory pathogens (e.g., novel influenza viruses) or emergence of as yet unknown pathogens.

Cause/Epidemiology

The causative organism of an SRI may be not yet identified or easily established. A heightened index of suspicion for emerging infectious respiratory diseases includes global surveillance/screening and clinical presentation of individuals with the following exposure risk factors:

- Travel to affected areas within the suspected incubation period prior to the onset of symptoms
- Close contact with an ill person who has traveled to affected areas within the suspected incubation period prior to the onset of symptoms
- Occupational exposure involving **direct** healthcare, laboratory, or animal exposure

Clinical Presentation

SRIs tend to be rapidly progressive respiratory illnesses. All three of the following criteria must be present to be considered a SRI:

A person admitted to hospital with:

1. Respiratory symptoms: i.e., Fever* (over 38°C) AND new onset of (or exacerbation of chronic) cough OR breathing difficulty.

*Note: fever may not be prominent in patients under 5 years or 65 years and older as well as immunosuppressed individuals. Failure to take temperature should not rule out a history of self-reported fever.

2. Admission to ICU/other area of the hospital where critically ill patients are cared for OR mechanical ventilation with evidence of severe illness progression
3. No alternate diagnosis within the first 72 hours of hospitalization: i.e., Results of preliminary clinical and/or laboratory investigations cannot ascertain a diagnosis that reasonably explains the illness.

Incubation Period

The incubation period for severe respiratory infections is dependent on the causative organism. If exposure to an unidentified SRI organism is suspected, monitor for signs and symptoms of SRI for the suspected incubation period.

Transmission

The route of transmission of an SRI is dependant on the causative organism. Where the causative organism is emerging and therefore not fully understood, the route is assumed to be Airborne and Droplet/Contact until known to be otherwise.



Infection Prevention and Control Practices

- Implement Airborne and Droplet/Contact Precautions for a patient with Severe Respiratory Infection
- Notify Infection Prevention and Control (IP&C) immediately
- Refer to the Clinical Presentation/Microorganism/Infectious Disease Table for specific information
- Patients, visitors and Health Care Workers (HCWs) shall follow Respiratory Etiquette as outlined in Routine Practices (section 4.9)
- Refer to Airborne and Droplet/Contact Precautions in the Additional Precautions section
 - All personnel in the room must wear appropriate Personal Protective Equipment (PPE)
 - N95 fit tested respirator
 - Fit-test for healthcare workers as directed by Occupational and Environmental Safety and Health (OESH)
 - Seal check prior to each use
 - Wear once and change
 - When wet
 - If the front of the N95 respirator has been touched, and/or
 - When contaminated
 - N95 respirators shall never dangle around the neck
 - Eye protection
 - Gloves
 - Long sleeved gown
 - Inform appropriate individuals according to WRHA Outbreak Operational Directive.
 - Ensure appropriate lab samples are obtained
 - Discard contaminated disposable equipment
 - Discontinue Additional Precautions in consultation with IP&C
 - Clean/disinfect contaminated re-usable equipment, toys and items before leaving the room

Administrative Controls

- Have most experienced personnel perform the Aerosol Generating Medical Procedures (AGMP)
- Post signage indicating required Infection Prevention and Control precautions
- Keep the number of people in the room to a minimum
- Conduct procedures in a controlled non-emergent manner where possible e.g., elective intubation
- Sedate patient if intubation is required
- Ensure adequate equipment/supplies in the room

Engineering Controls

- An Airborne Infection Isolation Room (AIIR) is required when caring for a patient with an SRI. If an AIIR is not available:
 - The patient should be temporarily housed in a single room with the doors and windows closed, away from high risk patients.
 - Maximize available air changes



- Patients should be transferred as soon as medically feasible to a facility with an AIIR if available.
- Clear all non-essential people from the room
- Remove unnecessary supplies
- Perform AGMPs in an Airborne Infection Isolation Room (AIIR), if available

Patients Presenting with Respiratory Symptoms

Patients presenting with respiratory symptoms should be instructed to:

- Perform hand hygiene
- Follow Respiratory Etiquette
- Put on a procedure or surgical mask
- Be seated 2 metres from other individuals. If this is not possible, immediately place patient in an exam room if available.

Outbreak Situations - Additional Measures

The following measures may be implemented depending on the extent of the outbreak:

- Post signs at all entrances informing patients, family members, visitors, volunteers, and staff regarding respiratory etiquette, hand hygiene, and the need for immediate reporting of symptoms of a respiratory infection.
 - Respiratory etiquette and hand hygiene signs are available in the WRHA IP&C Manual, link: <http://home.wrha.mb.ca/prog/ipc/manual.php>
- Passive screening: ask patients to immediately report fever and any new or worsening respiratory symptoms
- Active screening: identify patients and visitors with respiratory symptoms and relevant travel or work history or history of contacts with respiratory symptoms
- Expedited triage to screen patients and visitors with respiratory symptoms and fever
- Mask patients presenting with respiratory symptoms with procedure or surgical mask
- Mask symptomatic visitors or individuals accompanying a symptomatic patient with procedure or surgical mask
- Separate pre-triage waiting area for patients and visitors with respiratory symptoms and fever whenever possible
 - Visitors should be informed when the facility has a severe respiratory infection outbreak
 - Visitors should observe respiratory etiquette while in the facility
 - All visitors shall perform hand hygiene on entry and exit of the isolation room/bed space and when otherwise appropriate while in the facility
 - Visitors shall be offered the same PPE that HCWs are wearing. Instruct visitors about the appropriate use of PPE and hand hygiene.
 - Visitors should be restricted to 1 patient only to prevent inadvertent severe respiratory infection transmission to other patients.
 - Parents or guardians must ensure children adhere to hygiene practices, and respiratory etiquette.
 - When asymptomatic parents/guardians visit their symptomatic child/children, they should be informed of the:
 - Need for hand hygiene.
 - Choice to use PPE while in the patient's room.
 - Potential inability to visit their child, should the parent/guardian develop symptoms.
 - Restrictions to visit other patients if the parent/guardian chooses not to wear PPE.



- Note: Visitor restrictions may change on a case-by-case basis.

Aerosol Generating Medical Procedures/Events (AGMP)

- Perform a risk assessment based on professional judgment about the procedure and current information to determine the appropriate administrative controls, environmental controls, and personal protective equipment. Refer to Pandemic Response Plan Chapter 5 Infection Prevention and Control Point of Care Risk Assessment (Appendix 5.7)
http://home.wrha.mb.ca/influenza/pandemicplan/files/PandemicPlan_Chapter05.pdf
 - Whenever possible, ensure aerosol generating medical procedures are conducted in a controlled setting. This requires early recognition of patients who may require high-risk interventions (e.g., intubation, bronchoscopy) in order to avoid emergency situations.
 - Perform these procedures in an Airborne Infection Isolation Room (AIIR)
 - If this is not possible, perform the procedures in a single room.
 - If a single room is not available, a minimum of 2 metres separation with privacy curtains should be used.
 - All personnel in the room must wear PPE (e.g., gowns, gloves, N95 respirators, and eye protection).
 - Do not delay urgent procedures waiting for an Airborne Infection Isolation Room.
- For a list of AGMPs refer to the Pandemic Response Plan Chapter 5 Infection Prevention and Control Glossary: Aerosol Generating Medical Procedures (AGMP)
http://home.wrha.mb.ca/influenza/pandemicplan/files/PandemicPlan_Chapter05.pdf.

Powered Air Purified Respirator Systems

- There is no evidence to support the need for enhanced respiratory PPE such as the powered air purified respirator system (PAPRS) during the care of patients with an SRI. As such, these devices, which may increase the risk of self-contamination during their removal, disposal, cleaning and decontamination, are not recommended.

Occupational and Environmental Safety and Health (OESH)

Using the appropriate Infection Prevention and Control precautions can minimize transmission of respiratory microorganisms. Ensuring HCWs wear the appropriate PPE is an important part of these precautions. The employer has a responsibility to provide workers with the appropriate PPE and training on its appropriate use. They also have a responsibility to ensure compliance with recommendations. HCWs are responsible to wear the PPE and to comply with facility policies and procedures.

Definition of Occupational Exposure:

A healthcare worker who has had direct or indirect contact with an infectious person during the period of communicability (will vary depending on organism involved and method of transmission).

If the healthcare worker wore appropriate PPE, the healthcare worker is not considered exposed.

A Healthcare Worker Exposed to an SRI

- Exposed healthcare workers shall contact Occupational Health for clinical management
- Work restriction and quarantine may be required for a period as determined by Public Health



A Healthcare Worker Symptomatic or Infected with an SRI

- Infected healthcare workers shall contact Occupational Health for clinical management
- Obtain physician confirmed diagnosis
- Inform Infection Prevention & Control immediately if suspected or confirmed case
- Healthcare workers shall be excluded from work dependant on the organism involved and as new information emerges.
- Work restriction and quarantine may be required for a period as determined by OESH in consultation with Public Health, Infectious Diseases and Infection Prevention and Control.



References

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