Introduction

Airborne transmission refers to dissemination of microorganisms by aerosolization. Organisms are contained in droplet nuclei (5μm or smaller in size) which result from evaporation of large droplets or in dust particles containing skin cells that can remain suspended in the air and be widely dispersed by air currents within a room or over a long distance.

Policy

In addition to Routine Practices, use Airborne Precautions for clients known or suspected to be infected with microorganisms transmitted by the airborne route as outlined in the Infection Prevention and Control Manual Reference Table: Precautions by Etiology or Clinical Presentation (i.e., chicken pox, measles, tuberculosis).

Purpose

1. To protect the clients, visitors and hospital staff by preventing and controlling the spread of infectious disease throughout the facility by identifying and interrupting the specific route of transmission.

Procedure

1. Client Placement

   • Place the client in an Airborne Infection Isolation Room (AIIR) which is a room that has an anteroom, monitored negative air pressure in relation to the surrounding areas with appropriate discharge of air outdoors or if not available place them in a private room with monitored high-efficiency filtration of room air before recirculation to other areas. See Appendix B.

AIIR rooms:

   • Royal University Hospital: Designated AIIR are on unit 6200-#6205 and #6207; PICU-#4 and #5; ICU #9.
   • St. Paul’s Hospital Designated AIIR are #409, #614-6, # 543, ICU#14 and ER#2.
- Keep door closed at all times to maintain negative pressure.
- If an AIIR room is not available call your site ICP (Monday to Friday 8 am to 4:30 pm) or the ID on call (call switchboard and have them paged) to determine action.
  - Using the algorithm in Appendix A an assessment can be made to determine if another client who is less risk is in an AIIR, move them to an appropriate alternate room and put the higher risk client in the AIIR.
  - If this is not possible place the client in a private room with the door closed.

- Post Airborne Precautions sign (SHR Printing Services #102105).
- Isolation supplies must be located outside the room. The location of the dedicated station must be placed away from possible sources of contamination such as sinks and sharps containers.
- The dedicated PPE station such as a supply cart needs to be properly stocked. Supplies should include:
  - Alcohol-based hand rub (ABHR)
  - Gloves (3 sizes)
  - N95 respirator (several sizes)
  - Hospital grade disinfectant

- Inside the room –
  - Waste basket
  - Dirty linen hamper
- Attach Airborne Precaution label to chart cover (available from your site ICP).

2. Masks

- High filtration respirators (i.e., N95 particulate respirators) are to be worn for all who enter the room.
- Refer to policies 40-20 Chickenpox (Varicella), 40-100 Measles (Rubeola), and 40-175 Tuberculosis Management Program in the IP&C P&P Manual
- Family and friends: in conversation with family, assess risk of exposure. All people who enter the room need to wear high filtration respirator. Since they will not be fitted, assess proper fit by performing a seal test with them prior to entering the room

3. Client Transport

- Notify receiving department that Airborne Precautions are required.
- Client should wear a regular mask during transport. If the client is unable to tolerate a regular mask, accompanying staff must wear a special high filtration respirator (i.e., N95 particulate respirator). Exception: Refer to the policy 40-20 Chickenpox (Varicella) in the IP&C P&P Manual.
- Transportation of the client to other departments should be limited to essential procedures only.

4. Visitor Restrictions

- Instruct visitors regarding the proper application of the special high filtration respirators.
- Visitors should be kept to a minimum.
- Refer to policies 40-20 Chickenpox (Varicella), 40-100 Measles (Rubeola), and 40-175 Tuberculosis Management Program in the IP&C P&P Manual
5. Client and family teaching

- Clients should understand the nature of their infectious disease and the precautions being used, as well as the prevention of transmission of disease to other clients, family and friends during their hospital stay and upon their return to the community. See section 2 – Masks for further information.

6. Environmental Cleaning

- Interim cleaning of rooms is performed in the same manner as for all clients while wearing high filtration respirator for Airborne Precautions.
- Following discharge or discontinuation of precautions:
  - Airborne Precaution sign should remain in place until precautions discharge cleaning is completed and adequate time has passed for the room to remove the contaminants in the air. The time required for this is dependent on the number of air changes in that room (Refer to Appendix B). Contact the facilities department for more detailed information about air changes if needed.
  - Precautions discharge cleaning is performed for all clients.
  - Wear high filtration respirator for Airborne Precautions when entering the room where a client has been on Airborne Precautions. See Appendix B for details about time required for removal of contaminants from the air.

7. Aerosol Generating Medical Procedures (AGMP)

- Refers to procedures that generate aerosols as a result of artificial manipulation of a person’s airway. Procedures include: intubation and related procedures (i.e., manual ventilation, open endotracheal suctioning), cardiopulmonary resuscitation, nebulized therapy, surgery and autopsy, non-invasive positive pressure ventilation (i.e., CPAP, BiPAP)
  
  a) AGMPs should not be performed on client’s with confirmed or suspected cases of SARS, TB or other emerging respiratory infections unless medically necessary.
  b) Healthcare workers should wear respirators and a full face shield to provide eye protection when performing or assisting with AGMPs on clients listed in point (a).
  c) Implementing strategies to reduce aerosol generation when performing AGMPs on clients with signs and symptoms of suspected or confirmed Tuberculosis (TB), SARS or other emerging respiratory infections.
  d) Number of healthcare workers present should be limited to only those essential for client care and support.
  e) Droplet and Contact Precautions in addition to Routine Practices should be used when performing AGMPs on client’s with seasonal influenza.
  f) Routine Practices are required for AGMPs on other client’s.

* Information handouts, Fact Sheets and signage are available from SHR Printing Services.

References


5. [Release notes -- TB Clinical Guidelines Revision Highlights 2014-Mar](#)
Client A needs Airborne Infection Isolation Room (AIIR)

Is there an AIIR available at site A?

Yes → Place client A in AIIR.

No → Is there an AIIR available at sites B or C?

Yes → Transfer client A to site B or C where AIIR is available.

No → Do the clients who are currently in the AIIRs need airborne precautions?

Yes → Is there a private room that has an anteroom available at site A?

Yes → Place client A in the room that has an anteroom. Place AeroMed 700P in room with patient. Keep all doors closed at all time.

No → Place client A in regular private room. Place AeroMed 700P in room with patient. Keep all doors closed at all time.

No → Keep all doors closed at all time.

Inform ICP at the site of placement during week day work hours or leave a message after hours and on weekends.

No → Bed availability reassessment

Place client A in AIIR.

Terminally clean the AIIR.

Transfer the client who does not need AIIR to a room that meets IP&C measures.

Legend:
AIIR - Airborne Infection Isolation Room
Oval – End of process/Terminator
Rectangle – Action
Diamond – Decision making
## Appendix B: Airborne Infection Isolation Room (AIIR) Details

<table>
<thead>
<tr>
<th>Site</th>
<th>Room Number</th>
<th>Negative Pressure (AIIR)</th>
<th>Meets Current CSA Standard</th>
<th>Aero Med 700P (Air Purifier)</th>
<th>Minimum Total Air Changes per Hour (ACH)</th>
<th>MINUTES (Minimum) required for 99.9% removal of contaminants</th>
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<tbody>
<tr>
<td>Royal University Hospital</td>
<td>6205</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>7.5</td>
<td>60</td>
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<td></td>
<td>6207</td>
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<td>No</td>
<td>Yes</td>
<td>7.6</td>
<td>60</td>
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<td></td>
<td>ICU - Bed 12</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
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<td>120</td>
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<td></td>
<td>Bronchoscopy Suite 5720 1955 Building</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>20</td>
<td>21</td>
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<td>RUH ED located on JPCH ground floor</td>
<td>Adult ED G410</td>
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<td>Yes</td>
<td>No</td>
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<td>Adult ED G411</td>
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<td>Yes</td>
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<td>Trauma G504</td>
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<td>Jim Pattison Children’s Hospital</td>
<td>CES G619</td>
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<td>Yes</td>
<td>No</td>
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<td></td>
<td>POPD M310</td>
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<td>PIPD 2301</td>
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<td>PIPD 2305</td>
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<td>PICU/HAU 2115</td>
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<td>PICU/HAU 2119</td>
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<td>PICU/HAU 2125</td>
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<td>PICU/HAU 2129</td>
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<td></td>
<td>Maternal 3453</td>
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<td>NICU 4314</td>
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<td>St. Paul’s Hospital</td>
<td>409</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>19</td>
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<td>543</td>
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<td>614 - Bed 6</td>
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<td>Yes</td>
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<td>No</td>
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<td>ER - Bed 2</td>
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<td>Yes</td>
<td>No</td>
<td>32</td>
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<td>ER - Other</td>
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<td>N/A</td>
<td>Yes (2)</td>
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<td>Not available</td>
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<td></td>
<td>Day Surgery 2nd floor A-Wing</td>
<td>No</td>
<td>N/A</td>
<td>Yes (1) with bronchoscopies</td>
<td>Not available</td>
<td>Not available</td>
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<td>Plasmaphoresis Room</td>
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<td>Saskatoon City Hospital</td>
<td>Treatment Centre 3823</td>
<td>No*</td>
<td>Yes</td>
<td>Yes (re-deployed to SCH ER)</td>
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<td>Humboldt District Hospital</td>
<td>G-33</td>
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<td>Watrous Hospital</td>
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<td>No</td>
<td>N/A</td>
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</tbody>
</table>

**NOTE:** If no AIIR is available and the client is in a private room, staff need to wear appropriate protection (i.e., N95 Respirator) for at least 2 hours after the client has left the room.

*Can be re-instated by Facilities Management if given 2 weeks’ notice.

Revised: June 4, 2020