Practice Education Guidelines for BC Respiratory Protection

July 2021

Intent / Purpose

- Minimize exposures and risks to public/private Post-Secondary Institutions’ (PSI) Students and Educators from airborne contaminants while in a practice education setting.
- Identify the expectations for respiratory protection by Students and Educators based on the definition of 'worker' in Workers Compensation Act.¹
- Outline the responsibilities of the PSIs and Health Care Organizations (HCOs) related to respiratory protection and education.

Definitions

Also refer to: Standard Terms and Abbreviations

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**Aerosol-Generating Medical Procedure/Test**²,³

Any medical procedure or test that can cause small droplet nuclei to be produced in high concentrations creating a risk for airborne transmission of pathogens not otherwise able to spread by the airborne route. Examples: non-invasive positive pressure ventilation (BIPAP, CPAP); high flow oxygen therapy; endotracheal intubation/extubation; airway suctioning; ventilation; tracheostomy care; chest physiotherapy; aerosolized or nebulized medication administration; bronchoscopy; laryngoscopy; sputum induction; pulmonary function testing, spirometry; autopsy of lung tissue

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**Airborne contaminants**

Breathing hazards including particulates (dusts, fibres, fumes, and biological contaminants), gas and vapor contaminants, low oxygen settings, and a combination of any of these. Biological contaminants include bacteria (such as *Mycobacteria tuberculosis*), viruses (such as rubeola, varicella, disseminated herpes zoster, hantavirus), fungi (such as mold, *Histoplasma*), plant and animal materials (such as grain dust, spores, and dander)⁴

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**Airborne Transmission**

"Transmission of pathogens by inhaling infectious aerosols (solid or liquid particles in the air). This can occur when an infected person coughs, sneezes, or talks; or during some medical procedures that generate aerosols."⁵

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**Droplet Transmission**

"Transmission that occurs when droplets containing a pathogen are propelled a short distance through the air and deposited on mucous membranes such as the eyes, nose, or mouth."⁶

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Page 1 of 11
**Practice Education Guidelines for BC Respiratory Protection**

<table>
<thead>
<tr>
<th>Exposure – Communicable Disease</th>
<th>Direct or indirect contact with a person who has an unknown, suspected, or known infection with a communicable disease. Can occur through (but not limited to) percutaneous, permucosal, dermal, respiratory, or digestive route.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fit Test</strong></td>
<td>&quot;The use of a quantitative or qualitative method to evaluate the fit of a particular model, make and size of respirator on an individual&quot; [CSA Standard CAN/CSA-Z94.4-02, Selection, Use, and Care of Respirators] in order to ensure a tight fit around the face.</td>
</tr>
<tr>
<td><strong>Respirator</strong></td>
<td>&quot;a protective device that covers the worker’s nose and mouth or the entire face and head to keep airborne contaminants out of the worker’s respiratory system and provide a safe air supply&quot;</td>
</tr>
<tr>
<td><strong>Risk, Levels of (related to exposure)</strong></td>
<td>Low risk … workers who rarely come into contact with potentially infected people or materials. Moderate risk … workers who rarely come into contact with infected people, but who may work in areas where infected people have been, or who handle potentially contaminated items (indirect contact). High risk … workers who work directly with people who are or may be infected.</td>
</tr>
</tbody>
</table>
| **Risk Activities (related to tuberculosis)** | Activities performed by health care workers that put them at risk for exposure to tuberculosis (TB)  
**High-risk activities:**  
- Cough-inducing procedures (such as sputum induction)  
- Autopsy  
- Morbid anatomy and pathology examination  
- Bronchoscopy  
- Mycobacteriology laboratory procedures, especially handling cultures of *M. tuberculosis*  
**Intermediate-risk activities:**  
- Work requiring regular direct patient contact on units (such as emergency departments) where patients with respiratory TB disease may be present (includes work done by all health care workers)  
- Work in pediatric units where patients with TB may be admitted  
- Cleaning of rooms of patients with respiratory TB disease  
**Low-risk activities:**  
- Work requiring minimal patient contact (such as clerical, reception and administration)  
- Work on units where patients with respiratory TB disease are unlikely to be present |

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Practice Education Guidelines for BC Respiratory Protection

<table>
<thead>
<tr>
<th>Risk Facilities (related to tuberculosis)¹⁴</th>
<th>Health care settings considered low risk for TB:</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>- Hospitals &lt; 200 beds and &lt; 3 active TB cases annually</td>
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<tr>
<td></td>
<td>- Hospitals ≥ 200 beds and &lt; 6 active TB cases annually</td>
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<tr>
<td></td>
<td>- Long-term care facilities including homes for the aged, nursing homes, chronic care facilities, hospices, retirement homes, designated assisted living centres and any other collective living centre and &lt; 3 active TB cases annually</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health care settings not considered low risk for TB:</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Hospitals &lt; 200 beds and ≥ 3 active TB cases annually</td>
</tr>
<tr>
<td>- Hospitals ≥ 200 beds and ≥ 6 active TB cases annually</td>
</tr>
<tr>
<td>- Long-term care facilities (as listed above) and ≥ 3 active TB cases annually</td>
</tr>
<tr>
<td>- Infirmaries in correctional facilities and ≥ 3 active TB cases annually</td>
</tr>
</tbody>
</table>

Practice Education Guidelines

HCOs have control measures in place to eliminate or, if that is not possible, minimize the risk of exposure to airborne contaminants and airborne or droplet transmission of disease in the practice education setting such as an occupational health and safety program¹⁵ and infection prevention and control practices and precautions¹⁶.

All PSI Students and Educators who conduct tasks or activities that could reasonably be anticipated to result in exposure to airborne contaminants during the course of the practice education experience are expected to use appropriate and properly fitted air-purifying respirators according to WorkSafeBC Occupational Health & Safety Regulations:

- **Part 5 Chemical Agents & Biological Agents, Controlling Exposure 5.48 – 5.59¹⁷**
- **Part 8 Personal Protective Clothing & Equipment, Respirators 8.32 – 8.44**

  "8.40 (2.1) A fit test must be carried out
(a) before initial use of a respirator,
(b) at least once a year,
(c) whenever there is a change in respirator facepiece, including the brand, model, and size, and
(d) whenever changes to the user's physical condition could affect the respirator fit."¹⁸


The use of an approved respirator should only be considered if there is no other way for Students to achieve their learning goals.

PSI Students and Educators who are required to wear a type of respirator as personal protective equipment in the practice education setting will:
- have a valid fit test within the timeframe required by WorkSafeBC for the brand, model, and size of respirator(s) supplied
- only use the respirator for which they have been fit-tested

PSI Students and Educators who have not been fit-tested might:
- be limited in the number and types of practice education experiences available
- be limited in the types of activities they can carry out
- have their practice education experience modified should a communicable disease outbreak occur that requires a tight-fitting respirator (see PEG Communicable Disease Outbreaks)

In any of these circumstances, a PSI Student or Educator is not allowed to directly observe or take part in aerosol-generating medical procedures and other high risk tasks or activities requiring a type of respirator:
- not been fit-tested within the timeframe required by WorkSafeBC
- failed fit-testing
- do not have proof of valid fit-testing immediately available
- failed user seal check (fit check)
- the brand, model, and size fit-tested for is not immediately available

In the event of a public health emergency where there is an imminent shortage of respirators within an HCO and/or an inability to conduct fit-testing, PSIs follow the direction set by the Ministry of Health, the Provincial Medical Health Officer, and the BC Centre for Disease Control.\textsuperscript{19,20}

Roles, Responsibilities and Expectations

Post-Secondary Institutions

- Identify education programs where the potential for respiratory exposure to airborne contaminants is likely or high and respiratory protection might be necessary in order for the Students to achieve their learning goals.

- Ensure prospective Students and Educators are aware of the HCO requirements for respiratory protection.

- Establish a process for how Students and Educators will obtain fit-testing.

- Provide education to all Students and Educators on the correct use of, limits of, and disposal of personal protective equipment including respirators based on WorkSafeBC Occupational Health & Safety Regulations.

- Maintain records of the Students' and Educators' initial and subsequent fit tests, as well as the instruction provided.

- For Students and/or Educators who do not have a valid fit-test, restrict them from directly observing or carrying out any aerosol generating medical procedures and other high risk tasks or activities within the practice education setting where a respirator is required.

- Confirm fit-testing status of Students and Educators to HCOs.

- When a Student or Educator cannot meet the requirements for respiratory protection for any reason and the tasks or activities are essential to achieving the learning goals, collaborate with the HCO to identify other ways to help the Student achieve the learning goals such as alternative activities, other practice education settings, and/or simulated learning environments.

- Contact the HCO Practice Education Coordinator when there is a question or concern surrounding respiratory protection within the HCO.

- Contact the WorkSafeBC Health & Safety Prevention Information Line when there are general questions about workplace health and safety.
Students / PSI Educators

- Receive fit-testing through the PSI on brand(s) and model(s) commonly used in the HCO(s).
- Complete fit-testing according to the timeframe required by WorkSafeBC and more often as needed (such as when physical changes or medical conditions could affect their ability to wear the respirator).  
- Ensure fit-testing is completed before the start of the practice education experience where respiratory protection is required.
- Carry proof of fit-testing results (valid fit-test) at all times while in the practice education setting that details the fit-test date, fit-test pass (or fail), and the respirator brand(s), model(s), and size.
- Present proof of valid fit-test to the PSI, as well as the HCO when requested.
- Demonstrate the correct way to put on and take off personal protective equipment, including the respirator, before observing or taking part in activities requiring respirator protection.
- Only wear the respirator brand(s), model(s), and size fit-tested for.
- Only take part in those tasks or activities where respiratory protection is required when the task or activity is essential to achieving the learning goals and cannot be obtained in any other way.
- Only wear respiratory protection in the practice education setting where it is required.
- Put on/use/remove the respirator in the manner approved by the manufacturer of the respirator and/or the HCO.
- Do not directly observe or carry out any tasks or activities requiring a tight-fitting facepiece respirator if:
  - not fit-tested within the timeframe required by WorkSafeBC
  - failed fit-testing
  - proof of valid fit-testing not immediately available
  - failed user seal check (fit check)
  - the brand, model, and size fit-tested for not immediately available

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22 Ibid. Pg. 71-73.
Practice Education Guidelines for BC Respiratory Protection

- When the requirements for respiratory protection are not met and the tasks or activities are essential to achieving the learning goals, discuss with the PSI and HCO other ways to achieve the learning goals such as other activities, practice education settings, and/or simulated learning environments.

- Inform the HCO Supervisor or HCO Worker in charge of the area if faced with a situation where a respirator is required and not been fit-tested, or the respirator model fit-tested on is not stocked within the practice education setting.

- Leave the area when the effectiveness of the respiratory protection within the practice education setting is uncertain or questionable, then report the concerns immediately to the HCO Supervisor/PSI Educator or the HCO Worker in charge of the area.

- Comply with HCO and PSI policies, protocols, and/or procedures for personal protective precautions.

Health Care Organizations

- Identify settings, occupations, and activities where respiratory hazards could reasonably be anticipated to result in exposure to airborne contaminants (see Appendix A: Examples Where Respiratory Protection Might Be Required).

- Establish and communicate policies, standards, guidelines, and protocols that are aimed at minimizing the risks associated with known airborne contaminant hazards.

- Include references to PSI Students/Educators within the HCO Respiratory Protection Program.

- Communicate respiratory protection requirements to the PSIs including:
  - a list of settings, occupations, and/or activities requiring respiratory protection
  - the current brands, models, and sizes of respirators stocked

- Report to the PSIs any changes in the respirator brand, model, or size in a timely manner.

- Make sure there is an appropriate supply of respirators in the practice education setting for Students and Educators.

- When a Student or Educator cannot meet the requirements for respiratory protection for any reason and the tasks or activities are essential to achieving the learning goals, collaborate with the PSI to identify other ways to help the Student achieve the learning goals such as alternative activities, other practice education settings, and/or simulated learning environments.
References and Resources


## Guideline Review History

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>People Responsible</th>
<th>Brief Description (reason for change)</th>
</tr>
</thead>
</table>
| 1       | February 2007 | Authors/Editors: Carol A. Wilson (BCAHC), Barb Collingwood (BCAHC)  
Reviewers: Practice Education Committee of the BC Academic Health Council (Grace Mickelson, Chair) |                                                                                                        |
| 2       | February 2013 | Editors: Heather Straight (VCHA)  
Debbie McDougall (BCAHC)                                                   | Revised to new template  
WorkSafeBC Regulations confirmed /updated  
Roles/responsibilities updated  
Appendix B: HA Respirator Brands/models and education supports deleted  
References updated                                                                 |
| 3       | March 2021   | Editor: Carol A. Wilson (PHSA)  
Reviewers: Judy Lee (KPU)  
BJ Gdanski (PHSA)  
Ministry of Health (Allied Health Policy Secretariat and Nursing Policy Secretariat)  
Ministry of Advanced Education, Skills and Training (Health Education Reference Committee)  
Health Authority Practice Education Committee | References updated  
WorkSafeBC Regulations confirmed  
Complete revision to remove all information duplicated from the WorkSafeBC Occupational Health & Safety Regulations, Policies, and Guidelines  
Appendix A: Updated and referenced  
Updated to be consistent with latest BC Health Authorities DRAFT Policy "Provincial Standard for Respiratory Protection When Caring for Patients on Airborne Precautions"  
Updated to latest BCCDC policies and relevant resources from COVID-19 pandemic |

19 February 2022
Appendix A

Examples Where Respiratory Protection Might Be Required

The use of an approved respirator should only be considered if there is no other way for Students to achieve their learning goals.

Examples of settings*, occupations*, and activities where biological contaminants and other breathing hazards might be encountered:

<table>
<thead>
<tr>
<th>Sample High Risk Settings</th>
<th>Sample High Risk Occupations</th>
<th>Sample High Risk Activities24, 25, 26</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emergency</td>
<td>Physician</td>
<td>Contact with Clients on airborne precautions, has a confirmed contagious, airborne disease, or suspected of having a respiratory illness</td>
</tr>
<tr>
<td>Intensive Care Unit</td>
<td>Nurse (all categories)</td>
<td>Cleaning rooms, areas, or equipment where an airborne contaminant is confirmed or likely to be present</td>
</tr>
<tr>
<td>Any Nursing Unit with Negative Pressure</td>
<td>Respiratory Therapist</td>
<td>Any aerosol generating procedure or test:</td>
</tr>
<tr>
<td>Operating Room</td>
<td>Paramedics</td>
<td>• Airway suctioning (deep suction and open tracheal suctioning)</td>
</tr>
<tr>
<td>Post Anesthetic Care Unit</td>
<td>Physical Therapist</td>
<td>• Autopsy / Morbid anatomy and pathology examination</td>
</tr>
<tr>
<td>Bronchoscopy / Respiratory Clinic</td>
<td>Occupational Therapist</td>
<td>• Bronchoscopy and bronchoalveolar lavage</td>
</tr>
<tr>
<td>Rehabilitation Services (for those required to perform chest physio)</td>
<td>Laboratory Technologist</td>
<td>• Bag valve mask ventilation</td>
</tr>
<tr>
<td>Diagnostic Imaging/Radiology</td>
<td>Laboratory Assistant</td>
<td>• Direct laryngoscopy</td>
</tr>
<tr>
<td>Laboratory/Pathology</td>
<td>Pathologist</td>
<td>• High flow oxygen therapy</td>
</tr>
<tr>
<td>Morgue</td>
<td>Phlebotomist</td>
<td>• Intubation and extubation</td>
</tr>
<tr>
<td>Patient Escort Services</td>
<td>Radiation Technologist</td>
<td>• Mastoidectomy</td>
</tr>
<tr>
<td>Housekeeping</td>
<td>Porter</td>
<td>• Nasopharyngeal aspirates, washes, and scoping</td>
</tr>
<tr>
<td>Home and Community Care</td>
<td>Housekeeper / cleaner</td>
<td>• Nebulizing therapy / Medication administration</td>
</tr>
<tr>
<td>Street Outreach Program</td>
<td>Security personnel</td>
<td>• Non-invasive positive pressure ventilation (BIPAP, CPAP)</td>
</tr>
<tr>
<td>Protection Services</td>
<td>Trades</td>
<td>• Percussive therapy / Chest physio</td>
</tr>
<tr>
<td>Facilities maintenance and operations</td>
<td></td>
<td>• Sputum induction</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Tracheotomy / Tracheostomy care</td>
</tr>
</tbody>
</table>

*Note: Not all those in these settings or occupations require fit-testing – it depends on the level of risk.