VCH Safety Summit: Reflections on COVID

2021 JOHSC conference

September 15, 2021

Virtual experience
Types of PPE

Protection from fluids and droplets
• Medical Masks
• Gloves
• Gowns
• Eye protection
• Closed toe shoes

Other Items
• Hair bouffant
• Shoe covers

Protection from aerosols and airborne particles (and sometimes gases)
• N95 Respirators
• EHFR and PAPRs

Other Hazards of Concern
• Lasers
• Radiation
How do we know they work?

- Standards!
  - Canadian Standards Association (CSA)
  - American National Standards Institute (ANSI)
  - American Society for Testing and Materials (ASTM)
  - Association for the Advancement of Medical Instrumentation (AAMI)
  - Many more

WorkSafeBC

- Acceptable standards to reference are in the Occupational Health and Safety Regulation
- Not everything needs to be certified by a standard
Footwear

VCH Footwear Policy

- Appropriate for the work
- Well maintained (i.e. soles not worn out and flat)
- Closed toe
  - Be cautious with mesh tops, especially for those who work with sharps

- Safety footwear are approved CSA Z195
  - FMO and warehousing staff
Safety Eyewear

Good fit is key

• Minimal gaps around the eyes
• Should stay in place and not shift
• Offer protection from the front and sides
• Should meet CSA Z94.3 or ANSI Z87.1 Standards
## Gowns

Gowns have an AAMI (Association for the Advancement of Medical Instrumentation) Rating

- Standards recognized by the US FDA
- Use depends on risk of splashes

<table>
<thead>
<tr>
<th>AAMI Classification</th>
<th>Low Risk</th>
<th>High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level 1 Minimal water resistance (some resistance to water spray)</td>
<td>Level 3 Moderate water resistance (resistant to water spray and some resistance to water penetration under constant contact with increasing pressure)</td>
</tr>
<tr>
<td></td>
<td>Level 2 Low water resistance (resistant to water spray and some resistance to water penetration under constant contact with increasing pressure)</td>
<td>Level 4 Blood and viral penetration resistance (2 psi)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Testing Standard</th>
<th>AATCC 42 - Water penetration ≤ 4.5 g</th>
<th>AATCC 42 - Water penetration ≤ 1.0 g</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AATCC 42 - Water penetration ≤ 4.5 g</td>
<td>AATCC 42 - Water penetration ≤ 1.0 g AATCC 127 - Hydrostatic pressure ≥ 20cm water column</td>
</tr>
<tr>
<td></td>
<td>AATCC 42 - Water penetration ≤ 4.5 g</td>
<td>AATCC 42 - Water penetration ≤ 1.0 g AATCC 127 - Hydrostatic pressure ≥ 50cm water column</td>
</tr>
<tr>
<td></td>
<td>ASTM F1670 (Blood) &amp; F1671 (Viral): No penetration at 2 psi (13.8 kPa)</td>
<td></td>
</tr>
</tbody>
</table>
Critical Areas of Gowns

Surgical Gowns

Isolation Gowns & Non Surgical Gowns
Medical Masks (Procedure and Surgical)

Meets ASTM F2100 Testing Standards

• Must pass all five parameters
• Difference between level 2 and 3 is fluid splash resistance
• Still allows air to leak in from the edges

<table>
<thead>
<tr>
<th>Test (ASTM F2100)</th>
<th>Typical Canada / US</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level 1</td>
</tr>
<tr>
<td>BFE (Bacterial Filtration Efficiency) at 3.0 micron ASTM F2101</td>
<td>≥ 95%</td>
</tr>
<tr>
<td>PFE (Particulate Filtration Efficiency) at 0.1 micron ASTM F2299</td>
<td>≥ 95%</td>
</tr>
<tr>
<td>Delta P (Differential Pressure) MIL-M-36954C, mm H2O/cm2</td>
<td>&lt; 5.0</td>
</tr>
<tr>
<td>Fluid Resistance to Synthetic Blood ASTM 1862, mm Hg</td>
<td>80</td>
</tr>
<tr>
<td>Flame Spread 16 CFR part 1610</td>
<td>Class 1</td>
</tr>
</tbody>
</table>
Gloves

- Meet multiple standards such as:
  - ISO 11193-1
  - ASTM D3578
- Standards test for durability, chemical permeation, and breakthrough times
- Gloves don’t protect you against everything
  - Make sure you know what you work with and what the gloves are meant for
  - BBF, cytotoxic drugs, chemicals, sterility, etc.
More information on PPE

Check on the Gloves, Eye Protection, Gowns, and Footwear page on OneVCH more information

Gloves, Eye Protection, Gowns and Footwear

Personal Protective Equipment (PPE) is any clothing or equipment worn by staff for protection against workplace hazards. PPE is designed to protect parts of the body that could be exposed to a hazard, which may include the hands, torso and feet. As PPE may be the last line of defence against a hazard, the user must fit the PPE they are using and have appropriate education/training on using it. Some examples of training for PPE are:

- Correct donning/doffing procedures
- Limitations of the PPE
- Cleaning, inspection and storage of the PPE