ROLE OF ENGINEERING CONTROLS FOR COVID-19

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Control Methods Should Follow a Hierarchy

BEST

FIRST - Source Controls
• elimination (screening), isolation, job or workplace re-design (limit number of people or contacts or length of contacts)

NEXT - Pathway Controls
• local exhaust ventilation, increase physical distance, barriers

LAST-Receptor Controls
• personal protective equipment

WORST
Focus on Lowering the Exposure

Reduce exposure by selecting a combination of control strategies from the source and pathway categories to eliminate or reduce reliance on PPE

<table>
<thead>
<tr>
<th>Band</th>
<th>Control Options</th>
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| A    | Source – Do these first!  
Pathway – May be prudent  
Receptor – Not necessary |
| B    | Source – Do these first!  May require multiple options  
Pathway – Do these next & may require multiple options  
Receptor – Only if source and pathway controls are not effective |
| C    | Source – Do these first!  May require multiple options  
Pathway – Do these next & may require multiple options  
Receptor - May be prudent |

Things We Need to Understand...

- Role of dilution and local exhaust ventilation in different workplace and public settings
- Role of other engineering controls - UV-C irradiation, physical distancing...
- Role of the built environment – new construction, retrofitting...
- Assessment methods – smoke tubes, fog machines, particle sampling instruments, etc.
- Can we model the impact of controls on SARS-CoV-2 aerosol exposures?
Speakers

• Duane Hammond, MS, PE, NIOSH Division of Field Studies and Engineering
• Jonathan Bach, PE, CIH, CSP, NIOSH Division of Science Integration
• Andrew Harte, AIA, A359 Partners in Architecture
• Brian Sherlock, Amalgamated Transit Union
• Andrew Comai, MS, United Auto Workers