OSHA Training Toolbox Talk: Biological Hazards – Ventilation's Role in Disease Prevention

[Reference: Paragraph (5)(a)(1) of OSHA Act of 1970 / Centers for Disease Control & Prevention (CDC) Guidelines]

Many viruses spread from person to person through the air, primarily through three different modes of transmission. The first way is indirectly, when a person is exposed to virus laden material by touching a surface that was contaminated when an infectious person sneezed or coughed, and then the victim touches their own eyes, nose, or mouth with their contaminated hand. The second way is when respiratory droplets produced by an infectious person who sneezes or coughs spews airborne matter towards a victim positioned nearby, making direct contact with mucous membranes in their mouth, nose, or eye. And the third way is when an infectious person produces tiny respiratory droplets (called aerosols) when they cough or sneeze (or during other actions that produce infectious airborne matter), some of which can dry rapidly and remain suspended in the air for an extended period of time until being inhaled by the victim.

Ventilation can help lessen your chances of coming in contact with airborne infectious matter. And in some situations, there are a few simple strategies you can utilize to help protect yourself and others. One way that may seem obvious is setting a fan behind you that blows air past you and towards others in the area to minimize the chance of airborne matter traveling towards you. Unfortunately, this arrangement increases the chance of airborne matter traveling from you towards the other people, so this arrangement should be avoided when possible. Instead, position the fan or other source of air so that is moves air across the area between you and the other person or persons, thus preventing the movement of contaminated airborne matter towards either party.

A second strategy to lessen the chance of airborne transmission of infection matter is to conduct activities outside when possible. The greater the volume of fresh air that is blowing into an area, the lower the concentration of airborne particles available to breathe into your lungs.

The same general principle works indoors too. Open windows, doors, or other exterior openings when you can do so safely so as to introduce as much fresh air from outside the building into the room. And if possible, adjust the fresh air damper on HVAC units to allow as much fresh air as possible to be drawn into the interior space. Also, use any other available equipment, such as ceiling fans, floor fans, exhaust fans, and window units to move fresh air through the space. You might even be able to set up multiple fans to draw fresh air in one window or other opening, and another fan to push it out of a different opening.

Taking these simple steps to introduce fresh air into a room can help dilute the concentration of airborne particles, thus decreasing the chances of airborne transmission of disease-causing viruses (see attached handout for examples).

Are there any questions about today's toolbox talk on these steps that can increase ventilation and therefore help decrease the chances of airborne transmission of viruses? Thank you for your attendance today. Please be sure to sign the training certification form to ensure you get credit for attending today's toolbox training session.

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Source: National Center for Immunization and Respiratory Diseases

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