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Technical Bulletin

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Revision 2

Considerations for Using the 3M™ EARfit™ Dual Ear Validation System During the COVID-19 Pandemic

Background

This bulletin will outline elements of the hearing protector fit testing process using EARfit™ that should be considered as part of a site-specific risk assessment if you choose to conduct hearing protector fit testing during the COVID-19 pandemic. With respect to COVID-19 transmission, a key aspect of fit testing with the EARfit™ system is the test operator attaching the microphone to the test plug or probed cushion while in close proximity to the test subject.

Microphone Attachment by Test Operator

The test procedure requires the person conducting the test to attach microphones to the probed hearing protectors inserted by the test subject, and to remove the microphones after the test. This step cannot be performed by the test subject and requires the test operator's face to get within arms distance of the test subject. The operator also may not be able to avoid touching the test subject's hair during microphone attachment. Use of Personal Protective Equipment (PPE) such as respirators and gloves or hand sanitizer should be considered when deciding if hearing protector fit testing can be performed within the requirements of the employer's physical distancing policy.

Earmuffs

In the case of fit testing earmuffs, the microphones can be attached to the probed cushions before the test subject puts on the earmuffs, but some adjusting of the microphone position by the test operator might be necessary. Note that probed test cushions can be used for up to twenty fit tests and can be disinfected between testing sessions as described below. It is recommended that each test subject be fit tested with their own earmuffs fitted with the probed test cushion.

Hand and Respiratory Hygiene

The fit tester should perform hand hygiene as deemed appropriate by the employer organization's adopted practices for reducing transmission of COVID-19. The World Health Organization (WHO) makes recommendations for hand hygiene including frequent handwashing and the use of sanitizing hand rubs.

Because fit testers must get close to fit test subjects during fit testing, respiratory protection for the fit tester as well as the test subject may also be deemed necessary, depending on recommended practices for physical distancing and use of respiratory protection.

Hearing Protector fit testing with EARfit™ involves test subjects inserting probed test plugs in each ear, as they would fit normal earplugs, and removing them after the test. 3M always recommends inserting earplugs with clean hands. Hearing protector test probes are intended for single use only and should not be washed or used to test more than one test subject.

Disinfecting EARfit Assembly

Please always refer to the latest information from trusted sources such as the WHO, the U.S. Centers for Disease Control and Prevention (U.S. CDC), the U.S. Occupational Safety and Health Administration (OSHA), Health Canada and the European Centers for Disease Prevention and Control (ECDC) regarding selection, use, maintenance and cleaning of personal protective equipment. At this time, the regulatory bodies have not issued specific guidance for disinfecting hearing protection devices in case of contact with the coronavirus.

After fully disconnecting all components, the external surfaces of the EARfit speaker assembly, cords, power supply, microphone assembly, reusable probed earmuff cushions and reusable probed earpiece housings can be disinfected by lightly rubbing the product for 60 seconds with a cloth soaked (squeezing out excess liquid) with at least 60% ethanol or 70% isopropyl alcohol[1]. Commercial 70% alcohol swabs, prep pads, or wipes can also be used. For the microphone assembly, use a lint free cloth and be careful to not let excess liquids enter the reference microphone or measurement microphone tube. Allow to completely dry before reconnecting or using. The microphone assembly must be re-verified after disinfection. Do NOT immerse any components of the EARfit system, including probed earpieces/probed earmuff cushions, in disinfecting liquid or use heat, ultraviolet light, sodium hypochlorite solution (bleach) or hand sanitizers to disinfect, as this may damage the components.

To assist in identification of commercially available disinfectants that meet the criteria above, the following references are being included and may be useful. The United States Environmental Protection Agency (EPA) published List N: Disinfectants for Use Against SARS-CoV-2 [2]. It is a list of EPA's registered antimicrobial products for use against novel coronavirus SARS-CoV-2, the cause of COVID-19, as a reference for specific disinfectants that can be used against coronaviruses. In Canada, Health Canada has a database of Drug Identification Number (DIN) approved disinfecting agents for use against novel coronavirus SARS-CoV-2, the cause of COVID-19[3]. In Europe, refer to the European Centre for Disease Prevention and Control. Consult applicable local guidance for your region as it is related to disinfection for coronaviruses.

NOTE: 3M relies on the expertise of the CDC and EPA with respect to microbiological efficacy and has not evaluated the effectiveness of these agents with regards to inactivating viruses on 3M equipment. Your facility should review this information thoroughly prior to selecting this disinfecting product for your equipment and specific application. Follow the hygiene and infection control practices established by your employer for the targeted organisms, including coronaviruses. Please note that 3M has not evaluated the effectiveness of any agents with regards to inactivating viruses on 3M equipment.

General Infection Prevention Practices During Hearing Protector Fit Testing

As advised by the World Health Organization (WHO) in their document "Getting your workplace ready for COVID-19," March 2020, employees who are ill should stay home from work whenever possible, to avoid transmitting COVID-19 to coworkers.

Employees should not be fit tested if they have symptoms indicating that they may be ill. Likewise, fit test operators should not conduct fit testing if they have symptoms of illness. These are always good public health practices which are especially important during an infectious disease outbreak.

References

1) Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008; updated 2009. United States Centers for Disease Control. William A. Rutala, Ph.D., M.P.H., David J. Weber, M.D., M.P.H. and the Healthcare Infection Control Practices Advisory Committee (HICPAC). 2008. https://www.cdc.gov/infectioncontrol/pdf/guidelines/disinfection-guidelines-H.pdf
2) List N. EPA's Registered Antimicrobial Products for Use Against Novel Coronavirus SARS-CoV-2, the Cause of COVID-19. United States Environmental Protection Agency. 04/03/2020. https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2
3) Government of Canada Hard-Surface disinfectants (COVID-19: List of approved hard-surface disinfectants. 03/30/20. https://www.canada.ca/en/health-canada/services/drugs-health-products/disinfectants/covid-19/list.html
4) The European Centre for Disease Prevention and Control – Disinfection of environments in healthcare and non-healthcare settings potentially contaminated with SARS-CoV-2. https://www.ecdc.europa.eu/sites/default/files/documents/Environmental-persistence-of-SARS_CoV_2-virus-Options-for-cleaning2020-03-26_0.pdf

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