New Peer-Reviewed Study Reveals Reusable Protective Eyewear Can Actually Increase Infection Risk

Study report highlights risks of improper eye protection, need for infection-control protocol review.

Neenah, WI (PRWEB) April 10, 2014 -- TIDI Products, LLC, a leading manufacturer of single-use infection-prevention products for medical and dental markets, announced today the publication of an important scientific paper in the peer-reviewed American Journal of Infection Control. The report, “Eyewear contamination levels in the operating room: Infection risk,” reveals that reusable protective eyewear, used to protect healthcare worker eyes from contamination, can actually increase cross contamination and infection risk. The study principal investigator and report author, Victor Lange, MSPH, CRC, following investigation of eyewear contamination levels post use, concludes, “Reusable eyewear, or eyewear with reusable components, may pose a risk of carrying ongoing bioburden, due to an inability to disinfect all surface details, and thereby may increase risk to operating room healthcare workers and patients.”

Lange’s study investigated whether protective eyewear used in an operating room setting can be a source of contact and cross contamination. The research involved collecting eyewear used by operating room personnel from 71 surgical cases performed in four operating rooms over a 30-day period. A total of 315 pieces of eyewear, comprised of 276 disposable and 39 reusable pieces, were isolated and cultured. After initial culturing, the reusable eyewear samples again were isolated, cleaned with a germicidal wipe according to the disinfection protocol, air-dried according to protocol, and then cultured again for contamination post disinfection.

Whether healthcare workers were aware of contamination or not, nearly half, 44.8 percent, of the total sample cultured positive for contamination post use. The study found that 37.7 percent of disposable and 94.9 percent of reusable eyewear hosted microbial pathogens directly post-use. And, after disinfection, 74.4 percent of the reusable eyewear remained contaminated with pathogens known to cause hospital-acquired infections. Staphylococcus colonies grew in 43.9 percent of samples, Gram-positive cocci in 36.1 percent, Bacillus in 10.6 percent, Diptheroids in 5.6 percent, and Micrococcus species in 3.5 percent.

Infectious agents are introduced to the eye either directly (e.g., via blood splashes, respiratory droplets generated during coughing or suctioning) or from touching the eyes with contaminated fingers or other objects. Most guidelines and protocols suggest that protective eyewear be used based on anticipated exposure, and then be discarded or promptly decontaminated prior to reuse. “The problem is that contamination is not always visible, disinfection practices are often unreliable and protective eyewear is often touched during the course of care,” Lange said.

David J. Weber, Department of Hospital Epidemiology, University of North Carolina Healthcare, previously reported, “Hospital surfaces are frequently contaminated with important healthcare-associated pathogens. Contact with the contaminated environment by healthcare personnel is equally as likely as direct contact with a patient to lead to contamination of the healthcare provider's hands or gloves that may result in patient-to-patient transmission of nosocomial pathogens.”

The results of this study demonstrate that reusable protective eyewear can remain contaminated post disinfection thereby increasing the risk of infection transmission. The use of disposable eyewear—in all
cases—reduces the risk.

TIDI Products, which provided budgetary support to the study, is dedicated to improving healthcare safety and outcomes. “We are committed to reducing infection risk through innovation and clinical education. TIDI Products has a simple solution to further reduce eyewear contamination risk. Our new TIDIShield™ Disposable Eye Shields and Face Shields are designed to provide proper protection, yet are totally disposable to reduce the risk of contamination,” Mark Beran, Chief Commercial Officer, noted.

TIDIShield single-use eyewear protects the eyes from spray and splatter, reduces the risk of cross contamination associated with reusable eyewear and frames, and provides clean, protective eyewear at point-of-use with TIDIShield Grab ‘n Go™ dispensers.

To view the peer reviewed report, visit http://www.ajicjournal.org/article/S0196-6553(13)01331-X/abstract.

About TIDI Products, LLC

TIDI Products is a leading manufacturer of single-use infection-prevention products, developing simple and innovative disposable technologies to protect healthcare workers and patients from contamination and to improve safety and outcomes. The Company’s products, including the new TIDIShield Disposable Eye and Face Shields, TIDIShield Pillow Barrier and other personal protective equipment (PPE), help reduce contact and cross contamination in the medical and dental markets. With a strategic focus on infection prevention and solution innovation, TIDI Products expects to launch two additional new products in 2014. TIDI Products is headquartered in Neenah, Wisconsin. For more information, visit: http://www.tidiproducts.com.
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