EYEWEAR CONTAMINATION LEVELS IN THE OR

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BACKGROUND

- Infectious disease transmission can occur via mucous membranes of the eyes. *
- Blood splashes can occur without healthcare provider knowledge. **
- Eyewear can prevent transmission, as well as be a source of ongoing risk.
- Preliminary study regarding eyewear use/ contamination in OR setting.

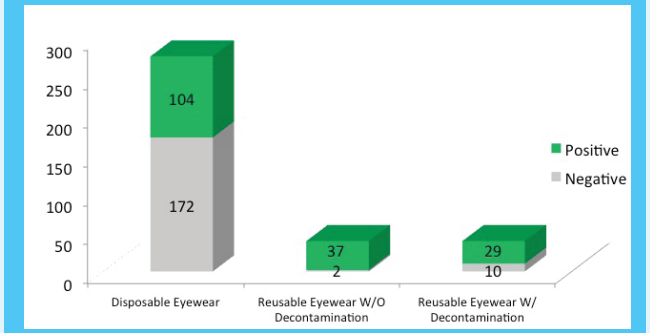
OBJECTIVE

- Intended as first step in furthering best-practice protocol development.
- Top aim to gather data helpful for informing risk (infection, cross-contamination) reduction efforts.
- Secondary aim to gather data helpful for informing product selection, decontamination efforts.

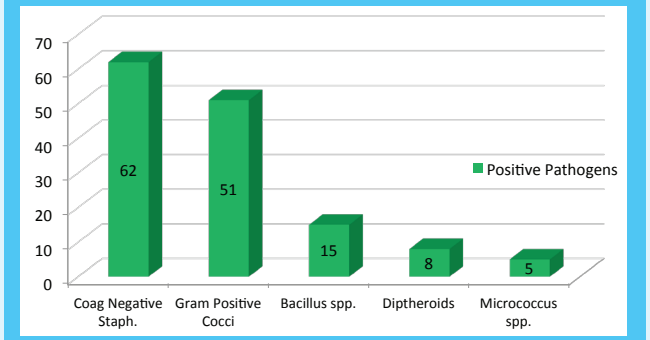
METHODS

- OR eyewear cultured at OR exit and prior to entrance of OR suite (if reusable) from 71 cases (26.7% power-tool), using 4 ORs, over 30-day study period.
- Product surface swiped with 2-mL-TSB swab, 8-vortexed 1 min, 100-mL specimen plated w/ 5% sheep blood, incubated 48 hrs, isolates identified.

Eyewear Pieces Subjected to OR Contamination



Microbial Analysis



• Hosoglu S et al. Transmission of hepatitis C by blood splash into conjunctiva in a nurse. AJIC. 2003 Dec;31(8):502-4.

** Davidson IR et al. Eye splashes during invasive vascular procedures. Br J Radiol. 1995 Jan;68(805):39-41. McNamara IR et al. Ocular contamination during lesional surgery. J Plast Reconstr Aesthet Surg. 2006;59(3):263-5.

RESULTS

- 315 pieces of eyewear (276 disposable, 39 reusable) tested.
- 37.7% disposable, 94.9% reusable eyewear cultured positive for microbial contamination post use.
- 74.4% of reusable eyewear still cultured positive post disinfection.
- Of the 141 pieces testing positive, Coagulase Negative Staphylococcus (43.9%), Gram Positive Cocci (36.1%), Bacillus (10.6%), Diptheroids (5.6%), and Micrococcus (3.5%) organisms identified.

CONCLUSIONS

- Disposable eyewear may reduce inter-case, but not intra-case risk.
- Reusable eyewear may carry cross-contamination risk even with protocol-adhered decontamination.
- Eyewear with antimicrobial material or components could assist in reducing cross-contamination risk.

DISCLOSURE

Budget support and product provided by TIDI Products, LLC.