

Eye Contact Lens. 2007 Sep;33(5):211-5.

Contact lens solution efficacy against *Acanthamoeba castellani*.

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PURPOSE: *Acanthamoeba castellani*, ATCC 30234, cysts, and trophozoites after a 6-hour exposure. **METHODS:** Trophozoite cultures were prepared at Bio-Concept Laboratories in vented tissue culture flasks containing peptone yeast glucose broth by incubation (35 degrees C +/- 1 degrees C for 11 days). Cyst suspensions were prepared by incubation of trophozoites in phosphate-buffered saline plus heat-killed yeast on Page's saline agar plates (35 degrees C +/- 1 degrees C for 14 days). The solutions were inoculated in triplicate in respective lens cases. After the 6-hour exposure, aliquots of challenged solutions were transferred to Dey-Engley neutralizing broth and further diluted in peptone yeast glucose broth in tissue culture plates to the -7 dilution. Flasks and plates were incubated for 14 days at 35 degrees C +/- 1 degrees C and were examined with an inverted light microscope at day 14 for the presence of viable trophozoites. The most probable number method was used for approximate enumeration of the number of survivors. **RESULTS:** Mean log reductions for cysts were 1.8 for Clear Care/AOSEPT Plus, 2.0 for BLUE Vision/BLUE SEPT, 0.7 for Oxysept 1 Step, 0.5 for OPTI-FREE Express with Aldox, and 0.2 for easyvision one step+. Mean log reductions for trophozoites were 2.2 for Clear Care/AOSEPT Plus, 2.7 for BLUE Vision/BLUE SEPT, 2.5 for Oxysept 1 Step, 2.5 for OPTI-FREE Express with Aldox, and 1.8 for easyvision one step+. **CONCLUSIONS:** Only Clear Care/AOSEPT Plus and BLUE Vision/BLUE SEPT showed high levels of antimicrobial activity against the cyst form of *A. castellani*. Oxysept 1 Step showed mild activity against the cysts and easyvision one step+ and OPTI-FREE Express with Aldox showed virtually no antiacanthamoeba activity against the cyst form after 6 hours of exposure.

PMID: 17873623 [PubMed - in process]