

# EFFICACY OF CONTACT LENS SOLUTIONS AGAINST THAI CLINICAL ISOLATES OF *ACANTHAMOEBA*

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**Abstract.** Three clinical isolates of *Acanthamoeba* (*A. castellanii*, *A. polyphaga*, and *A. mauritaniensis*) were used to evaluate the cysticidal activity of four different contact lens multi-purpose solutions (Complete Protec, ReNu MultiPlus, Solocare Aqua, and Opti-free Aldox). Enumeration of amoebic was carried out with the control and test samples at 0, 2, 4, 6, 8, 10, and 24 hours after being added to the solutions using the most probable number (MPN) technique. A contact lens solution which achieved a 3-log reduction of *Acanthamoeba* during the manufacturer's minimum recommended disinfection time (MMRDT) was considered an effective solution. The studied contact lens solutions demonstrated decreasing number of amoebic with increasing exposure times, but were not effective against *Acanthamoeba* cysts during the MMRDT. Solocare Aqua gave the greatest reduction in *A. castellanii* (0.70-log reduction) and *A. mauritaniensis* (0.33-log reduction) by 4 hours. Only Solocare Aqua caused a 3-log reduction in *A. castellanii* (3.02-log reduction) by 24 hours. Opti-free Aldox showed the greatest cysticidal activity against *A. polyphaga* (0.32-log reduction) by 6 hours, and gave the greatest reduction in *A. mauritaniensis* by 8, 10, and 24 hours.

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