

The role of flushing dental water lines for the removal of microbial contaminants.

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OBJECTIVES: This study was designed to determine the role of flushing dental water lines for the removal of heterotrophic plate count bacteria, *Legionella* spp., and free-living protozoa. **METHODS:** Forty dental offices were surveyed in the study. An initial sample and a sample taken after three minutes of flushing were obtained from the air/water syringe at each location. All samples were quantitatively analyzed for heterotrophic bacteria using three bacteriological procedures. The samples were analyzed for the presence of *Legionella* spp. using cultural, immunological, and molecular procedures and for the occurrence of free-living protozoa using a killed bacteria plate procedure. **RESULTS:** The flushing process reduced the level of heterotrophic plate count bacteria by 1.1 to 1.5 log₁₀ CFU/ml. Compliance with recommendations for bacterial levels varied depending on the methodology employed in the analysis. **The flushing process did not reduce the occurrence of *Legionella* spp. or free-living protozoa.** **CONCLUSION:** The results support recent U.S. Centers for Disease Control and Prevention recommendations that the process of flushing dental water lines cannot be relied upon as a sole means of reliably improving the quality of water used in dental treatment.

PMID: 16640149 [PubMed - in process]