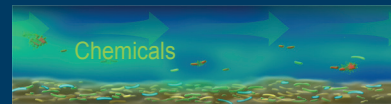


Point-of-Use Water Filtration Complements Systemic Treatment to Reduce Health Care-Associated Legionnaires Disease (HALD)¹

Maintaining adequate chlorine levels in the water distribution system can result in corrosion of pipes near the chlorine source. Although hot water flush and heat shock can briefly address biofilm, it is not a lasting solution to prevent sustained release of *Legionella* species.

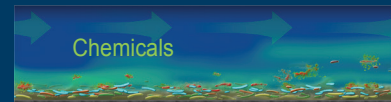
Even with diligent monitoring, equipment malfunction can still lead to outbreaks of *Legionella* infection. HALD may still occur despite implementing systemic disinfection strategies and incurring high costs.¹



Systemic chemical disinfection attacks the biofilm



Biofilm becomes partly destroyed



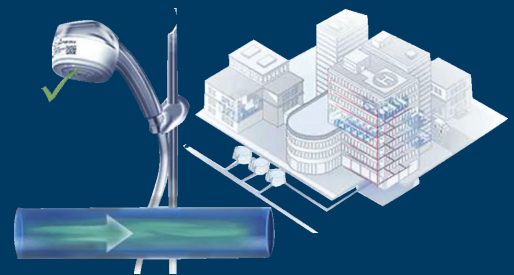
Biofilm becomes partly destroyed, cells in VBNC stage may survive



However, point-of-use water filtration has emerged as a cost-effective strategy to reduce HALD and other healthcare-associated infections in the United States.

The Centers for Disease Control and Prevention recommends using 0.2- μm filters to replace faucet tap and shower head aerators.²

In a study conducted in two intensive care units, the use of filters reduced the presence of *Legionella* from 83 out of 242 unfiltered samples to only 1 out of 256 filtered samples.³ Furthermore, the concentration of *Legionella* in the post-filtration sample was only 1 CFU/mL, compared to a range of up to 106 CFU/mL (mean 19.6) and up to 92 CFU/mL (mean 8.6) for both units in *Legionella*¹ positive pre-filtration samples. Water filtration has been proven to be an effective solution to reduce healthcare-associated infections.



In another study, *Legionella* serogroup 1 was resistant to systemic disinfection regimens in a heart transplant unit. However, the implementation of point-of-use water filters reduced infection rates from 23% to 15%, according to urinary antigen screening results.⁴

1 Modol J, Sabrina M, Reynosa E, et al. Hospital-acquired legionnaires disease in a university hospital: impact of the copper-silver ionization system. Clin Infect Dis 2007; 44:263–5. https://www.researchgate.net/publication/6281519_Point-of-Use_Water_Filtration_Complements_Systemic_Treatment_to_Reduce_Health_Care-Associated_Legionnaires_Disease

2 MacDonald WD, Pelletier CA, Gasper DL. Practical methods for the microbial validation of sterilizing-grade filters used in aseptic processing. J Parenter Sci Technol 1989; 43:266–70.

3 Vonberg RP, Eckmanns T, Bruderek J, Ruden H, Gastmeier P. Use of terminal tap water filter systems for prevention of nosocomial legionellosis. J Hosp Infect 2005; 60:159–62.

4 Hummel M, Kurzuk M, Hetzer R. Prophylactic and pre-emptive strategies for control of Legionnaires disease in heart transplant recipients [abstract P761]. In: Program and abstracts of the 9th European Congress of Clinical Microbiology and Infectious Diseases (Berlin). Berlin: Deutche Herzzentrum, 1999