

# Filter Provides *Legionella* Barrier for Hospitals

## *Legionella* Bacteria Blocked for High

**P**resence of the bacteria *Legionella pneumophila* in hospitals and nursing homes in the U.S. and Europe has been detected at an alarming rate. Contaminated water has frequently been found to be the source. *Legionella* is found naturally in water but multiplies in heating systems.

The growing problem of hospital water contaminated with bacteria, fungi and protozoa can be harmful to patients, especially those with compromised immune systems. These include surgical, cancer, burn, transplant, chronic lung disease and HIV infected patients as well as the elderly and newborns. Contaminated water has been found in a wide number of places throughout hospitals from patient rooms to intensive care units and from showers to humidifiers appearing most commonly in the cooling towers and hot/warm water storage and systems. This has resulted in an increase in nosocomial (hospital-acquired) infections, some of which are resistant to antibiotics.

Infection control experts in hospitals and medical institutions are increasingly turning to point-of-use filtration as a preventive measure to alleviate the problem of contaminated water systems.

**Point-of-use units are increasingly gaining acceptance in such applications as hospitals and nursing homes. This technology allows these facilities to produce high-quality water as needed at a lower cost.**

Disinfecting water at a treatment plant or even at the point of entry into a hospital does not solve the problem. Bacteria and other microorganisms create biofilms (when they attach themselves to a surface as a colony) in



Photo courtesy of CDC.



pipng systems, faucets and showerheads. When the water meets the air, these biofilms also can create an aerosolized germ that can be inhaled. Water treatment methods including heat, chemical disinfection and ultraviolet radiation do not reliably remove the biofilms that form.

Patient exposure to these potentially lethal microorganisms in the hospital occurs while showering, bathing, drinking and ingesting ice as well as from inhaling aerosols of contaminated water. Exposure also can occur through contact with medical equipment such as tube feed bags, endoscopes and bronchoscopes, which can become contaminated when rinsed with tap water, or from the hands of healthcare personnel who have washed using tap water.

Although *Legionella* is the most recognized of all the waterborne pathogens, there are many other microbes that are just as dangerous. In an analysis conducted by Elias J. Anaissie, M.D., et.al., of the Myeloma and Transplantation Research Center, University of Arkansas for Medical Sciences, the waterborne bacteria *Pseudomonas aeruginosa* is estimated to cause about 1,400 pneumonia deaths in U.S. hospitals each year (Archives of Internal Medicine, July 2002). Most recently, the medical community raised new concern about the toxic mold *Aspergillus* found in hospital water systems. In a newly reported study, this waterborne fungus was found to cause illness in about 15 percent of immune compromised patients with a

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