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The Five Pillars Of Safety In Healthcare

Appendix

Garratt-Callahan Company™

Appendix

		Page
31	Best Practice Recommendation for Risk Minimization of *Legionella*, Mycobacteria, & Other Waterborne Pathogens	3
32	Evaluation of Chlorine Dioxide in Potable Water Systems for an acute care facility.	5

Garratt CALLAHAN
Water Treatment Expertise Since 1904

Best Practice Recommendation for Risk Minimization of *Legionella*, Mycobacteria, & Other Waterborne Pathogens

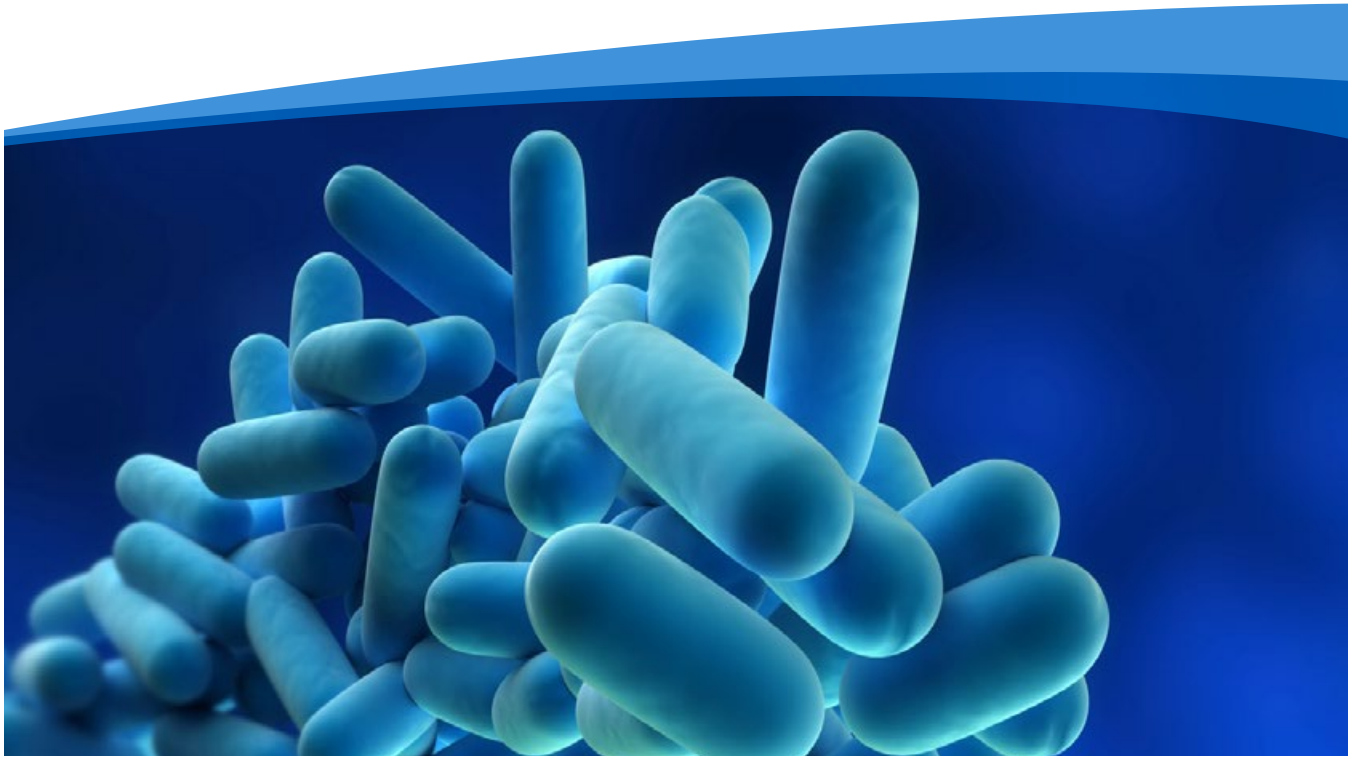
An elemental force, water has the power to give life and take it. Improperly treated water is a solvent that can corrode metal and a carrier of harmful bacteria.

When it comes to the safety and health of the people in your facilities and the preservation of your systems, the best possible practice available today is a multi-barrier approach.

Our multi-barrier approach includes developing an individual risk management program, implementing a water-testing regimen, using secondary disinfection, and deploying in-line points of delivery nano-filtration. This holistic-system strategy delivers the most robust results and significantly mitigates the risks presented by the presence of, not only, *Legionella,* but also, of Mycobacteria, and other harmful microorganisms.

Following the latest industry guidelines, observing documentation best practices, and implementing a regimen to minimize microbial risk can help mitigate other possible exposure. Our experienced Garratt-Callahan team can assist and train your personnel to develop and implement a holistic-system strategy to maintain and monitor your current water treatment program.

www.garrattcallahan.com



With regular service calls and water quality testing, Garratt-Callahan continuously monitors your systems to ensure effective Water Management Program results.

A Best Practices method is a three-step approach.

1 Develop and Implement your individual risk management program:

- Identify potential sources or conditions for the development of unwanted microbial colonies.
- Look at locations or Control Points (CP) in the system where control measures should and can be applied.
- Establish control measures to mitigate the risk of any infestation or reduce its likelihood to an acceptable level.
- Develop a verification process to monitor the system, include a schedule for observations and measurements, validation record keeping.
- Have a set of defined corrective actions and include time-frames for instances when monitoring indicates that any CP is not within control limits.
- Revisit your verification procedures to ensure that your system is optimally performing.
- By properly documenting all procedures, measurements, and keeping accurate records you may be able to mitigate other risks.

2 Secondary Disinfection utilizing chlorine dioxide:

Legionella and other waterborne pathogens such as Mycobacteria thrive in biofilms that form in domestic water systems. Biofilms are created by bacteria as a natural process in their life cycle. Chlorine dioxide (ClO_2) is a soluble gas and is able to penetrate biofilms and kill the bacteria (more effectively than chlorine).

3 Point of Delivery (POD) / barrier filtration:

Established literature has shown that 5nm (.005 micron) POD filtration is a very effective way to retain particulates in domestic water systems and compliment your water treatment program.

Discover more at www.garrattcallahan.com @garrattcallahan

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Garratt CALLAHAN
Water Treatment Expertise Since 1904

Evaluation of Chlorine Dioxide in Potable Water Systems for an acute care facility.

Scope:
The Centers for Medicaid and Medicare Services (CMS) requires facilities to prevent Legionella Infections. Facilities must develop and adhere to policies and procedures that inhibit microbial growth in building water systems that reduce the risk of growth and spread of Legionella and other opportunistic pathogens in water.

Case Summary:
An acute care hospital in Paducah Kentucky was testing positive for Legionella bacteria at water faucets and showers throughout its 33-acre campus. It was determined the current chlorine treatment provided by the municipality was insufficient for eliminating positive Legionella readings from their 359 Licensed bed hospital and surrounding medical office buildings.

Results:
In partnership with the onsite Crothall Facility Director, Neil Reynolds, the G-C Water Safety Group was able to install two Chlorine Dioxide Generators. Once installed, this process produced positive trends within 3 days. Before Treatment the average positivity was 52.2%. Post install of the CLO2 systems the average positivity reduced to 8.5% in just two months. Work continues to ensure the results are driven down as close to Non Detect (ND) as possible.

Study Standards:
CMS expects Medicare certified healthcare facilities to have water management programs and control measures that reduce the risk of growth and spread of Legionella and other opportunistic pathogens in building water systems.
Surveyors will review policies, procedures, and reports documenting water management implementation results to verify that facilities:

• Conduct a facility risk assessment to identify where Legionella and "other opportunistic" waterborne pathogens (e.g. Pseudomonas, Acinetobacter, Burkholderia, stenotrophomonas, nontuberculous mycobacteria, and fungi) could grow and spread in the facility water system.

• Implement a ***water management program*** that considers the ASHRAE industry standard and the CDC toolkit, and includes control measures such as physical controls, temperature management, disinfectant level control, visual inspections, and consider environmental testing for pathogens.

• Specify testing protocols and acceptable ranges for control measures, and document the results of testing and corrective actions taken when control limits are not maintained, including positive legionella testing results.

Healthcare facilities are expected to comply with CMS requirements. Those facilities unable to demonstrate measures to minimize the risk of LD are at risk of citation for non-compliance with the CMS Conditions of Participation.

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