tions. Regardless, renewed efforts are needed if we are to turn the tide on antimicrobial-resistant pathogens.

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Dermatitis Outbreaks—Hot Tub Disinfection

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Two recent outbreaks of dermatitis and other infections associated with *Pseudomonas aeruginosa* in swimming pools and hot tubs prompted the CDC to issue disinfection recommendations for facility operators. In both outbreaks, the hot tubs were located in hotels, and the chlorine levels were repeatedly below the state's required minimum of 1 mg/mL.

Factors that may have caused the low disinfectant levels included the use of an off-site contractor who could monitor chlorine and pH levels but could not change them; hotel employees with "minimal" understanding of pool monitoring, maintenance, and water disinfection; and a lack of on-site water monitoring to adjust for high bather loads, which can lower chlorine levels. Also, cyanuric acid was added to the pool and hot tub in one of the outbreaks; this chemical reduces chlorine loss from ultraviolet light exposure but also reduces the antimicrobial activity of chlorine.

To reduce the risk of *Pseudomonas* dermatitis and other infections from waterborne organisms, the CDC recommends that pool and hot tub operators do the following: (1) follow pool and hot tub recommendations and regulatory requirements for pH and disinfectant levels; (2) have a thorough knowledge of pool and hot tub operation; (3) provide training for staff members on the capabilities, maintenance, and emergency alert procedures of remote monitoring systems; (4) closely monitor pool and hot tub chlorine levels during periods of heavy use; (5) recognize that hot tub temperatures cause chlorine to dissipate rapidly; and (6) understand the appropriate use and effects of cyanurates on disinfection and testing.

FROM: Centers for Disease Control and Prevention. *Pseudomonas* dermatitis/folliculitis associated with pools and hot tubs—Colorado and Maine, 1999-2000. *MMWR* 2000;49(48):1087-1091.