POOL WATER TREATMENT ADVISORY GROUP

Does the Covid-19 pandemic require changes in pool water disinfection now and in the future?

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Her scientific fields and expertise cover water quality and health, water disinfection technologies and infection control as well as water quality in health care facilities and water for medical applications. Regina has established the "UV Team Austria" running the Water Test Centre Wiental with a Test Facility for the measurement of the microbicidal efficacy of UV disinfection systems (www.uv-team-austria.at).

Regina Sommer has studied Food- and Biotechnology at the University of Natural Resources and Applied Life Sciences, Vienna, and did her PhD at the Medical University Vienna. In 1999 she received the Venia docendi and was appointed as Professor in 2000.

Presentation Abstract

Although the risk of transmission of SARS-CoV-2 from pool water can be considered negligible, it has provoked a discussion about the effectiveness of existing recommendations for managing the quality of bathing water in pools. There is a general agreement that conventional treatment of bathing water of public pools is sufficient to inactivate enteric pathogens including non- and enveloped viruses, like coronaviruses. However, there is no uniform understanding on conventional pool water disinfection. Basic parameters having

impact on the microbicidal efficacy are given in the following examples of recommendations:

- WHO (2006) values hydraulics and filtration; a free chlorine level of 1 mg/l throughout the pool or lower (≤ 0.5 mg/l), if in combination with ozone or UV irradiation; pH 7.2 to 7.8.
- CDC (2016) specifies a free chlorine level of 1-3 mg/l; pH 7.2 to 7.8 and a filtration and recirculation systems operated according to manufacturer instructions.
- In the Austrian legislation (1976; 2012) flocculation and filtration according to national standards are mandatory, hydraulics has to be proven by a staining-test, active chlorine-concentration 0.3- 1.2 mg/l; combined chlorine ≤ 0.3 mg/l; pH 6.5 to 7.8; redox potential 700 mV. The disinfection capacity is fulfilled, if *Pseudomonas aeruginosa* is inactivated within 30 seconds for 4-log.

Optimisation potential for the future lies in the flocculation-filtration-technology. Despite proper pool water disinfection, special attention must be paid to the engineered bathing load, which even needs to be tightened in order to ensure the necessary distance between the bathers especially during the Covid-19 pandemic.

References

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