

# FACT SHEET

## The Role of Swimmer Hygiene in Maintaining Good Recreational Water Quality

Brought to you by the PHTA Recreational Water Quality Committee (RWQC)

### I. INTRODUCTION

Most swimmers are aware of the work of pool operators in maintaining high quality water, but many fail to realize the role they play in keeping pool water safe and healthy. Swimmers can help maintain high quality pool water and reduce the spread of waterborne diseases by practicing good “swimmer hygiene.” For example, it is important that swimmers shower before entering the pool, avoid urinating and defecating in the pool and stay out of the pool while sick with diarrhea.

### II. BACKGROUND

The Water Quality & Health Council (WQHC) first probed the topic of swimmer hygiene in a public survey in 2009, addressing formerly taboo subjects such as “peeing” and “pooping” in the pool. Following a public campaign<sup>1</sup> in the summer of 2009, the WQHC published its survey results<sup>2</sup> in 2011. Among other findings, the survey revealed that 47% of Americans admit to unhygienic behaviors in public pools, including 17% admitting to urinating in the pool and 35% admitting to foregoing a pre-swim shower.

A 2012 public survey published by the WQHC<sup>3</sup> found that 68% of Americans do not always shower before entering the swimming pool and 44% view a pre-swim shower as unnecessary.

### III. GENERAL DESCRIPTION OF THE PROBLEM

Pool water chemistry is affected by bather inputs, such as urine, perspiration, fecal material<sup>4</sup>, body oils, and cosmetics. Nitrogen-containing substances, such as urine and perspiration, combine with free chlorine in the water to produce irritant chloramines. Bathers often mistakenly attribute the effects of chloramines (e.g., red, irritated eyes and itchy skin) to “too much” chlorine in the water, where bathers assume the level of chlorine in the pool was too high. The fact is poor swimmer hygiene is a contributing factor to the concentration of chloramine. Impurities brought into the water by swimmers can deplete free chlorine levels, endangering swimmers’ health by exposing them to waterborne pathogens. For example, swimmer’s ear is an infection of the ear canal that can develop when bacteria-contaminated pool water enters and remains in the ear canal, providing conditions conducive to bacteria growing and infecting the skin. CDC reported in 2011 that swimmer’s ear infections accounted for 2.4 million doctor visits and nearly \$500 million in annual healthcare costs between 2003-2007<sup>5</sup>. And, while a common urban myth holds that pools contain a dye that colors the water around people who urinate, the real indicator of urine in the water is the red eyes of swimmers.

PHTA Fact Sheets are for information purposes only. The Fact Sheets are based on the best information available at the time of publication and represent a consensus of the volunteer members of the applicable PHTA committee(s). Appropriate steps should be taken to ensure that the information is current when used.

The Fact Sheets do not constitute any promise, representation or warranty that a product or application referenced will in fact comply with applicable federal, state, or municipal laws, codes, rules and regulations concerning the intended use of such produce (“Laws”), nor any assurance,

representation or guarantee regarding or relating in any manner to the safety of any product or application that is referenced. Not every acceptable procedure is included, and special circumstances may warrant modified or additional procedures.

Fact Sheets are intended for the use of trained professionals in the pool and spa industry, in conjunction with prior training and knowledge. Where appropriate, industry members should seek the advice of knowledgeable persons to ascertain whether a product or application is appropriate or will in fact comply with applicable Laws. The use of information or recommendations in

this Fact Sheet is voluntary, and its applicability and suitability for any particular use is the sole responsibility of the user. Nothing in the Fact Sheets should be interpreted as expressing either approval of, or disapproval of, any product or service.

**The PHTA expressly disclaims liability to any and all persons and entities for personal injury, property damage, and any other damage of any kind or nature, (whether or not such damages are direct, indirect, consequential or compensatory) resulting from, or in any way relating to these fact sheets.**

# PHTA **FACT SHEET**

Most common waterborne pathogens, including the bacteria that cause swimmer's ear, are destroyed when using an EPA-registered sanitizer and free chlorine levels are maintained between 1 pm and 4 pm.

## **IV. ENCOURAGING GOOD SWIMMER HYGIENE**

Health department codes promote good swimmer hygiene by encouraging a pre-swim shower and ensuring clean, sanitary, accessible shower and restroom facilities (including diaper-changing stations) supplied with toilet paper and soap or hand sanitizer. A 2012 Dutch study<sup>6</sup> found a 60-second shower eliminates the majority of contaminants on the human body. Additionally, frequent bathroom breaks for children and adults can help reduce urinating and defecating in the pool. The WQHC recommends swimmer hygiene education be included in all organized swim lessons and school health classes<sup>7</sup>. Pool staff can help raise the level of awareness among swimmers of the importance of good hygiene by displaying educational posters, such as those available from the CDC<sup>8</sup>.

## **V. REFERENCES**

1. Water Quality & Health Council (May 14, 2009). Press Release: One in Five Americans Pee in Pool; Almost Half Admit Unhygienic Pool Behavior, Centers for Disease Control and Prevention and Water Quality & Health Council Offer Ways to Curb the Tide of Rising Recreational Water Illnesses <https://waterandhealth.org/in-the-news/press-release-2/>.
2. Wiant, C. (2011). "A Snapshot of Swimmer Hygiene Behavior," International Journal of Aquatic Research and Education, v. 5, no. 3. Available: <https://scholarworks.bgsu.edu/cgi/viewcontent.cgi?article=1152&context=ijare>.
3. Wiant, C. (2012). "New Public Survey Reveals Swimmer Hygiene Attitudes and Practices," International Journal of Aquatic Research and Education, v. 6; no. 3. Available: <https://scholarworks.bgsu.edu/cgi/viewcontent.cgi?article=1099&context=ijare>.
4. Charles Gerba. "Assessment of Enteric Pathogen Shedding by Bathers during Recreational Activity and its Impact on Water Quality," February 2000, Quantitative Microbiology 2(1):55-68.
5. U.S. Centers for Disease Control and Prevention Morbidity and Mortality Weekly Report (May 20, 2011). "Estimated Burden of Acute Otitis Externa – United States, 2003-2007." Available: [https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6019a2.htm?s\\_cid=mm6019a2\\_w](https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6019a2.htm?s_cid=mm6019a2_w).
6. Keuten, M.G.A, Schets, F.M., Schijven, J.F., Verberk, J.A.J.C., van Dijk, J.C. (2012). "Definition and quantification of initial anthropogenic pollutant release in swimming pools," Water Research 46, 3682-3692.
7. Wiant, C. (April 1, 2011). "The DBP "Tango" and Swimmer Hygiene Awareness," Water Quality & Health Council Perspectives article. Available: <https://waterandhealth.org/healthy-pools/the-dbp-tango-and-swimmer-hygiene-awareness/>.
8. U.S. Centers for Disease Control and Prevention website, "Healthy Swimming: Posters." Available: <https://www.cdc.gov/healthywater/swimming/materials/posters.html>.