

## Why Shower before Swimming in a Pool?

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### *In a nutshell...*

This article discusses the importance of the pre-swim shower at pools. By choosing to shower before entering the pool, swimmers can help maintain better pool water quality and a healthier experience for themselves, pool staff, and their fellow swimmers.

It's almost counterintuitive. You're looking forward to a swim in the big, beautiful, community pool and then you see a sign in the locker room advising you to *take a shower* before entering the pool. Is it really necessary? After all, you *just want to get in the pool*.

### *Communal Bathing*

When swimmers skip the pre-swim shower, the pool essentially becomes their communal bath tub, which is not a pretty image. Our [2019 Water Quality & Health Council survey](#) found 93% of respondents would never reuse someone else's bath water, yet 68% admitted they do not always shower before swimming! Communal bathing in swimming pools is, therefore, common. Could it be that swimmers don't always shower before entering the pool because they consider chlorinated pool water a safe substitute for washing with soap? Well, there's a bit more to the story.

### *Bathers and Their Chemistry*

Unshowered swimmers contribute to the chemistry of pool water by adding dirt, perspiration, cosmetics, body oils, and traces of urine and fecal matter to the pool. Chlorine, known as "free" chlorine, added to pools to destroy pathogens in the water, chemically reacts with the impurities from swimmers to form "combined chlorine" compounds. The more these impurities are added to the water by unclean swimmers, the more the free chlorine is bound up in what are known as "combined chlorine" compounds. That leaves less free chlorine available to destroy pathogens, putting swimmers at greater risk of waterborne illness.

Combined chlorine compounds include "chloramines," formed by a chemical reaction between free chlorine and nitrogen-containing compounds in substances such as perspiration and urine. Combined chlorine compounds, especially dichloramine and trichloramine, are the real culprits responsible for the eye, throat, and skin irritation that prompts swimmers to complain of "too much chlorine" in the water. In fact, if there are many unshowered swimmers in the pool, there could be *too little* free chlorine in the water, putting swimmers at risk of waterborne illness. The take away message is: Shower before swimming to avoid lowering the level of protective free chlorine in the water. [Don't be fooled by a strong chemical odor around the pool](#): That's not free chlorine; it's a sign that the pool chemistry is off. Many swimmers take test kits with them to the pool to ensure the free chlorine level and pH are within acceptable ranges<sup>1</sup>. If they are not, and especially if there is no free chlorine in



*A 2012 Water Quality & Health Council survey found improvements that could promote pre-swim showering at aquatic facilities include cleaner, more private, and more accessible showers.*

<sup>1</sup> Appropriate free chlorine readings are 1 – 4 parts per million (ppm); pH should be between 7.2-7.8

the water or the pH is very high (over 8), a discussion with the pool manager is in order. Under those circumstances the pool should be closed until appropriate chemical levels are established.

### *How to Shower before Swimming*

Pre-swim showers can be rinse showers, taken while wearing your bathing suit, or cleansing, naked showers, which afford more opportunity to clean the perianal area, a source of fecal pathogens. In fact, the experts [report](#) the average person has 0.14 g of fecal matter in the perianal area and that children may have as much as 10 g. **Doing the math, a pool containing 15 unshowered adults and 30 unshowered children could contain an average of 152 g of fecal matter (about 1/3 lb.) Based on the fact that there are approximately 1,000,000,000 virus particles in 1 g of feces,<sup>2</sup> a typical community pool (about 19,000 gallons) could contain about 8,000,000 virus particles per gallon from these 45 bathers!**

Fecal microorganisms can spread waterborne illnesses. One of the most problematic of these is the chlorine-resistant parasite, *Cryptosporidium*.

Clearly, the cleansing shower is the “gold standard” of the pre-swim shower, and should be taken at home or in a hotel (for vacationers) just before going to the pool. As a side note, as the COVID-19 pandemic proceeds, some pool administrators are requesting that patrons shower at home to avoid contact with others in pool facilities. At home showers are likely to be cleansing showers, so this guidance is helpful. Rinse showers are very important where sports or play features such as volleyball areas or playgrounds are adjacent to pools.

In 2012, a [Dutch research team](#) explored the effectiveness of the pre-swim shower using volunteers who agreed to shower, wearing their bathing suits, in specially constructed shower stalls in which water was collected and analyzed over the course of showering. The team found that impurities or “anthropogenic pollutants,” measured from the pre-swim shower leveled off after 30-60 seconds to a relatively constant rate. They concluded that a simple 60-second shower with warm water can be helpful in reducing the majority of pollutants added to the pool by swimmers. They also found that rubbing the skin promotes more rapid removal of pollutants and that swimmers with longer hair who do not wear bathing caps should take longer showers.

#### COVID-19 Precautions at the Pool

Obey social distancing recommendations: Stay at least six feet away from others (with whom you do not live) in and out of the pool, and wear a face mask when not in the water.

### *Spreading the Word*

Swimmers have to understand they make a chemical contribution to pool water quality by the very act of immersing themselves in the water and then by being active in the water. We think that swimmer hygiene “do’s and don’ts” should be taught early, during children’s swimming lessons, for example. Engaging and pithy posters and signage could help. We submit that the shower equivalent of “We don’t swim in your toilet bowl, so don’t pee in our pool” has not yet been developed. Do you have any creative ideas? [Send them to us!](#)

Finally, let’s appeal to individuals to make a decision about whether their actions will be altruistic or purely selfish: In the end, the pre-swim shower is for the health of everyone. The post-swim shower, on the other hand, is for the comfort of the individual swimmer. Let’s encourage swimmers to do their part by taking a shower before swimming. Whether a rinse- or cleansing-type shower, it will help make swimming safer and more enjoyable if it’s at least 30 to 60 seconds long!

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[www.waterandhealth.org](http://www.waterandhealth.org)

<sup>2</sup> See the [Database of Useful Biological Numbers](#)