

By Marcelle Dibrell

For a number of reasons, the task of maintaining a spa is not quite the same as maintaining a pool. The main reason is that the bather load is much higher because the water volume is so much lower. It has been estimated that four people in an average sized spa is equivalent to 300 people in a typical residential pool. This is an estimate that is justified not only by making water volume comparisons, but also by realizing that higher temperatures increase bather waste.

According to the Washington State Health Association (1987), one active person in a swimming pool releases two pints of perspiration per hour. Obviously this volume of perspiration increases when the water temperature is raised by 20 degrees or so, and some estimate that a lounging bather can sweat up to 3 pints in an hour. That's a lot of sweat!

Although sweat contains mostly water, it also contains minerals, lactate and urea, some of the same constituents as is found in urine. So even if a spa is lucky enough to host guests that do not urinate while bathing, it suffers some of the same treatment simply from bather load. In addition to sweat, humans are host to millions of bacteria. According to Todar's Textbook of Bacteriology, the human skin houses about 1,012 bacteria, all of which can enter the small confines of the spa.

Taylor Technologies reports that — with the help of hot water and jet action — about a billion bacteria are shed when an adult human enters a spa. It would help if people showered before hopping in, but the fact is that most people do not. Because of the combined elevated contaminant levels in such a small volume of water, it is possible for only two people to completely deplete a sanitizer level of 1 ppm chlorine in just 15 minutes.

That's enough information for some to swear off spas forever.

Sanitizers simply have to work more in spas than they do in pools. The fact that they have to work harder means that they get used up faster, so caring for spas requires more care than swimming pools. Because many spas are covered, they don't suffer algae problems as often as do pools. But the misleading idea that less water equals less maintenance could not be further from the truth.

If left unchecked, bacteria populations can double in 15 minutes, leading to the formation of biofilms, which only exacerbates the problem (see accompanying article on biofilms). But despite how revolting spas can get when it comes to bacteria, dead skin cells, perspiration and urine, on a chilly winter evening, nothing seems quite so inviting.