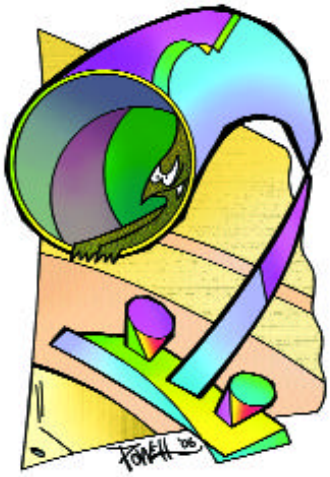
Julius Ballanco

Healthy Plumbing And Aerators

Innovations in plumbing fixtures can reduce bacteria growth for healthcare facilities.



As seen in *PM*

One comment that I will never forget was a doctor telling me that when you're sick, the worst place to be is in the hospital. At first, this statement made absolutely no sense. But this doctor went on to explain that, in a hospital, there are germs all over the place. If you are sick, your immune system may not be able to fight off all of the other germs in the hospital.

Since hearing this comment, there have been a number of studies that have indicated that thousands of people a year die in hospitals from bacteria or germs that are not related to the original problem that resulted in hospital confinement. Hence, if they weren't in the hospital, they may not have died.

Between the birth of my first and third child, our local hospital even changed its rules regarding how long my wife should stay in the hospital after delivering the baby. For the first, it was five days; for the third, it was less than 24 hours. Some blame it on insurance coverage. But, as her doctor says, you are better off being home with a healthy baby than in a hospital filled with germs.

Is Plumbing Contributing? Hospitals and other healthcare facilities have been working hard to reduce the problem of germ and bacteria exposure. They want the hospital to be a safe place to stay.

Plumbing fixtures have been identified as a potential source of bacteria. The concern is the small quantities of water that remain in showerheads and aerators. I have reviewed studies that would scare the daylights out of you. Many showerheads have had residual amounts of water that were loaded with bacterial contamination. The small amounts of water in an aerator have also had very high bacteria counts.

A few years ago, the hospital industry attempted to combat this problem by prohibiting aerators. The problem was that water still remained and the bacteria still was aerated as the faucet discharged. The next attempt was to require laminar flow aerators. The best way to describe laminar flow aerators is that they do not aerate the water stream. It just looks like a slug of water.

While at ISH in Germany, I visited one European manufacturer's booth that had a European response to the potential problems with bacteria in hospitals and healthcare facilities. Its system had raised the water temperature to all outlets once a day to 140 degrees F. The thought process was that the higher water temperatures would kill the bacteria. They were especially concerned with *legionella pneumophila*, the bacteria that causes Legionnaires disease.

This was an interesting means of disinfecting the plumbing system, but it also is only effective immediately after the process is complete. For the next 23 hours and 55 minutes, bacteria can again grow in the faucet or showerhead.

The Better Aerator: While at one of the shows last year, Neoperl was introducing a new response to protecting aerators from bacteria growth and contamination.Of course, I was fascinated and had to speak to my friends at Neoperl. We have known each other for many years, and it is always educational to spend some time discussing the latest advances in the industry.

I should point out that Neoperl is a unique company. It manufactures components for other faucet manufacturers. In addition, it also manufactures aerators. The majority of the faucets in this

Illustrated by: Rick Powell

country have Neoperl components inside the body of the faucet. Plus, many manufacturers buy Neoperl aerators.

Neoperl was demonstrating its Careguard® aerator. The material used to make the aerator components is impregnated with a silver ion. The silver prevents the formation and growth of bacteria.

My friends at Neoperl went into great explanation as to the long history and benefits of silver. I knew about silver's benefits, but I enjoyed listening to the stories. Greeks and Egyptians lined their drinking water vessels with silver to prevent contamination. Hippocrates wrote about the beneficial properties of silver back around 400 B.C.

During the Dark Ages, wealthy people gave their children silver spoons to suck in an attempt to avoid the plague. Hence, the expression, "Born with a silver spoon in your mouth." If you are like me, you probably never knew that the expression had medical concerns.

You get the idea as to how good silver is at killing bacteria. Well, the impregnated silver does the same thing for the small quantities of water that remain in an aerator. The testing that was done on these aerators showed incredible results. Simply stated, the aerators work better than the manufacturer probably expected. They reduce bacteria growth and population on a treated product by as much as 99.999 percent.

The other factor with these aerators is that they produce a laminar flow (nonaerated stream). So, not only are they preventing bacteria growth, they are preventing any bacteria from being aerated into the atmosphere.

I sat there asking all sorts of questions. How long a shelf life? What about rotten water? The aerators are extremely effective for two years, but they recommend annual replacement. If they are not in contact with water, the shelf life is unlimited. They start to extract the silver when in contact with water. If no water is present, it remains in the material. As for rotten water, it does reduce the life of the aerator.

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These aerators were developed for hospitals, nursing homes, healthcare facilities and similar locations. Of course, you can use them in any facility. If someone is concerned about bacteria growing in their aerator, here is a perfect solution. You may also want to consider using these types of aerators for green building design. You may be able to get points for using a healthy material.

Could this same technology be used in showerheads? Of course. But is it? I don't know. Perhaps Neoperl is discussing the possibilities with showerhead manufacturers. If they are not, I hope they do so soon.

This is just another advance that helps to improve the health and safety of the plumbing system. If you are involved in any healthcare facility (or green building), you may want to investigate Careguard aerators. I was impressed with their solution to a real health concern.

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