

NOTEBOOK

JUNE 2002

EDITED BY JON VARA

Whirlpool Bacteria Complaints Spark Lawsuits

Keeping tubs clean from day one may be key

by Ted Cushman

Lawyers in Waco, Texas, have launched class-action lawsuits against Jacuzzi, Kohler, and Lasco. Waco attorney John Malesovas says his office has uncovered e-mail complaints to tub makers from consumers about "schmutz," "grunge," and "gunk" spewing from the jets when the unit is filled and turned on. Malesovas says his clients have not received the bathing experience they paid for and should get their money back.

When the tubs are emptied, the suit claims, undrained water in the hidden plumbing supports the growth of "biofilms," or organized communities of bacteria that survive cleaning efforts and quickly recontaminate the bath water when the tub is next used.

Company customer service responses to complaints were misleading, asserts Malesovas. He says Jacuzzi sent many homeowners the same canned e-mail,

saying, "Sounds like you have an algae problem," and advising the homeowner to flush the pipes out with a commercial algaecide.

But Malesovas refers to a report by Dr. Rita Moyes, a microbiologist at Texas A&M University who tested water samples from 50 whirlpool baths. Instead of algae, Moyes found millions of *Legionella*, *pseudomonas*, *staphylococcus*, and human intestinal bacteria — all potentially infectious organisms.

Compared to tap water from the same houses, Moyes reported, whirlpool tub water samples had bacteria counts averaging 5,000 times higher, with some samples containing tens of millions of bacteria in a half ounce of water.

Jacuzzi responds. Reached by phone, Jacuzzi president Phil Weeks told *JLC*, "The overall number of complaints about debris in a bathtub relative to the total number that we have sold is miniscule

over the years. And the purging instructions that have been used for years have solved many, many of the problems."

Persistent debris problems are few, says Weeks, and a lot of those are the result of a problem upstream: "Any bathtub is at the end point of the water system. Mineral content, or other things upstream, can affect all the water appliances in a home."

Kohler officials directed *JLC* to the company's website at www.us.kohler.com, where a statement quotes microbiologist Dr. Charles Gerba as saying, "There is no documented evidence of the company's whirlpool bathtubs having posed a health hazard to consumers." Kohler advises consumers to purge their tub units at least twice a month with two teaspoons of low-foaming dishwasher detergent and four ounces of household bleach.

A competitor weighs in. Whirlpool makers face a related attack from Dallas-

continued on page 26

Whirlpool Bacteria Complaints

continued from page 21

based Sanijet, Inc., a new competitor whose jetted-tub design doesn't rely on hidden plumbing.

Sanijet models have detachable and washable impellers that mount on the inside walls of the tub units and are driven by individual motors. On the company's website at www.sanijet.com, Sanijet highlights the Texas lawsuits and claims that only "pipeless" Sanijet tubs allow complete disinfection.

But Sanijet has met resistance in trying to move its tubs through traditional K&B showroom channels; showrooms have been reluctant to bring in a new product whose literature paints other units on the floor as virtual slime factories. Sanijet has pulled its models out of showrooms nationwide and is pitching the tubs direct to homeowners through its website instead.

In test samples from 50 whirlpool baths, tub water had bacteria counts averaging 5,000 times higher than tap water from the same houses

Jacuzzi's Phil Weeks comments, "Sanijet is selling a concept that moves water, but they're not really selling a whirlpool bath. Their system doesn't induce air into the action, and really the hydrotherapy benefits of a whirlpool bath are derived by mixing water and air together. They've tried to sell cleanliness as their main issue. I think the marketplace will determine whether that's valid."

Unhealthy bacteria. So what about the health claims? Under the wrong conditions, there is no doubt that the bacteria Moyes identified can cause illness and even death. Medical journal articles have blamed bacteria in hot tubs for infections ranging from a common rash called "pseudomonas folliculitis" to dangerous pneumonias, Pontiac fever, and a bacterial infection dubbed "hot tub lung," as well as several fatal outbreaks

of legionnaires' disease.

But unlike spa-type hot tubs, bathroom whirlpool tubs are drained after each use. Do the germs that can thrive in poorly maintained hot tubs pose a risk in bathroom whirlpools? The question is controversial.

Bad bugs in bunches. Scientists at Montana State University's Center for Biofilm Engineering (CBE) in Bozeman have found that once bacteria like *Legionella* or pseudomonas attach to a plumbing surface, they protect themselves with a matrix of secreted polysaccharide slime, forming tiny channels to bring in food and expel wastes and toxins. When tub jets are turned on, individual bacteria and bits of biofilm are shed into the water.

At a public health conference in Ontario, Canada, CBE director William Costerton, Ph.D., said whirlpool bathers might inhale water droplets contaminated

with bits of bacterial biofilm that CBE researchers have observed "actually bouncing in a haze over the whirlpool."

And the organized films are tougher and more dangerous than free-swimming, or "planktonic," forms of the same bacteria, says Costerton. "[Biofilm fragments containing] as few as 100 cells of pseudomonas or *Legionella* can establish a pulmonary infection in animals," he testified in one Texas case. "Biofilms can only be killed by concentrations of biocides 1,000 to 1,500 times higher than those necessary to kill planktonic cells.... Two teaspoons of dishwasher detergent and four ounces of household bleach circulated for 10 to 15 minutes would have very little effect."

"If you look at Costerton and Moyes," counters Jacuzzi president Weeks, "they have formed an opinion, but neither one of

these people have had their work accepted by any scientific body that we know of."

"We've employed a number of experts who have studied the pseudomonas and *Legionella* infections that have occurred in spa units," says Weeks, "and their professional opinion is that they don't see how this could be a problem in a whirlpool bathtub unless there's some other contamination upstream."

Cleaning solutions. And it's true that not all whirlpool owners are complaining. On an Internet chat board where Sanijet V.P. Philip Klement joined a homeowner discussion about whirlpools, some consumers did express dissatisfaction; but others reported using their units regularly without noticing any slime problems.

The difference may depend on whether the tubs are kept clean from day one. "The need for elevated levels of the disinfectant is to kill an established biofilm," CBE engineer Darla Goeres told *JLC*. If you start with a clean tub, she says, "you may be able to maintain sanitation with much lower levels."

Goeres says that Malesovas paid for a CBE study to identify biofilms in whirlpool tubs. "But then no one has supported us to do the study in drain-and-fill whirlpool bathtubs to test different disinfection techniques. That's research that needs to get done, and I am optimistic that you could come up with an effective cleaning protocol, especially with a brand-new tub. But the exact amounts that would be required, we don't yet know."

"Jacuzzi has solved most of the problems that have occurred," maintains Phil Weeks. "There have been some debris cases up until recently that we have been unable to solve," he acknowledged, "but in the last 18 months or so, we found a product that was being used to clean milk pipes in the dairy industry, and that has solved all the cases that we've ever used it on. We now provide that at no charge on an as-needed basis when other things don't solve the problem. We want people to be happy with the product."

