

A Risky Soaking

Study Shows Whirlpool Water Can Be Dangerous

COLLEGE STATION -- Attention whirlpool bathtub users: That water you're leisurely soaking in could be some of the filthiest and nastiest in the world.

A study by a Texas A&M University microbiologist shows that whirlpool bathtubs can literally be a breeding ground for dozens of types of bacteria, many of them potential pathogens, and such water can be a ground zero for infectious diseases.

Microbiologist Dr. Rita B. Moyes tested 43 water samples from whirlpool bathtubs -- both private and public ones -- and found that all 43 had bacterial growth ranging from mild to red-level dangerous. A whopping 95 percent showed the presence of fecal derived bacteria, while 81 percent had fungi and 34 percent contained *staphylococcus*, which can cause deadly staph infections.

The lesson learned: Enter a whirlpool bathtub at your own risk, and it may be a considerable one.

"Whirlpool baths are almost always a prime area for potentially harmful microbes," Moyes explains.

"The main reason is the lining of the pipes. They are full of inaccessible air, and water in these pipes tends to get trapped, often for long periods of time. When the jets are then switched on, this water with harmful bacteria gets blown into the tub where a person is soaking and then trouble can start."

To get some idea of how much bacteria are in whirlpool tub pipes, Moyes says that a normal teaspoon of tap water contains an average of about 138 bacteria, with many samples not having any bacteria at all. But the same teaspoon of whirlpool tub water contains an average of more than 2.17 million bacteria.

"The stagnant water in a whirlpool bathtub pipe is a great place for bacteria to grow and grow," Moyes says.

She adds that such harmful bacteria can lead to numerous diseases, among them urinary tract infections, septicemia, pneumonia and several types of skin infections. Because of the aerosol mist created by the whirlpool action, microbes are forced into the lungs or open cuts, she explains. One type of bacteria, *L. pneumophila*, can cause Legionnaires Disease, of which 90 percent of all cases can be traced back to bacteria developed from a warm environment.

Moyes says that as long ago as 1972, studies were done to test the bacteria levels in whirlpool baths and hot tubs, but evidence collected has often not shown sufficient reasons for concern.

"That's probably because a hot tub or whirlpool as a source of infection can't be clearly distinguished from other sources," she adds.

"An example might be when you develop a respiratory infection. The doctor can tell you that you do have a respiratory infection, but he or she can't tell you how you got it.

"The best way to prevent such bacteria from forming is to clean out the pipes," she adds. "The pipes in a whirlpool bathtub need to be scraped and cleaned just like you need to brush your teeth with toothpaste."

Whirlpool bathtubs remain a popular item with home owners. A survey by the National Association of Home Builders shows that 58 percent of owners want a hot tub or whirlpool, and whirlpool bathtubs are increasingly popular in hotels, hospitals and health resorts.

"Because of the popularity of whirlpool bathtubs, the public needs to be educated on the possible risks associated with them," Moyes says. "We also need to explore effective ways to prevent the growth of bacteria in whirlpool bathtubs through new cleaning methods and new technology in tub design."