



Hot Tub Dermatitis

A relaxing soak in a hot tub has become a popular recreational activity for many people. However, there are health hazards associated with hot tub use. Hot Tub Dermatitis is the term used to describe a skin and outer ear rash that is caused by the bacterium *Pseudomonas aeruginosa*. Outbreaks are sporadically reported by users of hot tubs and/or swimming pools. Besides the rash, other symptoms associated with hot tub dermatitis include fatigue, fever, joint pain and muscle aches and headaches.

In almost all cases, this problem has been linked to inadequate levels of disinfectants in the water. Maintenance of hot tubs and pools requires at least daily measurement of disinfectant levels, more often during heavy use periods. For systems disinfected with chlorine compounds, residual chlorine levels should be at least 2 ppm (parts per million). Cyanuric acid, which is sometimes added to pool water to reduce chlorine loss due to UV light exposure, is not recommended for indoor use, as it reduces the antimicrobial activity of free chlorine. Failure to maintain proper pH will also adversely effect pool and hot tub disinfectants.

P. aeruginosa is a common microorganism, especially in wet environments. To avoid the possibility of hot tub dermatitis, use the following recommendations:

- Adhere to pool and hot tub recommendations and regulatory requirements for pH and disinfectant levels
- Train pool staff on system capabilities, maintenance and what to do in emergencies
- Closely monitor free chlorine measurements in pools and hot tubs during periods of heavy use
- Hot tubs require even closer monitoring because their elevated temperatures and higher levels of turbulence cause chlorine to dissipate more rapidly
- Consider draining and refilling hot tubs, rather than continuing to add more and more chemicals to the water