



Tom Lachocki

# Diving Into Water Quality

Swimming pools and spas are not all fun and games—operators must carefully monitor water quality so that swimmers stay healthy. Jeff Zagoudis, editorial intern for *Water Quality Products*, caught up with National Swimming Pool Foundation CEO Tom Lachocki to discuss the latest health concerns, treatment technologies and regulations for the industry.

**Jeff Zagoudis:** What water quality concerns are associated with swimming pools?

**Tom Lachocki:** The biggest concern relates to people contracting some type of recreational water illness from a pathogen, such as *Cryptosporidium*, which is resistant to chlorine. The greatest concern in spas is *Legionella*.

**Zagoudis:** How are pathogens introduced into the water?

**Lachocki:** [Typically] it's potable water filling almost every swimming pool. The [water] is open to the atmosphere and people are getting in. Certain germs are going to be shed from the skin, as well as traces of feces.

**Zagoudis:** What about emerging water quality concerns for pools?

**Lachocki:** *Cryptosporidium* is the biggest right now. Although outbreaks have increased over the last 10 years, treatment options are still somewhat limited. So emerging now are new treatment technologies.

**Zagoudis:** What are some of those emerging technologies?

**Lachocki:** Most large, commercial pools are [treated] with ultraviolet (UV) light, which inactivates *Cryptosporidium*. The downside is it is a side-stream treatment so swimmers can still be contaminated by other people until UV goes through the treatment system.

The other emerging defense is ozone. Some systems will have a side-stream treatment for part of the water, which then goes back to the pool.

Third is a growing body of research on using existing filtration systems to remove *Cryptosporidium* from water. In a normal high-rate sand filter, pore sizes are substantially larger in comparison to a *Cryptosporidium* particle, which

then goes right through the filter. However, enhanced filtration techniques are modifying surface charges on *Cryptosporidium* particles so they will stick to those surfaces.

**Zagoudis:** How far are these technologies from common use?

**Lachocki:** UV and ozone are being specified now. The foundation has been funding research on enhanced filtration at the University of North Carolina-Charlotte. We're getting pretty close. We will hear more this fall at the World Aquatic Health Conference, Oct. 12 to 14 in Seattle.

**Zagoudis:** What legislation governs recreational water quality? Is there anything new coming up?

**Lachocki:** The first law that came out many years ago was the Federal Insecticide, Fungicide and Rodenticide Act. This regulates any product that claims to kill or mitigate a pest. Relatively new still is the Virginia Graeme Baker Pool and Spa Safety Act (PSSA), which passed in 2007 and was implemented in 2008. It requires that all main drains and submerged suction fittings in public swimming pools have covers so they reduce the risk of suction entrapment.

It's hard to speculate on the future. Most local jurisdictions have codes relative to operating and designing public swimming pools and/or public spas. The challenge is that there are 50 states [with] many counties, so there are literally hundreds of codes throughout the U.S. About four years ago, the NSPF made a donation to the Centers for Disease Control and Prevention (CDC) to create a Model Aquatic Health Code (MAHC) that states and counties could start adopting. It's a mechanism to bring uniformity to codes around the country and reduce duplicated, wasteful efforts.

**Zagoudis:** Why is it important to become a Certified Pool and Spa Operator?

**Lachocki:** Anyone who operates a public pool should have at least minimal training. Approximately 23,000 people a year take operator certification training classes around the U.S. It helps people understand the principles of operation and where the risks are so they can better manage and mitigate them.

Unfortunately, half of the states do not have a verifiable operator training requirement. The first module issued by the CDC for the MAHC is on operator training; it recommends every jurisdiction have a minimum requirement. It also describes what should be covered.

**Zagoudis:** What's new in the latest edition of the Pool & Spa Operator Handbook?

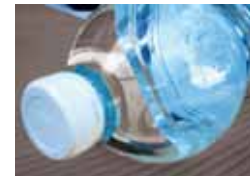
**Lachocki:** The newest and latest is in Appendix C. There is training information in regard to the PSSA. The second component is on the Americans With Disabilities Act revisions. It gives some of the basics to people who are looking into compliance before the deadline. The third section is on the MAHC, giving background on what will be included. The last area is a list of pool industry regulations and standards.

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## Water Donated to Families With Contaminated Wells



Keeper Springs Natural Spring Water arranged with Appalachian Voices and

Kentuckians for the Commonwealth to donate and deliver 30,000 bottles of water to 13 Kentucky families in Pike County whose well water was contaminated with methane gas. Residents reported the contaminated water to authorities in May and received the donation in August.

## EPA Updates Small Drinking Water Systems Report



The U.S. Environmental Protection Agency updated its report, "National

Characteristics of Drinking Water Systems Serving 10,000 or Fewer People." The report details characteristics of small drinking water systems to better understand their challenges. The updates are based on recent surveys.

## Organizations Provide Refugees in Africa With Clean Water

Procter & Gamble joined Save the Children and other organizations to provide more than 140 million liters of drinking water to drought victims in East Africa. Since June, the region has suffered widespread famine, and 12 million people are in need of immediate relief.

## Nestlé Receives Stockholm Industry Water Award

The Stockholm International Water Institute recognized Nestlé's work to improve water management at World Water Week in August. In the past decade, Nestlé reduced total water withdrawals by more than 30% and doubled the water efficiency of its internal operations.

## Networking News

Christopher Hogan joined the International Bottled Water Assn. as vice president of communications.

Plumbing Manufacturers Intl. announced C.J. Lagan as the newest member of its board of directors.

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