

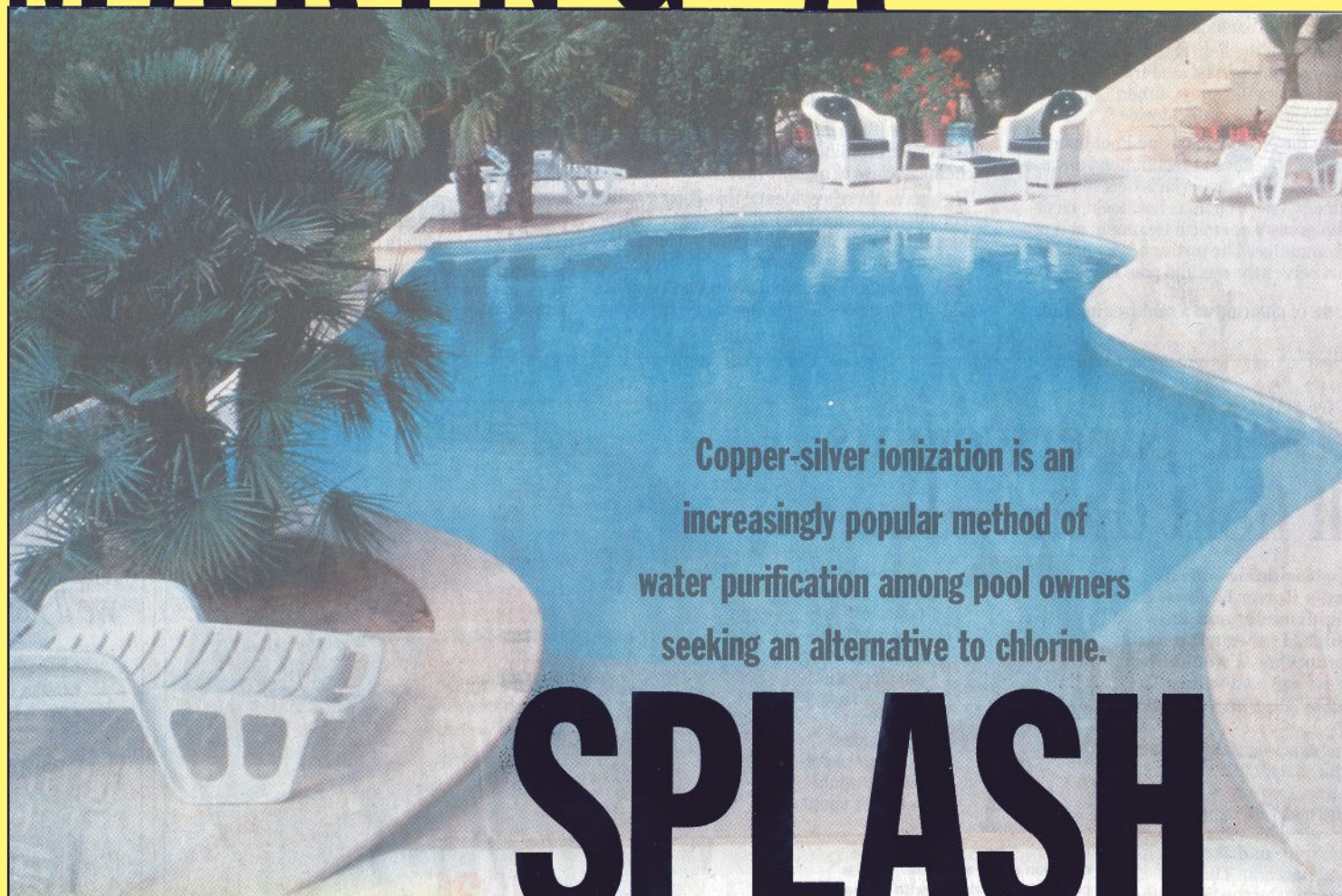
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MAKING A



Copper-silver ionization is an increasingly popular method of water purification among pool owners seeking an alternative to chlorine.

SPLASH

By BETH DOLAN

Of The Tampa Tribune

TAMPA — Maureen Donnelly refuses to add chlorine to her backyard pool, yet it has stayed crystal clear for more than two years.

To keep her pool swimmer-friendly, the Brandon homeowner relies on copper-silver ionization, an increasingly popular water-purification process.

"I have calls from people all the time," says Karen Ingram, owner of the Healthy Home Center in Clearwater. "They've read and understand that you absorb more chlorine during a 10-minute shower or swimming in a pool with chlorinated water than you do by drinking eight glasses of tap water."

People who suffer from asthma or allergies find copper-silver purification less aggravating than chlorine, which also can exacerbate skin ailments, she says. The concept is an old one: Early American pioneers put copper and silver coins in their drinking water to kill algae and bacteria as they traveled across the country.

Donnelly doesn't want chlorine in the water where she exercises at least twice a week.

"Chlorine is extremely bad for the body," she says. "It's very toxic."

When chlorine combines with oxygen, it creates trihalomethanes — chemical compounds suspected of being carcinogenic, Ingram says. Studies done during the early '90s at the Harvard University School of Public Health and the National Cancer Institute linked chlorinated drinking water to bladder and rectal cancer.

Ingram says copper-silver ionization is the closest thing to "hands-off" pool maintenance.

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POOL / Ionization becoming popular

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Once an ion-dispersing device is installed, homeowners need only check the copper and silver ion levels in their water once a week. Ions are atoms or groups of atoms that have electrical charges. They attack the algae, bacteria and viruses in the water.

If the ion readings are too high or too low, users turn a knob on the control panel, Ingram says.

THE SYSTEM that Donnelly uses, which she bought at Ingram's store, is manufactured by ClearWater Pool Systems and costs roughly \$1,600, including installation. Copper and silver electrodes, which supply the ions, cost about \$100 and last one to five years.

"The only replacement parts are the electrodes. The control box is in a weatherproof casing, so there's really nothing that can go wrong with the system," Ingram says, adding that she has been selling the systems for six years with no problems. They come with a five-year warranty, according to the manufacturer.

Water flows through Donnelly's pool filtering system and over copper and silver electrodes confined in a small chamber. The water pushes ions that have been released by the electrodes into the pool.

Copper ions inhibit the growth of algae, while silver ions kill bacteria and viruses, according to the manufacturer's Web site at www.clearwaterpoolsystems.com

When the pool water recirculates through the filter, all debris is removed.

"The pool maintenance company finds [the ionizer] easier to use than chemicals," Donnelly says, "They say it takes less time" than traditional chlorine-sanitized pools. "All they need to do is check and add something to stabilize the pH."

The manufacturer estimates the cost of running the unit at less than \$3 a year, based on eight hours of use each day.

"It's cheaper in the long run than buying chlorine. And you don't have to transport those bottles home from the store, either," Donnelly says. "I'd never go back to chlorine."

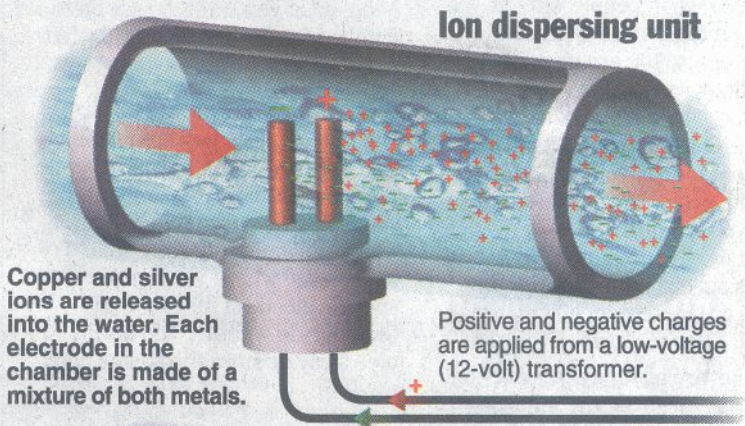
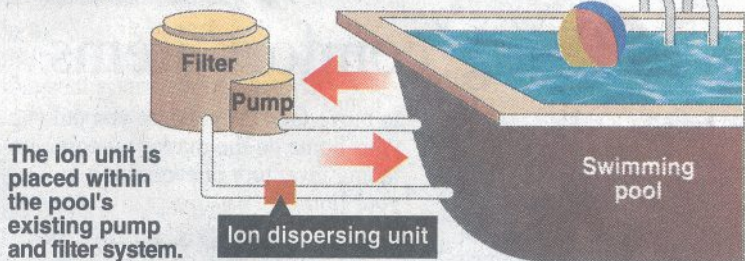
Although the National Spa and Pool Institute in Alexandria, Va., doesn't recommend any particular pool sanitizer, "chlorine's benefits are extraordinary," says Thomas LaChocki, chairman of the group's chemical treatment and processing committee. The institute is a nonprofit group that serves the spa and pool industry.

THE USE of chlorine as a sanitizer in drinking water is "probably the biggest improvement to public health in the last 100 years," he says.

Copper-silver ionization systems must be used with chlorine for complete sanitization, he says.

How ionization purifies pool water

Ionization is described as a safe, nonirritating, process that replaces the use of chlorine in controlling algae and bacteria growth in swimming pools.



How ions attack microbes

Ions are electrically charged atoms. With copper-silver ionization, copper ions target algae, while silver ions kill bacteria and viruses. The ions bind with the debris and are removed in the pool filter.

Copper ion

Silver ion

Source: ClearWater Pool Systems

VAUGHN HUGHES/Tribune graphics

Since the copper and silver ionization system relies on a device rather than a chemical, it is not regulated by the U.S. Environmental Protection Agency, says Jeff Kemper, senior adviser to the director of the anti-microbial division of the agency.

Pool chemicals, such as chlorine, must meet EPA standards for safety, toxicity and effectiveness. "But by law, we have no authority over devices," he says, adding that the agency deals with them only when a consumer complains about false or misleading claims.

But, he says, copper and silver ions are known to be active against bacteria. LaChocki notes that other alternatives to chlorine are bromine and biguanides, which are a chemical class of organic molecules.

He agrees there's evidence that copper will affect algae and that silver kills bacteria. But chlorine, bromine and biguanides kill bacteria much more quickly, he says.

And, he adds, copper and silver don't oxidize, while chlorine does. Oxidation is necessary to remove organic contaminants, such as body oils, suntan lotions and leaf debris.

BUT USERS of the copper-silver ionization process have several choices to combat that problem.

They can occasionally shock their pools with a nonchlorine agent, as suggested on ClearWater's Web site. They can add about a half cup of chlorine once a week. Or they can install an ozone system, which will release oxygen into the water to remove the organic contaminants, Ingram says. That unit costs about \$1,700.

While the spa and pool institute doesn't recommend a specific sanitization system, it urges consumers to sanitize their pools regularly — "and with a product that is regulated by the EPA," says LaChocki.

"Every time people get in the water, they add contaminants. It's important to keep pool water clean."

But, he adds pool owners should remember that chemicals can't solve every problem.

"The pool equipment should be working properly. And people need to remember to clean their pool filters occasionally."