

**Environmental Health Services**

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"Dedicated to a Healthful  
Life and Environment"

We're on the web!

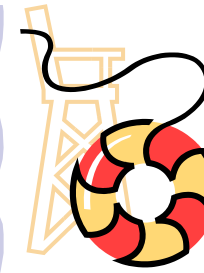
[www.elkhartcountyhealth.org](http://www.elkhartcountyhealth.org)

## Be Prepared for the Opening Inspection!

**So, you're ready to open up that swimming pool for yet another great season? Well, hold on a minute!**

Before you can declare your pool open, a few requirements will have to be met:

1. Remember to check drain cover grates first thing after removing your pool cover. Cracked, broken, or missing drain covers present hair/body entrapment and evisceration/disembowelment hazards. All drain covers should be VGB compliant.
2. A license application must be completed and submitted to the Environmental Division of the health Department, along with the corresponding fee.
3. All pools must have a separate person in charge (PIC) registered with our office and on site to maintain your pool. If your PIC is no longer employed at your facility, a new one must arrange to take and pass our general knowledge test.
4. Documentation of passing pool water bacteriological test results must be submitted. Water testing must commence at least one week prior to your anticipated opening date.
5. Finally, passage of a pre-scheduled opening inspection is required. Make sure all violations are corrected and verified as being corrected by an Environmentalist.



# Keeping Afloat

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## Crypto: Prevention and Treatment

By Jennifer Montiel

Cryptosporidiosis (Crypto) is a diarrheal disease most commonly transmitted through water. Crypto may survive for long periods of time outside of the body due to a hard outer shell which makes the parasite resistant to chlorine and bromine disinfectant in pools and spas. Ingesting as few as 10 crypto organisms may cause illness. Taking steps to prevent crypto is the most successful way to reduce the number of crypto outbreaks.

As a pool operator, you may want to ask yourself the following questions to ensure that your facility is ready to prevent a crypto outbreak:

- Are your restrooms conveniently located and maintained clean to encourage patron usage? If you would not want to walk barefoot into your restroom, patrons will not either.
- What healthy swimming practices do you have in place? Try clearing the pool for regular bathroom breaks; this is also a great time for lifeguards to take surveillance of the bathers and the pool.
- Does your staff enforce all pool sanitation rules? Do you have dry bodies entering your pool? Ensure that patrons are showering prior to pool entry.

While crypto parasites are resistant to disinfectants in pools, new technologies have been shown to reduce the bacteria by up to 99%. Ultraviolet (UV) light, ozone, and DE filters are among these new technologies. When pool water is exposed to UV light and a chemical oxidizer, bacteria such as crypto are destroyed. Ozone systems inject ozone as a gas compound into the filtered pool water with another chemical to help decompose organic materials. DE filters have been used in pools for some time but are making a comeback due to their success with crypto. These filters are a more effective method of removing crypto because the filters remove smaller particulate

matter, keeping the water cleaner. These technologies are becoming more widespread in the fight against crypto in public pools. With warmer weather approaching, keep in mind that prevention is the most effective method to stop a crypto outbreak before it starts at your facility.

The Center for Disease Control and Prevention recommends the six 'PLEAS' for patrons of pools and spas to practice in order to help prevent crypto outbreaks.

**Please don't swim when you have diarrhea.** Patrons whom have had diarrhea within the last two weeks may not use the pool/spa. This is extremely important for kids in diapers.

**Please don't swallow the pool water.** Spitting and spouting of pool/spa water is prohibited.

**Please practice good hygiene.** Patrons must shower before entering the pool/spa and after using the restroom. Ensure patrons wash their hands after using the restroom or changing diapers.

**Please take children for bathroom breaks and check diapers often.**

**Please change diapers in a bathroom and not at poolside.** Germs may spread to surfaces and be tracked into the pool/spa.

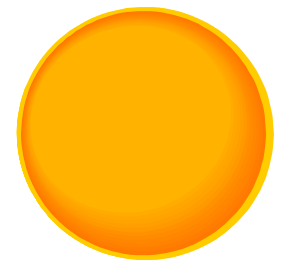
**Please wash your child thoroughly with soap and warm water before swimming.**

**Spring 2015**

Issue 11

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This newsletter is prepared by the Elkhart County Health Department's Pool Inspection Team.

If you have any questions call 574-875-3391.

**Are you doing everything you can to prevent a crypto outbreak?**

# Danger: Hazardous Chemicals

By Shelley Chaffee

Chemicals are great tools for balancing pool water and keeping it clean but can be dangerous if not handled and stored properly. Many of the pool chemicals you use every day can be extremely hazardous if they are mixed or properly wetted by a small amount of water. Carelessness can result in fires, toxic vapor releases, and personal injuries. Here are some tips to help you and your staff work with pool chemicals safely:

## Keep it dry:

A small amount of water added to certain pool chemicals, such as chlorine, can cause a strong reaction resulting in release of toxic vapors, increase in temperature, and possibly a fire. Do not pre-dissolve solid chemicals or dilute liquid chemicals before use. Always add the chemical to water, never the reverse. Check for leaking roofs and water pipes above chemical storage areas. Chlorine is corrosive to steel and copper. Always store chemicals above the floor. Close bags and containers completely when you are finished using them. If you hose down the floor in your chemical storage area be careful to keep water from splashing on the chemicals.

## Keep it separate:

Never mix pool chemicals. The most common chemicals can cause dangerous chemical reactions if mixed together. Do not mix old and new chemicals, even of the same type and brand. Store only identical chemicals above or below each other. Avoid storing liquids above other incompatible chemicals in case the containers leak or spill. Keep chlorine and acid separate. Designate tools such as scoops for one chemical only. Never re-use empty chemical buckets.

Store pool chemicals separate from other chemicals, especially flammables such as gasoline, oil, and paint. Do not store ignition sources such as lawn mowers in the chemical storage area. Also, do not allow smoking in the storage area.

## Keep it clean:

Carefully clean up any spills right away. Never put chemicals spilled on the floor back in the original containers. The mixing of pool chemicals with completely unrelated materials such as swept material from the floor, oily rags, and other miscellaneous materials have been known to cause strong reactions with the potential for a resulting fire. Do not allow trash, debris, and miscellaneous equipment to clutter the storage area.

Always wait at least one hour after adding chemicals before letting swimmers back in the water.

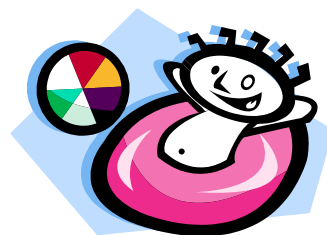
## Keep it safe:

Pool chemicals will immediately react when wetted by sweat, tears, mucus, and saliva. Handle dry chemicals carefully to prevent creating dust. It is recommended that goggles, waterproof gloves, and boots are worn when handling pool chemicals. Consider providing safety showers and/or eye wash stations for use in case of accidental contact with chemicals. Do not eat or drink in the chemical storage area and wash your hands after handling chemicals. Always keep chemicals in their original clearly labeled containers with the use directions and Material Safety Data Sheets available to prevent accidental use of the wrong chemical. Provide adequate lighting for reading chemical labels. Ensure the chemical storage area and pump room are well-ventilated.

For more information on healthy swimming and preventing chemical associated injuries visit:

<http://www.cdc.gov/healthyswimming> and

<http://www.epa.gov/oem/docs/chem/spalert.pdf>



**Clean out those storage rooms!**  
If you have old pool chemicals that you no longer need, they must go to a hazardous waste collection company for proper disposal. DO NOT dump them down a drain or put them in the trash! Two places in our area that can dispose of chemicals are D & B Environmental 574-674-0161 and Safety Kleen 574-289-4510.

# Extended Breath-Holding and the Risk of Shallow Water Blackout

By Ashley Ullom

Some swimmers mistakenly think that by taking a series of rapid, deep breaths and then forcefully exhaling they can increase the amount of oxygen they can breathe, allowing them to hold their breath longer underwater. This is not true. The practice of hyperventilating is dangerous because it lowers the carbon dioxide level in the body. The level of carbon dioxide in the blood is what signals a person to breathe. Whether used by swimmers in competitions, or just during recreation, voluntarily hyperventilating can, and has, led to death.

Swimmers who practice prolonged underwater breath-holding are particularly at risk for shallow water blackout. When the oxygen level in the blood runs low before the carbon dioxide level raises to the point that triggers the breathing reflex, the swimmer loses consciousness. The swimmer never actually feels as though a breath is needed.

ANYONE who practices repetitive underwater breath-holding is at risk for shallow water blackout. Even highly-skilled swimmers can pass out in the water and drown from this practice. Once submerged underwater, the swimmer may be hidden from the view of lifeguards by surface glare and ripples/waves on the surface. A series of events is then triggered, after including inhalation of water, possible convulsions and ultimately cardiac arrest and death.



Educating your patrons on the dangers of shallow water blackout is the first step in minimizing the risk of competitive and recreational swimmers drowning after passing out while submerged in the water. Lifeguards and pool staff should take action to prevent these incidents from occurring by immediately stopping patrons from hyperventilating or holding their breath underwater for extended amounts of time. If you are unsure whether or not a swimmer who is underwater is in trouble, respond as if it were an emergency.

# Pool Maintenance & Troubleshooting

By Michelle Church

Maintain pH between 7.2 to 7.8.

- x Low pH can cause corrosion and eye or skin irritation. To raise pH, add soda ash or another pH increaser.
- x High pH can cause cloudy water and also eye or skin irritation. To lower pH, add muriatic acid, sodium bisulfate, or another pH decreaser.



Maintain Alkalinity at 80-120 ppm.

- x Low Alkalinity can cause staining of walls. To raise alkalinity, add sodium bicarbonate.
- x High alkalinity can cause cloudy water, reduced circulation and clogged filters. To lower alkalinity, add acid (muriatic acid sodium bisulfate).

Maintain calcium hardness at 200-400 ppm

- x Low Hardness can cause etching and staining of pool surfaces. Use calcium chloride to increase calcium hardness.
- x High hardness can cause cloudy water and scaling. To lower calcium hardness, add fresh water that has a lower hardness level.

- i Green water sometimes indicates the presence of algae. It is easier to prevent algae than to eliminate it. Clean surfaces often and insist that swimmers shower before getting in the pool.
- i If your pool has cloudy water, you may need to shock the pool or add water clarifier. You may also need to check the system and flow rates. Be sure the filter is clean and the flow rate is adequate. The filter media may need to be changed.
- i Scum can appear above the water line. Prevent this by brushing and cleaning often and make sure swimmers shower before entering the pool.

