

# KNOW THE FACTS!

## Home Swimming Pools

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*Swimming is one of the most popular summer activities in the United States. However, home swimming pools can be dangerous. The following guidelines can be used to keep your pool safe.*

### Home Pool Injuries

According to the Consumer Product Safety Commission, 49,500 injuries leading to emergency room care are reported annually, and 75% of patients were under the age of 20. There are 330 home pool drownings each year.

### Common Waterborne Illness

Illnesses commonly contracted from contact with recreational water are; Cryptosporidium, Giardia, E. coli, Shigella, Norovirus, and Hepatitis A. Operating the pool properly and adequately responding to fecal incidents can help limit the risk of transmission.

#### **Guidelines to prevent water borne illness:**

- Ensure chlorine is present in the swimming pool at all times and check levels often.
- Ensure the filtration and circulation systems are running continuously.
- People with diarrhea should be excluded from swimming pools to prevent transmitting gastrointestinal illness.
- If a fecal accident occurs in the pool, ensure the pool is closed and CDC fecal incident guidelines are followed prior to reopening. Guidelines may be found here: [www.cdc.gov/healthywater/swimming](http://www.cdc.gov/healthywater/swimming)
- Don't swallow pool water.
- Take frequent bathroom breaks (outside of the pool).
- Wash hands after using the bathroom.
- Change diapers in the bathroom, not near the pool.
- Don't allow pets in the pool or pool area.

My pool smells like chlorine. That means it's safe to swim, right?

Not necessarily, the smell is of chloramines, a byproduct of the reaction between chlorine and nitrogen or ammonia. Chloramines can irritate the skin, eyes, and mucous membranes. Chlorine in a pool at the proper levels should be near odorless. Free Chlorine levels in pools should be at a minimum of 1 ppm at all times when pools are in operation to allow for proper disinfection.

### Disinfection and Water Quality

Maintaining proper chlorine levels allows for disinfection of pool water. There are other factors that limit the effectiveness of chlorine in water. pH should be kept between 7.2 and 7.8 to allow chlorine to be effective. Pools should only be used when the water is clear enough to see the bottom of the pool.

Cyanuric acid, which is found in stabilized chlorine tablets, can stop chlorine's ability to disinfect water when present in concentrations above 70 ppm. Test kits for cyanuric acid are available for purchase where other pool test kits are sold. The only way to lower cyanuric acid levels from a pool is to drain and refill the pool.

### Pool Areas

To keep swimmers safe keep the pool area well maintained. Electrical hazards should not be present in pool areas. Pools with single main drains must have a secondary anti-entrapment device.

#### **Pools should have:**

- VGB Compliant drain covers. Follow manufacturer's guidelines for replacement.
- 4 feet tall safety fence to prevent unauthorized access. (Fence should not have any gaps larger than 4 inches.)
- Self-closing and latching gates.

\*Check with your local zoning department for additional requirements for swimming pools and their surrounding areas.



PREVENT. PROMOTE. PROTECT.

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## Home Swimming Pools (cont.)

### Chemical Safety

The most commonly used chemical disinfectant in swimming pools is chlorine. Chlorine disinfects harmful pathogens, but can be dangerous in its concentrated form. A few safety guidelines can be followed to minimize risk when working with chlorine and other pool chemicals.

- Don't mix chlorine with other pool chemicals.
- Keep pool chemicals locked and out of reach of children.
- Chlorine tablets should be used in a chlorinator, not in the skimmer baskets where children have access.
- Wear proper protective equipment when working with chlorine (gloves, mask, goggles, etc.).
- Follow all instructions on the label.

### Injury Prevention

- Don't swim alone.
- Make sure children are capable swimmers and are supervised at all times.
- Take CPR and first aid classes.
- Keep kids away from drain covers and outlets pipes.
- Ensure sunscreen is applied to prevent sunburn.
- Keep glass bottles away from pool areas.
- Don't dive into shallow water.
- Have the following items available.
  1. A flotation device and / or shepherd's crook.
  2. A Phone to call 911.
  3. A first aid kit containing bandages, gloves, and scissors to cut hair or clothing.

### What to do with water at the end of the season

To limit nuisance issues and impacts to local watersheds, rules must be followed for draining pools. Water must be tested for pH and chlorine prior to dumping and may not be dumped on other properties. For additional information about what to do with leftover pool water, contact the Water Quality Division at (513) 946-7966.

### Ideal pool chemical readings

<b>Free Chlorine</b>	2.0 – 4.0 ppm
<b>Combined Chlorine</b>	None
<b>Total Alkalinity</b>	80 – 120 ppm
<b>pH</b>	7.4 – 7.6
<b>Cyanuric Acid</b>	30 – 50 ppm

### Balancing Pool Chemicals

#### **Chlorine:**

**To raise Chlorine** (1ppm/10,000 gal of pool water): add 2 oz Calcium Hypochlorite (65%); add 10.7 fl oz Sodium Hypochlorite (12%)

**To neutralize excess chlorine** (1ppm/10,000 gal of pool water): add 1 oz Sodium Thiosulfate-carefully, or more chlorine will be required to offset the extra neutralizer

#### **pH:**

**To RAISE pH** (.2 units/10,000 gal of pool water-based upon BASE demand test/ Alkalinity): add 6 oz of Sodium Carbonate (Soda Ash)

**To LOWER pH** (.2 units/10,000 gal of pool water, based upon ACID demand test/ Alkalinity): add 12 oz Muriatic acid or 1.0 lb. Sodium Bisulfate.

#### **Alkalinity:**

**To RAISE Alkalinity** (10 ppm/10,000 gal of pool water): add approx. 1.5 lbs. Sodium Bicarbonate (Baking Soda)

**To LOWER Alkalinity** (10 ppm/10,000 gal of pool water): add 26 oz Muriatic acid or 2.15 lbs. Sodium Bisulfate.

*Hamilton County Public Health does not license or regulate home pools but, we do offer guidance. If you are interested in more information please contact Hamilton County Public Health at (513) 946-7800.*



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