

1. SUPERVISION

2. BARRIERS

3. ALARMS

4. SWIMMING

5. EMERGENCY TRAINING

THE FIVE  
LAYERS OF  
PROTECTION

**DROWNING IS THE SINGLE LEADING CAUSE** of death for children ages 1–4, and the second leading cause of unintentional injury death for children ages 5–18. While it could happen to anyone at any age, very young children are the most vulnerable due in part to their innocent and curious nature. Drowning happens quickly and quietly, so no one layer of safety is enough, multiple layers are necessary to help reduce the risk.

## layer one: IT ALL STARTS WITH SUPERVISION

***Supervision is the most important layer of protection against drowning. A pool is a beautiful oasis for family and friends, and is always the centerpiece of any yard. But to a curious, young child, a pool is fascinating and mysterious. As a pool owner you have an extra responsibility to stay vigilant.***

**GENERAL HOUSE RULES.** Whether you're using your pool or not, it's always important to know where young children are and never leave them unattended. With this in mind, reminding guests with children to be vigilant is crucial as well. Babysitters and caregivers also need to be told about potential pool hazards and the need for constant supervision.

Most importantly, if a child is missing or unaccounted for, always check the pool or spa first—with water safety, time is always of the essence.

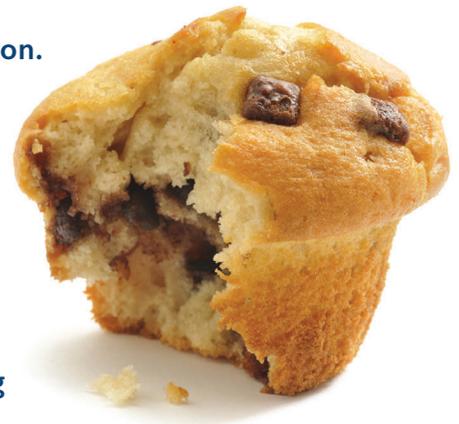
### **ACTIVE SUPERVISION DURING WATER ACTIVITIES.**

***“When everyone is watching, but nobody is watching”*** A surprising number of drowning incidents occur when people are actively swimming or hanging around the pool or spa. It's important to remember whenever infants and toddlers are in or around water, an adult should be within an arm's length, providing “touch supervision.” You must also remember

flotation devices are not a substitute for supervision—“water wings” or “floaties,” inflatable water rings, and other pool toys are NOT safety devices.



ALWAYS BE WITHIN ARM'S REACH WHEN A CHILD UNDER THE AGE OF FOUR IS IN THE WATER.



IN THE TIME IT TAKES TO EAT THIS MUFFIN A CHILD COULD DROWN. IT TAKES AS FEW AS :30 SECONDS FOR A TODDLER TO DROWN.

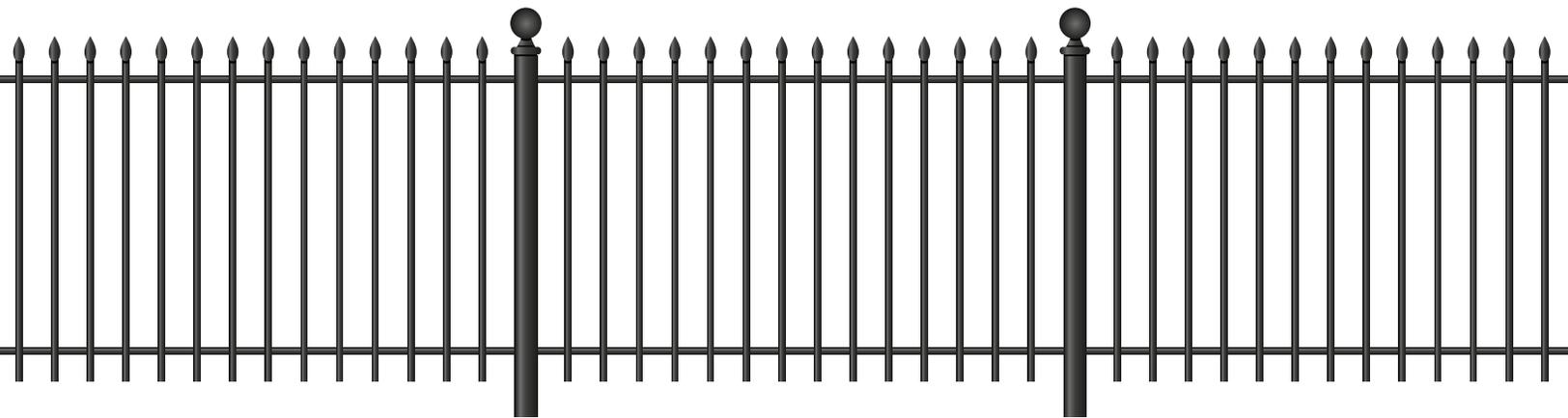
Designating a “Water Watcher” is a great tactic when you're having a gathering of friends or family. This person's sole responsibility is to keep constant watch over children in or near the water, without engaging in social activities, phone calls, or any other distracting activity. After fifteen minutes, a new “Water Watcher” should be designated so that supervision stays fresh and doesn't accidentally tune out—drowning doesn't discriminate, it can happen to anyone.

## layer two: PHYSICAL BARRIERS TO LIMIT ACCESS

*Since you can't always be around to keep an eye on your pool or spa, it's important to use physical barriers to restrict unauthorized access. This layer of protection comes in to play at the pool or spa's entire surrounding area, as well as at the water.*

### PROPERTY PROTECTION

**PROPERTY LINE OR PERIMETER FENCING.** A perimeter fence works to keep out neighboring children and uninvited adults. Keep in mind, this type of fencing typically uses the house structure as the 4th side of the fence around the pool. This means it does not protect those children



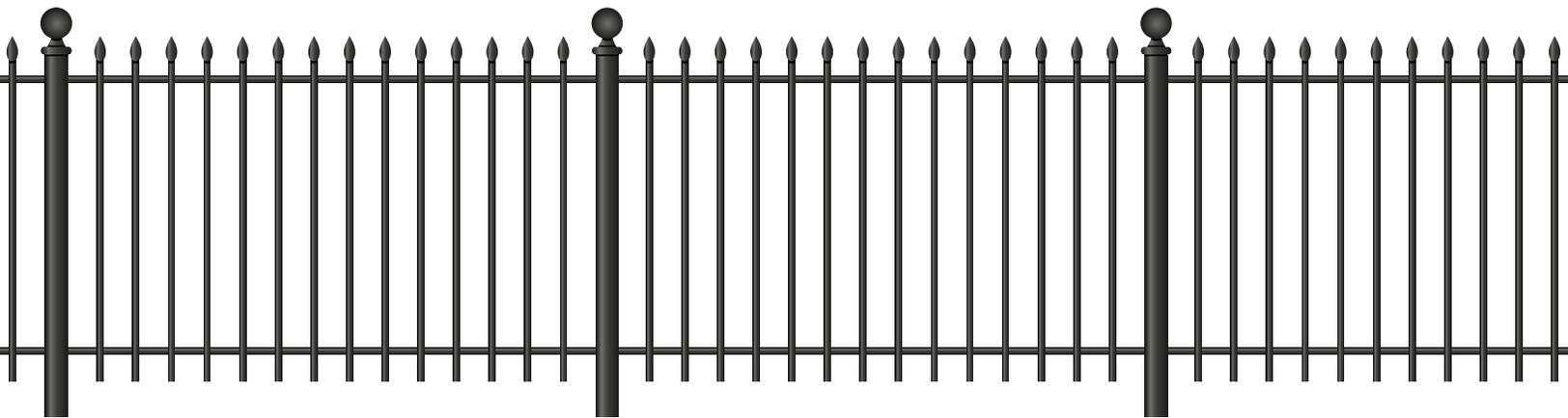
who live in the house or invited guests from accessing the pool from the house.

**ISOLATION FENCING.** Isolation fencing completely separates the pool or spa area from the house or other structures. It restricts unauthorized access from neighbors' yards, other nearby buildings, as well as from inside the house—this is best for small children inside the house.

**PERMANENT FENCING.** Permanent fencing choices are numerous, ranging from wood, aluminum, vinyl, Plexiglas, chain-link, or wrought iron. (Refer to CPSC Guidelines, available online at [www.CPSC.gov](http://www.CPSC.gov), for fencing measurement recommendations and specifications for each fencing type.)

**REMOVABLE FENCING.** Many pool owners find removable mesh fencing can be an affordable choice—especially those who do not have children in the house full time. When designed, installed and maintained correctly, removable mesh fencing can provide the same protection as an isolation fence made from other materials, but only when it is in place. We recommend the fence be kept installed and that gates be self-closing and self-latching.

**FENCING CONSTRUCTION.** All fences must be non-climbable, meet all applicable local safety codes, and should be at least 60” tall\*. Vertical bars on a fence should be set close to one another so that a small child cannot squeeze through (no more than 4 inches of space). Horizontal bars on fencing must be far enough apart that they cannot act as a “ladder” to climb over.



The horizontal bar closest to the ground should also not allow enough room for a child to crawl under the fence. (\*CPSC Guidelines recommend a minimum of 48 inches.)

**GATES.** All gates to residential and public pool or spa areas should be self-closing and self-latching and accommodate a locking device. Gates should open away from the pool and should never be propped open. Gates must also be double-checked to confirm that the latching mechanism is securely fastened. We recommend contacting a professional or the manufacturer for adjustment or repair.

## PROPERTY PROTECTION cont'd

**LATCHES.** For obvious reasons, the latch release should be out of the reach of children, at least 54 inches from the ground. If a locking latch is used it should be kept locked when pool is not in use. Be sure to store the key out of children's reach and make sure all adults know where the key is kept.

**ACCESS TO FENCE CLIMBING.** We all know how clever children can be, so all items such as chairs, tables, storage bins, or anything else that can be slid over to serve as a ladder are kept outside the pool area should be kept at least 4' away from the fence and secured in place. Also, make sure that children and animals are not able to dig soil loose from under the pool fence.

**FENCE MAINTENANCE.** It's important to routinely check the entire perimeter of the pool fence and gate for compromises or damage, such as loose or broken fence slats, that could lead to a breach and adjust the hinges or spring if the gate is not self-closing properly. Shifts in the soil due to ground settling or even small earthquakes can cause latches to misalign and not close.

**HOUSE DOORS.** All doors providing direct access from the home to the swimming pool should be equipped with a self-closing, self-latching device with a release mechanism placed no lower than 54 inches above the floor. Self-closing devices are available for use on sliding glass doors but will require more frequent maintenance to keep the track cleaned and the closing mechanism in proper working condition.



## WATER LEVEL PROTECTION

**POOL & SPA SAFETY COVERS.** Safety covers are a good choice, but we suggest you choose ones that meet the ASTM International voluntary standard F1346-91. It's also important that covers are used and maintained properly, such as promptly removing any rainwater that it has collected and not allowing children to play on it regardless of the weight allowance.

**POWER OPERATED COVERS.** For the ultimate in convenience, power-operated pool safety covers are available. They allow for one-handed operation as frequently as needed and provide for daily or seasonal use.

**SEMI-AUTOMATIC & MANUAL COVERS.** Depending on your location and lifestyle, these covers can work very well. Some lightweight manual and semi-automatic covers are designed for daily use, must be replaced after every swimming session and require diligent commitment by pool owners.

**POOL SAFETY NETS.** "Net" type pool covers work well for long-term cover, still allowing the pool to be serviced without complete removal of the net. Nets are easiest to remove and replace when more than one adult can help. These must also be replaced after every swimming session and require diligent commitment by pool owners.

**WINTER SAFETY COVERS.** Designed purely for the off-season, these covers are made of mesh or vinyl and require tools and some adult strength for installation. It's important to choose a customized cover that fits the contours of the pool and remember to check routinely for wear and tear. Keep in mind, vinyl covers require constant pumping to prevent the pooling of rain or snow melt on top of the cover.

**SOLAR POOL COVERS.** Be aware that while solar or floating pool covers are good for retaining heat and minimizing evaporation, they are NOT safety devices. In fact, they are a serious entrapment hazard. If solar covers are used, they should be removed COMPLETELY before swimming or using the spa.

## layer three: ALARMS AS LAYERS OF PROTECTION

*In addition to the listed above, alarms are an addition to creating a safer pool. They can be added to windows, doors, the pool to alert you of any unauthorized alarms as your last line of defense to respond even quicker.*

*physical layers important environment. gates, as well as access. Think of to allow you*

**DOOR & WINDOW ALARMS.** In the home, doors and windows that open to the pool area should be alarmed to alert adults when opened. We highly suggest a system that has a momentary shut off at the door located beyond the reach of children.

**GATE ALARM.** Place a weather-resistant alarm on the gate mechanism, which can sound both at the pool and in the home, to advise when the gate has been opened. (85 dB for a distance of 10 feet)

**SURFACE ALARMS.** Designed to detect motion on the water's surface, these are floating alarms that can sound both at the pool and in the home. Keep in mind that while very low cost, typically under \$200, most models have a high false-alarm rate due to wind and rain and should never be relied on alone.

**SUBSURFACE ALARMS.** Fortunately this category of alarm technology continues to improve. Available models include underwater alarms which attach over the edge of the pool to the pool wall, or under water.



The alarms are designed to sound immediately when a child enters the pool. We highly suggest this type of alarm is professionally installed, detects immediately, doesn't create false alarms, and can reset after swimming.

**ON-BODY ALARMS (PERSONAL IMMERSION ALARMS).** Worn on the body, these devices will set off an alarm if they become wet.

While they can be a good layer of protection to be worn by children



who are visiting a home with a pool or spa, or while traveling, it is not recommended as a daily layer of protection against an always-present water danger.

**PERIMETER ALARMS.** Similar to an automatic garage door system, perimeter alarms work with lasers and are activated when something crosses the laser. The downside here is that pets could create false alarms.



**DROWNING DETECTION DEVICES & TECHNOLOGY.** New and emerging technologies such as camera and artificial intelligence drowning detection systems are available to alert you when there is a potential water emergency in your backyard pool or spa.

## layer four: SWIMMING LESSONS ARE A CRUCIAL LAYER



**EVERYONE SHOULD LEARN TO SWIM.** Unfortunately, swimming is not an instinctive skill for humans. We cannot survive in water unless we are taught how to swim, so it's important for all adults and children should learn this crucial skill.

Consult your pediatrician before considering any water safety/swimming lessons for children. Once you do, make sure that the swim instruction includes water safety and survival education at the appropriate developmental level.

Also check that the instructor is trained in swim instruction, child development, and currently certified in CPR (some are not). Observing classes before enrollment is a good idea to monitor lessons for safety skills, the effectiveness of the instructor, the child's reception to learning, and progress. Lessons should be continuous, and not taken for just one season - skills need to be developed and maintained. Even once classes are over, it's important to never consider children "drown proof." Nothing will ever eliminate the risk of drowning.

With the right instruction though, children can gain the competence, confidence and the respect they need to create a life-long love for the water.

## layer five: LAYERS ADDRESSING EMERGENCIES

***In addition to the preventative efforts we've talked about so far, here are a few ideas about how to be emergency-ready.***



**TELEPHONE.** Keep a phone poolside (a land line with the pool's physical address is best) for emergency use so that an adult can call for help if needed. Remember, calling from a cell phone won't automatically tell the 9-1-1 operator the location.

**LEARN CPR.** It's vital for anyone who lives in a home with a pool learn CPR and rescue breathing. Any babysitters or caregivers should also have current CPR training and certification. In a group, such as a pool party, at least one person should know CPR. Regardless of who it is, proper training and certification should be refreshed every one to two years, depending upon the certification agency, or more frequently if there have been recent changes in recommendations.

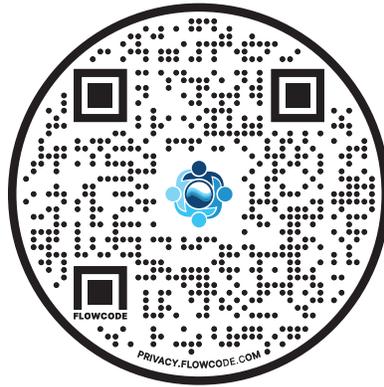
### WATER SAFETY COURSE & RESCUE EQUIPMENT

Pool owners and operators should enroll in a local water safety course that teaches proper rescue techniques. This course should include hands-on practice using rescue equipment that should be on hand at any pool, including a shepherd's hook and life-saving ring, as well as posted CPR instructions.



MAKE SURE YOUR CPR CLASS INCLUDES SPECIAL INSTRUCTIONS FOR BABIES AND TODDLERS

**MISSING CHILD.** If a child is missing, always check the pool first. Seconds count. If a child cannot be located immediately, call 9-1-1 and enlist assistance in the search.



**DROWNING IS PREVENTABLE!**



**PROUD PARTNERS WITH PHTA**