

THE FIVE  
LAYERS OF  
PROTECTION

1. BARRIERS AND ALARMS

2. SUPERVISION

3. WATER COMPETENCY

4. LIFE JACKETS

5. EMERGENCY PREPARATION

**DROWNING IS THE SINGLE LEADING CAUSE** of death for children ages 1–4. It remains a top cause of unintentional injury death for older children, teenagers, and adults. While it could happen to anyone at any age, young children are the most vulnerable due in part to their innocent and curious nature. Drowning happens quickly and quietly, so one layer of safety is not enough, multiple layers are necessary to help reduce the risk.

layer one:

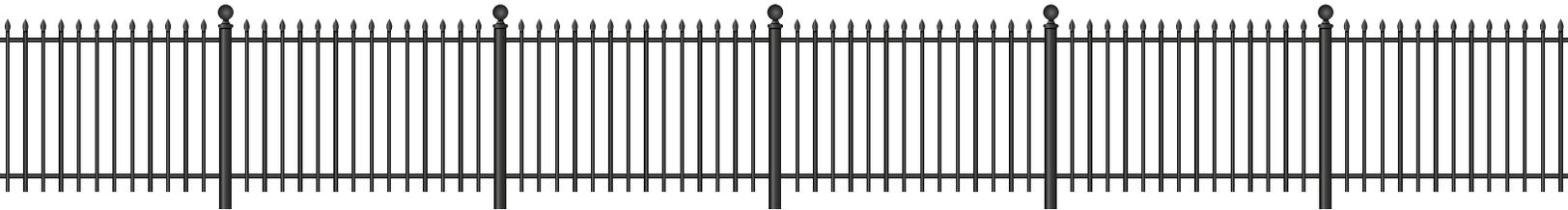
## BARRIERS THAT LIMIT ACCESS & ALARMS THAT ALERT YOU

**70% of child drowning happens during non-swim times. Since you can't always be around to keep an eye on your pool or spa, it's important to use a physical barrier to restrict unauthorized access and alarms to alert you.**

### 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 and does not protect those children who live in the house or guests invited to the home.

**4-SIDED 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 48" 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.

## PROPERTY PROTECTION cont'd

**GATES & LATCHES.** 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. For obvious reasons, the latch release should be out of the reach of children, at least 54" 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.

**PREVENTING 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. 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. Depending on your location and lifestyle, semi-automatic and manual 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.

# ALARMS

**DOOR, WINDOW & GATE 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. You can also 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, some models can 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.** Like 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.



## layer two: CLOSE, CONSTANT & CAPABLE SUPERVISION

*A pool is almost always the centerpiece of any yard for good reason, it's a fun and beautiful oasis for family and friends. But to a curious, young child, a pool is fascinating and mysterious. This means you, as a pool owner 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. 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. 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.

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.



IN THE TIME IT TAKES TO UNLOAD YOUR LAUNDRY A CHILD COULD DROWN. IT TAKES AS FEW AS :30 SECONDS FOR A TODDLER TO DROWN.



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

**WATER WATCHERS & LIFEGUARDS.** 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. It's also a great idea to swim around a lifeguard whenever possible, however, caregivers should remain vigilant even if a lifeguard is present.

## layer three: WATER COMPETENCY & THE SKILLS TO SURVIVE

**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 these crucial skills.

**WHEN TO START & WHERE TO LOOK.** We suggest speaking with your pediatrician before considering any water safety/swimming lessons for children. The AAP recommends starting swim lessons as early as age 1. Research shows that children ages 1–4 can reduce their drowning risk up to 88% if enrolled in formal lessons. 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 and currently certified in CPR.

Observing classes before enrollment is a good idea to ensure you and your child are comfortable, the child is receptive to learning, and to answer any question you have. 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 and confidence they need to create a life-long love for the water.



## layer four: LIFE JACKETS WHEN APPROPRIATE

***U.S. Coast Guard (USCG) tested, and approved flotation devices (life jackets) should be worn by everyone, regardless of age, when in or around open/natural bodies of water (such as lakes, rivers, streams, and oceans) and when boating. Life jackets should be sized appropriately for the wearer. Weak and non-swimmers should also wear tested and approved devices when they are around water and other layers of protection, such as supervision and barriers, are not in place.***

**WHEN TO USE A LIFE JACKET.** Always wear a life jacket when on or around open and natural bodies of water and when boating. Parents are encouraged to not overly use these devices for swimming in pools or delay the use of other layers of protection such learning to swim, the use of active constant touch supervision, and the use of barriers/alarms when swimming in pools. There is no evidence that life jackets alone can teach a child to swim. Remember, a life jacket is only effective if it is worn before someone enters the water. Never replace or substitute inflatable arm bands, inner tubes, or other water toys for tested and approved life jackets.



**APPROVED VS. NOT APPROVED.** Many of the devices available from major online retailers for young children do not include information on testing and approval, meaning they have not been USCG tested and approved. Not all devices sold by retailers are tested and approved flotation devices. Devices that are not tested and approved should not be considered a safe layer of protection or be part of a family's water safety plan. Flotation devices are tested and approved by the USCG based on their buoyancy and ability to protect someone while

boating. USCG approval has nothing to do with use in swimming pools, and certainly not in relation to learning to swim. While some programs utilize flotation devices as a tool in formal lessons, there is no evidence a child will learn to swim independently and proficiently or gain water competency by only using a flotation device.

## layer five: RESPONDING TO AQUATICS EMERGENCIES

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



**CALL FOR HELP!** 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 & PRACTICE 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 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.

# BECOME A WATER SAFETY CHAMPION TODAY!

At the National Drowning Prevention Alliance (NDPA), we count on true advocates like you to help spread the word. We've created the Water Safety Champion program to give consumers and industry advocates customized tools that will help you play a key role in preventing childhood drowning.



## A WATER SAFETY CHAMPION:

1. Is informed of the key facts around childhood drowning.
2. Knows how to prevent it through the 5 layers of protection.
3. Shares this information with everyone who could be affected by drowning.

We invite you to visit [ndpa.org/champion](https://ndpa.org/champion) and join our movement by becoming a Water Safety Champion today!

To view the Layers of Protection film, scan this QR code.



**DROWNING IS PREVENTABLE!**



**MADE POSSIBLE BY GENEROUS SUPPORT FROM  
CEK FOUNDATION'S INITIATIVE TO END CHILDHOOD DROWNING**