

USING LAYERS OF PROTECTION FOR SWIMMING POOLS AND SPAS

Pool & Spa owners are already taking some action to help prevent drowning. Using Layers of Protection will increase the safety around pools and spas. Layers of Protection include both **physical** and **non-physical** strategies, each with its own benefits and limitations that should be considered.

Physical Strategies Include:

- Isolation fencing, completely surrounding the pool area
- Secure property fencing to keep neighbors out of the pool area
- Gates that are self-closing AND self-latching
- Emergency Equipment such as life-ring, shepherds crook, and phone
- US Coast Guard approved life-jackets
- Alarms for doors, windows, gates, children, and right at the water
- Pool and spa safety covers
- Anti-entrapment drain covers

Non-physical Strategies Include:

- Active adult supervision when swimming is NOT intended
- Water Watcher program and Touch Supervision when swimming
- Learning to Swim, children and adults ages 1 and older
- Current CPR Certification
- Emergency response and water rescue classes
- Maintaining a 4-foot clear zone around the pool fence
- Removing all toys from the pool area

Why do we need layers? Isn't one just fine?

No. None of the layers listed above have been proven to eliminate ALL drowning risk. Layering protection is important so that if one layer fails another is present to stop the child from entering the water.

Supervision should be enough, right?

No. Although supervision is the most important way to keep kids safe, most of the children who drown were being supervised by one or both parents. Small children are very curious and are attracted to the water. Physical barriers are needed as additional layers to keep children from the water if the parent is distracted for just a minute.

Where can I get more information about how to keep my pool area safe?

National Drowning Prevention Alliance www.NDPA.org

Pool Safely campaign of the US Consumer Product Safety Commissions www.poolsafely.org

UNDERSTANDING SUPERVISION AROUND POOLS & SPAS

Drowning prevention experts agree that supervision is an important layer of protection. Supervision is the first and last line of defense in drowning prevention. Unfortunately, supervision can NEVER be relied on alone to be effective in preventing drowning. *Approximately 75% of all drowning deaths to children ages 1-4, there was an adult providing supervision at the time.*

Supervision is best described in the following two common situations:

SUPERVISION WITHOUT INTENTION OF SWIMMING

This situation occurs daily for pool and spa owners. These are the countless days when regular household routines are being followed, the pool is closed, and there are no plans for swimming in the pool or spa. Regular daily supervision of children can't be guaranteed to be present each and every minute of the day. Momentary lapses in daily supervision are expected, such as during household chores, using the restroom, or when the child is napping. It is during these times, *WITHOUT INTENTION OF SWIMMING*, when other layers of protection should be in place to guard against unauthorized access to the pool or spa.

Use these Layers of Protection as back-up to Supervision Without Intention of Swimming:

- 4-Sided Isolation Fencing
- Self-Closing, Self-Latching Pool Gates
- Pool Safety Alarms on doors, windows, gates, and at the pool
- Pool Safety Covers

SUPERVISION WHILE SWIMMING

Pools and spas are designed for enjoyment – safe enjoyment. Unfortunately, drownings still occur even when adults are present at the poolside. When swimming is intended recommendations for supervision is quite different. All the Layers of Protection designed to limit access (fences, gates, alarms, covers, etc...) are no longer helpful in reducing the risk of drowning. Supervision at the poolside must be diligent and attentive. The NDPA and CPSC recommend using a Water Watcher: a responsible adult who knows how to swim and who knows CPR. The Water Watcher's job is to do nothing but watch the water and should be changed every 30 minutes. Always enforce the "buddy system" for children and adults when swimming: never let anyone swim alone – even for a minute.

Use these Layers of Protection as back-up to Supervision While Swimming:

- Swim Lessons for everyone over the age of 1 year
- CPR Certification for all supervising adults
- Use US Coast Guard approved life-jackets for all poor swimmers
- Use "Touch supervision" for all infants, toddlers or poor swimmers (one adult to one child)
- The Water Watcher should remove all children from the pool area if he needs to leave
- Never leave young children in the pool area under the supervision of older children
- If a child should be missing, the pool area should be checked immediately. Precious seconds of lost time can make a difference in rescue and recovery.

FENCES, GATES & LATCHES FOR POOLS & SPAS

Fences, Gates & Latches play a vital role in the Layers of Protection to prevent drowning. When properly constructed and correctly maintained they help to reduce the risk of unauthorized access to the pool area.

POOL FENCING

There are two types of fencing discussed for pools and spas: 4-Sided Isolation Fencing and Property Fencing.

4-Sided Isolation Fencing completely isolates the pool or spa from the house. It also does not include fencing that is shared with a neighbor (that's property fencing). By completely isolating the pool, 4-Sided Isolation Fencing greatly reduces the amount of entry points to the pool area. No house doors, no house windows, and no neighbors' yards. 4-Sided Isolation Fencing is the only physical barrier that has been shown through research to reduce the risk of drowning and is recommended by the NDPA and CPSC as a Layer of Protection.

Property Fencing is the typical fence that is set along your property line. While Property Fencing will provide a deterrent for neighbors to get into your pool area, you as a pool owner have no control over access points in the neighbor's yard. Objects in the neighbor's yard next to the shared property fence can serve as an easy climbing mechanism for small children such as trees, shrubs, water features, furniture, or even playground equipment. Property Fencing should be maintained to limit access to your pool area but should not be relied on alone as your only barrier to your pool area.

FENCE MATERIALS & CONSTRUCTION

Pool fences can be constructed of many types of materials such as wood, wrought iron, block, rock, mesh, or chain-link. No matter what the material, the fence must be constructed to meet local and national codes to be non-climbable and minimize access under the fence in case of erosion (if constructed over grass or dirt).

National recommendations state that fencing must be at least 48 inches tall, but many local codes require that pool fencing be a minimum of 60 inches tall.

A 4 foot "clear zone" should be maintained around the pool fence (no furniture, shrubs, barbeque, etc.) as these can be easily used as a climbing mechanism for young children.

GATE LATCHES

Gates are the weakest point in any fence. Pool owners should make sure all gates leading to the pool area are built according to best-practice recommendations and are regularly maintained. All pool gates should open outward from the pool area. All pool gates should be self-closing AND self-latching. They should be checked each time they are used to make sure they are in proper working order.

A fence, even one that is properly constructed and maintained, is only a deterrent and supervision should be maintained at all times.

SELECTING & USING POOL SAFETY ALARMS

Pool Safety Alarms are a great way to increase safety around residential pools and spas. However, because alarms don't actually prevent access to the water, alarms should never be used as the only Layer of Protection. Alarms should always be used as a back-up to supervision, fences, and other protective barriers.

Types of Pool Safety Alarms

Pool Alarms

These alarms, called Submersible Alarms, are used at the edge of, or in the actual water. They can be used for both in-ground or above-ground pools or spas. These products create a high-audible alarm at the poolside if they detect an object between 25-45 lbs. entering the water. There are many different models to choose from. Some offer adjustable sensitivity and some come with a remote receiver to place in the house.

Perimeter Alarms

The alarms use infrared beams to create an "invisible fence" around a pool or spa. An alarm sounds if an object passes through the beams. One example of this type of alarm is the POOLEYE. Some perimeter alarms allow for any configuration of pool area.

Door, Gate & Window Alarms

House doors, pool gates, and house windows are the most frequent point-of-entry for children who gain access to the pool area. Adding alarms to the house doors, pool gates, and house windows will alert adults if the door, gate, or window has been opened or has not been closed securely. These alarms usually have two or more mounted sensors. When the door, for example, is closed, the two sensors touch. But when the door is opened and the sensors are pulled apart, the alarm will sound. These alarms do come with a bypass switch that allows an adult to deactivate the alarm for a short time to pass through the door (or gate) without sounding the alarm.

Personal Alarms

These alarms are worn on the child's wrist and come with a base unit that is placed inside the home. Non-swimmers wear the wristbands and if they come into contact with any water the alarm sounds. These alarms are ideal when swimming is NOT intended or for specific visiting children who are not supposed to be swimming. They also have an optional mobile unit that can be used anywhere, although the range is limited. These types of alarms can also be used for pets.

Benefits & Limitations of Alarms

All alarms require an adult response when activated. Alarms do not prevent access to the water. Alarms should never be used as your only defense against drowning. While there is no scientific research that shows that alarms are effective in prevention drowning, alarms can be a beneficial addition to a pool or spa owner's overall prevention plan for water safety.

ENTRAPMENT PROTECTION FOR POOLS & SPAS

With all the many Layers of Protection in place, such as alarms, covers and fencing, our children can be safer than ever. However, there is yet another hazard, called **Entrapment**, which even direct supervision cannot prevent. This danger can cause serious injury and death to the most able and experienced swimmers.

FACTS ABOUT ENTRAPMENT

The issue of Entrapment received national attention in 2008 when federal legislation was passed to help prevent against entrapment injuries and deaths. The **Virginia Graeme Baker Pool & Spa Safety Act (P&SS Act)**, while providing legislation for public pools and spas, outlines recommendations for residential pools and spas as well.

Drain entrapments are frequently the result of a swimmer's body, hair, limbs or clothing becoming entangled in a faulty or flat drain or grate.

WHAT POOL & SPA OWNERS NEED TO KNOW

The National Drowning Prevention Alliance and the CPSC recommend the following:

- One of the most important factors in keeping children and adults safe from entrapment incidents in pools and spas is to install anti-entrapment or safety drain covers that are compliant with the P&SS Act
- If your drain covers were installed prior to 2009, they need to be checked
- Inspect your drain cover regularly to make sure it's not broken and is not missing
- Do not allow anyone to use a pool or spa if there are broken or missing drain covers
- Teach children to stay away from pool drains
- Know the location of your pool pump shut-off valve and make sure it is clearly labeled
- Maintain pool and spa covers in good working order
- A vital step in assuring the safety of a residential pool or spa is to have it inspected by a trained and qualified inspector. Contact state or local health department officials to find a qualified pool and spa safety inspector.

RESPONDING TO AN ENTRAPMENT EMERGENCY

- To respond to a drain entrapment, parents and families should immediately cut off the switch for a pool or spa pump
- To break a child free of a powerful suction from a drain, a parent can wedge a hand or finger underneath the child next to the drain grate and slowly break the connection between the child and the drain
- To avoid entanglements in pools and spas, parents should make sure children have secured long hair (in braids or swim caps) and are not wearing loose clothing and jewelry
- If clothing, hair or jewelry becomes entangled in a pool or spa device, adults should have scissors nearby to free children from drains and other mechanical devices

More information, including videos and PSAs can be found on both the NDPA and CPSC website.

EMERGENCY PREPAREDNESS FOR POOLS & SPAS

Emergency preparedness is considered the last line of protection against drowning. Emergency preparedness includes having proper rescue equipment at poolside, knowing proper rescue techniques, and knowing CPR. While pool & spa owners should add Layers of Protection to reduce the risk of a drowning incident happening, they should also be prepared to respond to an emergency should one occur.

Proper preparation and rescue during an emergency can make a difference between life and death of the victim. Following are some tips:

PREPARATION

- Bystander CPR has been shown through research to reduce the risk of drowning death. Take a CPR course as soon as possible.
- Current CPR Certification should be maintained by all pool & spa owners, supervising adults and teens, and parents. Be sure the CPR certification includes training on adults, children, and infants.
- Local CPR courses can be found by contacting your local fire department, American Red Cross, or YMCA. There are even some online courses available.
- Land line telephones (preferred) or cell phones allow for quick access to the 911 system so that EMS professionals can be dispatched quickly. Phones should always be available at poolside when swimming.
- Safety Flotation Buoys and aluminum or fiberglass poles that have a Shepherd's hook attached can be hung on fence areas. These items allow the rescuer to throw or reach out to a victim without having to enter the water area.

RESCUE

- Know the difference between a swimmer in distress and an active drowning victim.
- Struggling or distressed swimmers will use anything – even another person – to try to get their head above water. This survival instinct will often put the rescuer at risk. For a struggling swimmer, it is best to give them something else to grab onto such as a floatation device.
- A non-responsive active drowning victim should be pulled from the water immediately and supervising adults should begin CPR and call 9-1-1.

Proper response and CPR techniques are not skills that be learned during an emergency. Preparing is essential. It is important to know how to respond. Bystander CPR offers the last Layer of Protection once a drowning incident occurs.

Local firefighters and paramedics are highly skilled and trained in emergency response. But when a drowning occurs it is imperative that rescue and emergency response begin before the firefighters and paramedics arrive on scene. Your immediate response at the poolside can make a difference in increasing the chances of survival from the drowning incident.

Get prepared. Learn CPR. Be confident that you can take proper action if you have to. A life may depend on it.

RESOURCES FOR POOLS AND SPA SAFETY

The internet can be complicated when looking for accurate resources on Pool & Spa safety. This list is designed to assist Pool & Spa Owners in finding reputable website resources with information on increasing the safety around residential pools and spas.

Educational Webpage Resources

National Drowning Prevention Alliance www.NDPA.org
Pool Safely Campaign (US Consumer Product Safety Commission) www.poolsafely.org
Safe Kids Worldwide www.safekids.org
Centers for Disease Control (CDC) www.cdc.gov
American Academy of Pediatrics (AAP) www.aap.org
American Red Cross www.redcross.org
YMCA of the USA www.ymca.net
ABC's of Pool Safety www.abcpoolsafety.org
Home Pool Essential Course (NSPF) www.nspf.org

Manufacturer Webpage Resources

Aqua Safe: Pool Safety Nets www.aquasafe.com
Cover Pools: Automatic and Manual Pool Covers www.coverpools.com
Guardian: Pool Fences www.guardian-pool-fence.com
Leslie's Pool Supplies www.lesliespool.com
Lifesaver Pool Products: Pool safety covers and fences www.poolfence.com
Katchakid: Pool safety covers www.katchakid.com
Safety Turtle: pool safety alarms www.safetyturtle.com
Safety Pool Fences www.safetypoolfences.com
H2o Pool Products: drain covers www.h2opoolproducts.com
All-Safe Products www.all-safe-pool-fences.com

Swim Instruction Webpage Resources

Swim for Life Foundation www.swimforlife.org
USA Swimming Foundation www.usaswimming.org
United States Swim School Association www.usswimschools.org
Starfish Aquatic Institute www.starfishaquatics.org

Note: Inclusion of above websites and organizations does not imply endorsement. Accuracy of information found on websites other than NDPA or CPSC cannot be verified.