

# The Sensible Way to Enjoy Your Inground Swimming Pool



*An Essential Safety Guide—Mandatory Reading*



**POOL &  
HOT TUB**  
ALLIANCE

*It is your responsibility to enforce the rules of safety.*

# Preface

## The Sensible Way to Enjoy Your Inground Swimming Pool

Congratulations on being a pool owner! Your pool can provide your family and guests many years of fun and relaxation. But as with any product, you and only you can determine if your pool is used sensibly. The key to safe use of a product is a sensible and informed consumer.

This booklet has been prepared by the Pool & Hot Tub Alliance (PHTA) to inform you about general safe use, operation, and maintenance of your pool. It represents the current knowledge of the industry, but is not intended to cover all aspects of pool design operations, installation, and maintenance. It will help you understand some of the causes of pool-related accidents and how to prevent them. It is your responsibility to be sure that you, your family and guests use the pool sensibly.

Please refer to specific manufacturers' instructions for more details on product installation, use, maintenance, and safety and keep them along with this booklet for ready use and reference. Be sure to pass them along to future owners or renters.

## Important!

*If you have an aboveground/ onground pool, you should refer to the "Sensible Way to Enjoy Your Aboveground/ Onground Swimming Pool" booklet, which is a separate publication. Diving is prohibited at all times into aboveground/ onground pools.*





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*By carefully reading this booklet, you may save the life of a child or prevent serious harm to yourself, family members or friends. It is your responsibility to learn and understand safety principles and rules. To ensure safety, every pool owner must read this booklet.*

# Safety First

*Swimming pools are fun but along with the fun comes serious responsibility. Be sure that good times are safe times. Establish rules and enforce them.*

## Understanding Potential Dangers

It is the responsibility of the pool owner, parent, and caretaker to do everything possible to prevent accidents.

Informed pool owners and users are concerned about safety because serious injuries and even death can result from unsafe use of pools, pool equipment, and associated products.

By learning, setting and enforcing safety rules for your pool, you can help ensure that your family and guests are not victims of any of these unfortunate accidents. First-time users run the highest risk of injury. Before they enter the pool, inform them of the safety rules.

Here are the dangers that you should guard against:

❖ **Drowning** – According to the U.S. Consumer Product Safety Commission, drowning is the second leading cause of accidental death in children aged 1-14 in the United States, especially for children under five. Although the greatest percentage of drownings occur in natural aquatic settings, (e.g., oceans, lakes, quarries, etc.) drownings do occur in swimming pools. The water depth of any pool is sufficient for drowning to occur. The U.S. Consumer Product Safety Commission reports drowning of children even in water buckets and toilets.

Protecting young children from accidental drownings

and near drownings in all aquatic environments, whether natural or constructed, is a primary concern of the aquatic industry, health and safety organizations, and regulatory groups.

❖ **Entrapment**– Inground pools have one or more drains to facilitate emptying the pool and/or circulating pool water through heating and filtering systems. Powerful motors draw the water into these systems, and as a result, there is significant suction at the drain openings. **This suction is forceful enough to entangle or entrap hair, swim clothing or body parts, thereby creating a drowning hazard.** (See also pages 16–17.)

In recent years, manufacturers have designed drain covers that can minimize the risk of entrapment. It is strongly recommended that residential pools use approved anti-entrapment covers, along with additional protection for pools with single drains (unless they are unblockable) such as:

- Properly spaced multiple outlets
- An unblockable outlet
- Safety vacuum release system
- Suction limiting vent line
- Automatic pump shut-off system
- Gravity drainage system

Replacement drain covers for residential pools must meet federal law.

Note that disabling the drain(s) or reversing the flow eliminates entrapment hazards completely and should be discussed with a service professional.

*Note: Never swim in a pool or use a spa or hot tub that has a broken or missing drain cover.*



❖ **Paralysis** – Improper diving or sliding, alcohol consumption, horseplay, or roughhousing in and around swimming pools may lead to serious neck and spinal injuries including paralysis, leading to quadriplegia or paraplegia. A number of these injuries occur yearly, with the overwhelming majority occurring in shallow water. A number of people who ignored these rules and chose to dive into shallow water are now paralyzed. The facts show that many of these were experienced divers. Don't let this happen to you. Inform family and guests who come to enjoy your pool of the safety rules you have established.



*There is no backup layer of protection in the marketplace today for a missing or broken drain cover that will protect against all five suction entrapment hazards. The pool or spa needs to be closed to bathers until a compliant cover is securely in place.*

❖ **Burns/Fires** – Chemicals needed for clean, sanitized water are potentially harmful when stored or used improperly. If mixed with other chemicals or elements, explosions and fire can occur. Read the label and follow manufacturers' instructions. Always store chemicals where they cannot be reached by children.

❖ **Electrical Shock/ Electrocutation** – Water is an excellent conductor of electricity. Electrical shock or electrocution can occur in a pool if live electrical current flowing through appliances and devices (including current from

a telephone) comes into contact with the water. Make sure all electrical appliances and devices are protected by a **ground fault circuit interrupter (GFCI)**.

❖ **Cuts, Contusions, and Abrasions** – The pool environment, as well as associated products and equipment, can be a source of injury to users. Slipping and falling can result in cuts or scrapes or broken legs and arms. Running should never be allowed on a pool deck. Horseplay, improper use of equipment or failure to follow manufacturers' instructions or warnings can result in serious trauma and permanently disabling injuries.

# Safety First

## Drowning Prevention Tips

### Adult Supervision

#### There is NO SUBSTITUTE FOR ADULT SUPERVISION!

In the time it takes you to run inside to answer a phone or take something out of the oven, a child could drown. NEVER leave children alone while they're swimming. Not even for a minute!

#### And...NO DISTRACTIONS when watching children!

Reading a book, cooking on a grill or talking to your friends is not adult supervision. Assign an adult in 15-minute intervals to be the "water watcher." You'll save lives and everyone will have an enjoyable experience.

Drowning prevention information is not "for someone else." It is for you. Because only by increased awareness and effort, can we reduce some very alarming statistics. Drowning is one of the leading causes of accidental death for children under the age of five. This is an avoidable accident, which can be prevented by constant adult supervision. (See more on Supervision on pages 7– 8.)

In addition to the Pool & Hot Tub Alliance, organizations such as the American Red Cross, the National Drowning Prevention alliance, Think First, the Centers for Disease Control, Young Men's Christian Association (YMCA) and the National Rehabilitation Hospital, recognize that **constant adult supervision is the primary element in an integrated approach to drowning prevention.**

### Layers of Protection

While supervision is the key to accomplishing the objective of reducing the number of submersion incidents, it is well known that, at times, children may do the unexpected, catching their supervisors off guard. Because being caught off guard does occur and there may be a lapse in supervision, the Pool & Hot Tub Alliance (PHTA) has developed the ANSI/APSP/ICC-8 2005 (R2013) *Model Barrier Code for Residential Swimming Pools, Spas and Hot Tubs*. This *Model Barrier Code* establishes layers of protection

to complement the requirement for constant adult supervision of young children around aquatic environments. **Remember, these layers of protection will only delay and may not prevent a toddler from entering the pool area.**

Supervision is the only way to prevent an accident.

You never want to rely on only one means of protecting your family and friends when they are enjoying the benefits of a pool, spa or hot tub. Putting a variety of devices in place is optimum so that if one fails, another is ready as a backup to help avoid unintentional accidents.

Layers of Protection should comply with State and Local Codes.

Methods include:

- Barriers (Most Codes require a minimum of 4-ft.-high fencing.)
- Self-latching and self-closing doors/gates
- Alarms (door, fence, pool, child)
- Safety covers

An outside phone and rescue pole are also recommended.



*A telephone near the pool area will provide quicker access to emergency assistance in case of an accident.*

Children are naturally attracted to swimming pools and associated pool toys. To prevent drownings and other serious injuries, you must keep children away from pools and all bodies of water in the absence of adult supervision. Listed below are some safety tips that can help save young lives. For more free information, request the brochures entitled “Children Aren’t Waterproof” and “Layers of Protection” from the Pool & Hot Tub Alliance, available at [PHTA.org](http://PHTA.org).

- If you must leave the pool area, even for one minute, take your child with you. One lapse in supervision can spell tragedy. Do not allow anyone of any age to swim alone. Examples of good safety behavior by adults are important models for children to follow.
- **Teach your children to swim.** Three to five years of age is the best time for swimming lessons. However, do not be lulled into a false sense of security because your child knows how to swim—adult supervision is still required. Never consider children water-safe despite their swimming skills, previous instruction, or experience. Many professionals warn that these lessons may provide a false sense of security to a child’s family and not actually prepare a child for surviving a true emergency.
- Floating toys attract youngsters. Remove toys from the pool when not in use. Your child can easily fall into the pool while trying to retrieve one.
- Keep toys, particularly baby walkers, tricycles, or wheeled toys away from the pool. A child playing with these could accidentally fall into the water.
- Do not rely on plastic inner tubes, inflatable arm bands, or other toys to prevent accidents.
- Remove vegetation and other obstacles to assure a clear view of the pool from the house.
- Make certain that all doors leading from the house to the pool area have a self-closing, self-latching mechanism above the reach of toddlers to protect against unauthorized entry to or use of the pool area. Limit access to the pool by locking doors or gates whenever swimming cannot be supervised.
- A fence, wall, or natural barrier should be of sufficient height to keep unauthorized people out of your pool. If access gates are used, they should have a self-latching or self-closing mechanism.
- If you use a pool cover as a safety cover, it must comply with ASTM F 1346 *Standard Performance Specification for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs*. Carefully read the manufacturer’s directions for safe use. **Always completely remove the cover before using your pool. Drain any standing water from the surface of your pool cover (e.g., by using a water pump). Even a small amount of water may be sufficient for a small child to drown.**

Be especially alert for potential drowning accidents if you use any

### *CPR training can be lifesaving.*

lightweight, floating pool covers (i.e., solar or insulating covers).

No one should walk or crawl on the cover. The pool should never be used when these covers are in use because someone could be entrapped.

- Maintain a clear zone around the perimeter of the pool. Do not place objects (e.g., chairs, tables, or equipment) near the pool barrier because a child or youngster could climb them to gain access to the pool.
- Keep lifesaving equipment next to the pool. These items should remain stationary and not be misplaced.
- To avoid entrapment, never use a pool if any of the drain covers or grate outlets are missing or broken.
- Do not permit playful screaming for help (false alarms) that might mask a real emergency.
- Never leave children with caretakers or supervisors unless they are capable and responsible in the pool environment.

- Supervision shall be continuous when the pool is in use. (When one supervisor is called away, e.g., to answer the door bell, another supervisor must be appointed immediately.)
- When the pool is not in use, the pool owner is responsible for safeguarding the pool.
- Prolonged underwater breath-holding can lead to loss of consciousness or death, even in shallow water. Never allow anyone to hold their breath or stay underwater for more than a few seconds.

cell phone) in the pool or spa area.

2. Give your:
  - A. Name,
  - B. Location, and
  - C. Telephone number you are calling from.
3. Tell what happened and how many people need help.
4. Don't hang up the phone until after the emergency person does. Adults in the family should be trained in cardiopulmonary resuscitation (CPR). CPR is the combination of rescue breathing and artificial circulation for victims of respiratory or cardiac arrest as a result of drowning, heart attack or other causes. CPR training is available through the local chapters of the American Red Cross or the American Heart Association.

### **In Case of Emergency**

1. Dial the local emergency telephone numbers (9-1-1, or the appropriate 10-digit number for Emergency Medical Service [EMS], Fire or Police). It is advisable to install a telephone (or use a cordless telephone, or

### **PREVENTING AN EMERGENCY IS THE BEST PREPARATION:**

**Never leave a child alone in or near a pool,  
spa or any other body of water!**

# Guidelines for Using Inground Pools

*Supervision,  
supervision,  
supervision...  
is the key to  
preventing drowning.*



As a pool owner, you may be legally liable for the safety of all persons who use your pool. You have the ultimate responsibility. Be sure your insurance policy is updated to include ownership of your pool.

But facing ownership responsibilities does not mean taking the fun out of using your pool. If you apply safety practices and use good judgment, you will find that the benefits of a pool can far outweigh the risks. Here are some guidelines for using your inground swimming pool.

## Supervision

Supervision is a key element in getting maximum, safe enjoyment from your pool.

**One individual must assume primary responsibility for supervising the pool.** The pool supervisor must study the contents of this booklet and be thoroughly familiar with all facets of the safe operation and maintenance of the pool. He or she will take responsibility for communicating pool safety information to all persons who enter the pool area. It is a good idea to designate

a backup for times when the primary supervisor is unavailable.

The supervisor is responsible for enforcing “pool rules.” Draw up these rules from information in this booklet and other pool safety information you can gather from informed sources, such as the manufacturers, the Young Men’s Christian Association (YMCA) or the American Red Cross. These rules should cover such things as the proper use of diving boards and slides, diving and non-diving areas, pool games, consumption of food and alcoholic beverages, pool maintenance, use of electrical appliances, and the handling of chemicals. Establish rules immediately. Write them in simple language and post them where they are easy to see, near the pool. Use the safety information in this booklet to develop your safety rules.

These rules should be clearly communicated to and understood by all persons, young and old, who use your pool. **Most importantly,**

## Guidelines for Using Inground Pools

**consistently enforce these rules.** Never leave the pool unsupervised. When supervision is not available, even for a moment, close the pool.

**It makes sense to pay special attention to educating young children and non-swimmers about important safety precautions.** Make sure that your children learn how to swim and dive (if appropriate for your pool), and that they know how to properly jump or slide into the pool.

*Always steer up for a safe dive.*

Instruction is available from community groups such as the American Red Cross, the Young Men's Christian Association (YMCA) or Young Women's Christian Association (YWCA), Boy Scouts, Girl Scouts and other similar organizations. When appropriate, you may want to also teach your children about equipment maintenance and proper upkeep of the pool. As they get older, your children will learn from your example that they must respect the swimming pool and pool area, and act responsibly.

It also makes sense for the supervisor and other responsible family members to be trained in artificial respiration and/or cardiopulmonary resuscitation (CPR). Instruction is available from local community organizations. **Remember: There is no substitute for adult supervision!**

In pools where there is a deep end (greater than 5 feet of water), a rope and float line should be installed to designate the transition from the shallow end to the deep end. Make sure non-swimmers and small children stay on the shallow side of the rope.

### Swimming Ability

To properly supervise your pool, you must be able to identify "real swimmers" from "non-swimmers." This is no easy task. A working definition of a swimmer might be someone who has achieved minimum swimming proficiency by passing a certified course of instruction. Use your best judgment—many people overestimate their abilities. Keep a watchful eye for "swimmers" who appear to flounder in your pool.



**If you are uncomfortable with people's swimming abilities, make sure they stay in shallow water and watch them closely.** If you wish to teach non-swimmers or poor swimmers, the shallow end of the pool is an excellent place for instruction. Make sure they keep to the shallow end. Use a rope and float line to divide the shallow and deep ends.

**Never swim alone or allow others to do so.** Never swim when overtired, feeling chilled, or after taking drugs or alcohol. It is best not to swim immediately after eating a heavy meal.

Describe or demonstrate to everyone the under-water shape and depth of the pool. You should be aware that visual inspection of the pool may be misleading due to a variety of factors.



Never allow children or other bathers to play with or swim near drain covers.

## Entry—Diving and Sliding

Do not allow any diving or headfirst entry into any pool until you are sure the pool is designed for diving and meets all standards for diving pools, such as the ANSI/APSP (the Pool & Hot Tub Alliance (PHTA)) Standards. Consult your pool builder or PHTA member if you have any doubts. Do not allow diving into a pool, or any part of the pool, that is not deep enough for diving. It is recommended that “No Diving” signs be placed at all areas of the pool where diving is not appropriate.

Your first entry into a pool should be feet first so you can determine water depth and pool configuration. Headfirst entry into the water can lead to a very serious, life-threatening accident.

**The chief danger for divers or headfirst sliders is serious spinal injury.** They may hit their heads against the bottom or side of the pool or against some object or person. Injuries to the spinal cord may result, causing

temporary or permanent paralysis or death. **Never use alcohol or drugs while diving or swimming.**

Research studies have shown that you cannot rely on the water alone to slow you down sufficiently to avoid injury. Protective action must be taken by the diver. **Serious spinal injuries can occur even at very slow speeds if the head strikes firmly against the pool bottom or side.**

The spine cannot absorb as great an impact as the skull can, especially if the head has been fixed against an immovable object. If you are diving or sliding headfirst and hit your head on a hard surface, your chin goes down (rotates) to your chest. Your head stops, but the rest of your body keeps on coming. You could break your neck, back and/or sever your spinal cord.

Many inground pools are not intended for diving at all. No diving equipment should be installed or used on these pools and headfirst entry should not be permitted. Diving equipment must be installed and used only in strict compliance with the equipment manufacturer's instructions. This includes the minimum dimensions and slope of the pool and

*Too steep a dive can cause your head to hit the bottom. This can result in a broken neck and paralysis.*



diving area, as well as the proper means of entry from a diving board. When you do dive follow the basic safety rules on pages 10-11.

### Principles of Entry

**Diving and sliding require you to think ahead.** Your personal safety depends on it. Because once you've started your dive or slide entry, you don't have time to think or change. Before you dive or use a slide, you should determine the shape of the pool bottom, find out how deep the water is and plan your entry path to avoid other persons or obstructions.

Most entry accidents happen in shallow water. Never dive or slide headfirst in the shallow part of the pool. **Headfirst sliding is prohibited on pool slides, which should be stated in the manufacturer's instructions.** A well-trained diver can execute a dive in shallow water, but for the majority of people, such a dive represents a serious risk of injury. Be concerned. Be smart—do not dive into shallow water. Use a rope and float line to locate where the shallow water ends. The pool owner is

responsible for allowing diving only into the proper area of the pool. You should also post "No Diving" signs where the water is too shallow for diving.

**When you begin your dive you must get ready to steer up. Always plan your dive and make a shallow dive.**

**By keeping your head and hands up, you help protect your head from striking bottom.** If a diver's head hits bottom, serious neck and spinal injuries may occur. So always remember, head and hands up!

**And finally, as you follow through, you must learn to control your entry path through proper use of hands and arms.** The proper follow-through technique is to have the arms extended fully, hands flat and tipped up.

Investigations have shown that many diving accidents have resulted when people were using the pool under the influence of alcohol or drugs. **No one should dive after drinking alcohol or while under the influence of any drugs.**

Don't run and dive. That can give you the same

*Standing, diving, jumping, or horseplay on or around a slide can lead to falls resulting in paralysis or other serious injury. Make sure your slide is right for your pool. Learn the correct ways to slide and enforce proper use.*

impact as a dive from a board. And don't dive across the narrow part of pools. Remember that injuries have occurred after diving from strange places such as roofs, balconies, walls, fences and other places that were not meant for diving. Therefore, never dive from any elevation other than a properly installed diving board.

**Diving and sliding equipment must not be used improperly—absolutely no horseplay.** Only one person at a time should use such equipment. The second person does not enter the water until the first person has cleared the entry area. Never allow diving equipment to be used as a trampoline.



## General Use of Pool Slides

Improper use of pool slides can present the same potential dangers as improper diving techniques. **Headfirst sliding is prohibited. See manufacturer's instructions and warnings.**

If you use a pool slide, you must have a landing area with adequate clearance over the deck or the edge of the pool (the coping), and with an appropriate depth of water. Follow the slide manufacturer's specifications regarding clearance and depth, installation instructions and proper use.

When you are writing your "pool rules," consider who will be using your slide and how. Enforce proper use of the slide. Follow manufacturer's instructions and warnings.



## Under all circumstances you should prohibit:

- Any slide other than sitting, feet first
- Headfirst entries from a slide
- Horseplay
- Any slide entries by non-swimmers into deep water, to protect them from drowning
- Standing on the top of a slide or outside the guide rails
- Jumping from a slide
- Diving from a slide
- Sliding into areas with submerged obstacles, surface objects, or other swimmers.

## Jumping

Jumping incorrectly into shallow water can be dangerous, and injuries, such as a broken leg, can occur if you hit bottom with sufficient force. **Before jumping, know the depth of the water and look out for any submerged obstacles, surface objects, or other swimmers.** Always jump directly forward from the edge of the pool or the diving board.

*Alcohol or drugs do not mix with pool activities.*

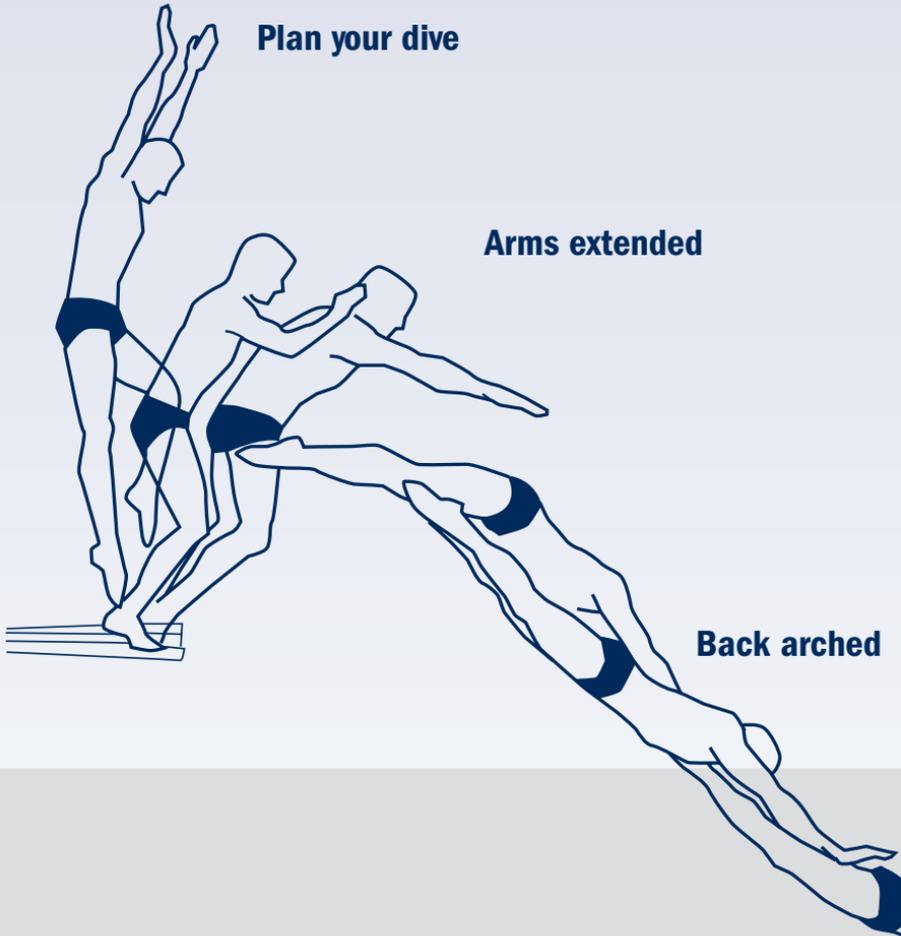
Certified swimming instructors can teach you how to jump correctly into a pool. This is especially important for beginning swimmers or children and should be part of their water safety instruction.

## Exercise and Fitness

Your pool provides a place for convenient, effective exercise. It can be used for both serious lap swimming and for performing calisthenics and other exercises. Before beginning any exercise program, consult your physician.

**Lap swimming is perhaps the best form of aerobic conditioning—you can efficiently exercise your heart without placing stress on your weightbearing joints and the lumbar spine.**

# Some DOs and DON'Ts of Diving



**Always steer up for a safe dive.**

## DOs

- ✓ Do know the shape of the pool bottom and the water depth before you dive.
- ✓ Plan your path to avoid submerged obstacles, surface objects or other swimmers.
- ✓ Dive straight ahead—not off the side of a diving board.
- ✓ Hold your head up, arms up, and **always steer up** with your hands.
- ✓ Keep arms extended and head and hands up.
- ✓ Practice carefully before you dive.
- ✓ Test the diving board for its spring before using.
- ✓ Remember that when you dive down, you must **always steer up**.

## DON'Ts

- ✗ Don't drink and dive.
- ✗ Don't dive into an aboveground pool.
- ✗ Don't dive into a pool not meeting a "diving pool" standard.
- ✗ Don't dive or slide headfirst in the shallow part of the pool.
- ✗ Don't dive across the narrow part of pools.
- ✗ Don't run and dive.
- ✗ Don't dive from any place that is not specifically designed for diving.
- ✗ Don't engage in horseplay on diving or sliding equipment.
- ✗ Don't use diving equipment as a trampoline.
- ✗ Don't do a back dive; backyard pools are not built for this dangerous dive.
- ✗ Don't try fancy dives; keep the dives simple.
- ✗ Don't dive or slide headfirst at or through objects such as inner tubes.
- ✗ Don't put diving or sliding equipment on a pool that wasn't designed for it.
- ✗ Don't swim or dive alone.
- ✗ Don't dive into unfamiliar bodies of water.
- ✗ Don't engage in extended breath-holding activities underwater.

### Head and hands up

### Hold diving form



### Entertaining

Your pool area can be the setting for great entertaining. **Plan ahead to prevent accidents and injuries, and make your entertaining truly enjoyable.**

- Whether you're having a party or just having a few people over for a swim, think about the number of invited guests and their swimming skills. Plan ahead. Invited children require more of your attention.
- Food and drink play an important part in your entertaining. Establish an area away from the pool for refreshments to prevent accidental slips or falls caused by spills near the pool or on the deck and to prevent debris from falling into the pool.
- More likely than not, your guests will be bare-footed while near the pool. Use only unbreakable dishes, beverage containers, and utensils. Never use glass anywhere near the pool. Broken glass is invisible in water and extremely difficult to get out of the support system.
- Keep electrical appliances a significant distance from the pool. Don't use extension cords. **Use a ground fault circuit interrupter (GFCI) on any appliance that must be at poolside.** Where possible, use battery-operated appliances around the pool. Electrocutation from appliances and telephones in contact with water is a real danger.
- Insist that poor swimmers or non-swimmers among your guests stay in water that is not over their heads. Do not assume that everyone near or in the water can swim well or will know what to do in the event of an emergency.
- Wherever practical, anyone who uses your pool should shower with soap and water before use. Showering before use washes away many of the common skin bacteria and removes lotions, deodorants, creams, etc. Perspiration and lotions will reduce the effectiveness of the pool disinfectant and lessen the efficiency and effectiveness of the filter.

*Entertaining can be both fun and safe with a little planning and good judgment. Use only unbreakable dishes, beverage containers and utensils. And never allow anyone to use the pool under the influence of alcohol or drugs.*

- People with skin, ear, genital or other body infections, open sores or wounds should not use the pool because of the possibility of spreading infection.
- If you use your pool at night, provide adequate lighting in and around the pool so that the pool bottom is clearly visible.
- **Use of alcohol or drugs does not mix with pool activities.** These substances act as depressants. They can "slow you down" because they affect the part of the brain that exercises restraint and control. Alcohol can instill false courage or bravado, leading people to try things they normally would not, such as horseplay or swimming and diving competitions. Therefore, persons who have been drinking alcohol should not be allowed in the pool and should be carefully supervised in the area surrounding the pool.



- Prescription medicines sometimes cause drowsiness or have other side effects. Guests who are taking prescription medicine should check with their doctor before using the pool.
  - Using inflatable toys, rafts, and floats in your pool can be fun. But remember that they are also deflatable. Poor swimmers or non-swimmers should use them only in shallow water.
  - Games that may appear safe sometimes are not. Encourage and supervise the use of good pool games and toys. Prohibit horseplay, especially throwing or pushing someone into the pool.
  - Prohibit activities such as diving through an inner tube. Serious head or neck injuries could occur regardless of water depth, due to hitting the head on the inner tube and/or the bottom or side of the pool.
  - Help guests who have removed eyeglasses or contact lenses for swimming to be aware that their depth perception and ability to judge distance is changed. Children especially may be unaware of the difference.
- Do not allow running on the pool deck, as injuries may occur from slips and falls. Stay out of your pool during lightning or rainstorms because there is a possibility of electrocution from the lightning hitting the water.
  - **You have the bottom-line responsibility in poolside entertaining. Use good judgment to help protect yourself, your family, and guests.** If in doubt, prohibit use of the pool by persons whose condition or ability you doubt. Remember that you are in charge of your pool.

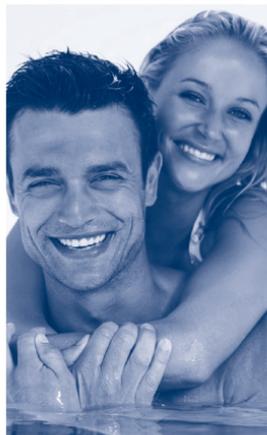
alcohol is involved in 50% to 80% of all serious diving accidents.

Plan your events so the swimming comes before the drinking. The effects of alcohol are a major contributor to all other pool accidents. Supervise your pool activities.

## One More Word on Drinking

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Many people believe they have to drink a lot to be affected by alcohol. Studies show this just isn't true. **The alcohol in just one or two beers can affect your judgment, even though you don't feel or appear to be "drunk."** Even a small amount of alcohol can slow your reflexes. This is especially true if you are tired or on medication—such as cold or allergy remedies or prescription drugs. Research shows



# Safe Operation and Maintenance

## Overall Safe Operation and Maintenance of Your Inground Pool

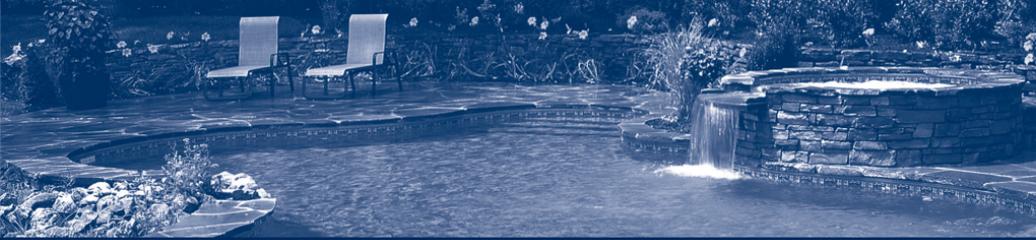
Keeping your pool in top operating form is very important to help ensure the safety of those who use it and to protect your investment. **Carefully read, understand, and follow the operating and maintenance instructions supplied by the pool manufacturer and the manufacturers of associated products (e.g., chemicals).** This booklet is not intended to replace information supplied by manufacturers. A good general rule is to visually inspect your pool area and equipment regularly. If anything looks broken, worn, corroded, frayed, or just not right, contact your pool professional for advice and repairs. A simple repair or replacement may prevent an injury or save a life. It may also prevent more serious or expensive equipment problems.

### Equipment In and Around the Pool

There are many products that you will buy to complement your pool. Be aware of all precautions related to the installation, use and maintenance of these products.

- ❖ **SUCTION FITTINGS (DRAIN COVERS)** – The drain covers are one of the most important safety features of your pool. **Never swim in or use any pool that has a broken or missing drain cover.** If that occurs, you must close the pool immediately and contact your service provider or installer so that they can make the necessary repairs.
  - Never enter the pool if a suction fitting or suction outlet cover (drain cover) is loose, cracked, broken, or missing. Immediately notify the pool owner or operator if you find the outlet (drain) cover loose, broken, or missing.
  - Never play or swim near suction fittings. Your body or hair may be trapped causing permanent injury or drowning. Tell children, particularly, that these devices are not toys. Instruct all swimmers not to stick their fingers, toes or body into them.

- Your pool's inlet and outlet fittings, grates, skimmer, and suction outlet (main drain) covers should be kept in good condition and in place at all times and should be secured in such a manner that they can't be removed without the use of tools.
- Your inground pool's suction outlet fittings and suction outlet covers must comply with the latest edition of ANSI/APSP/ICC-16 2017 *Standard for Suction Outlet Fitting Assemblies (SOFA) for Use in Pools, Spas and Hot Tubs*. If the suction outlet cover is in compliance there will be a designation marker on the cover/fitting. If the drain cover does not comply, shut down the pool until the drain cover is replaced. Consult a pool professional.
- Anyone with long hair should be cautioned not to get their hair near a pool outlet. Hair entrapment is the leading cause



## WARNING ENTRAPMENT HAZARD



**Avoid Evisceration**



**Avoid Drain Covers**



**Avoid Body Entrapment**



**Avoid Finger Entrapment**



**Avoid Hair Entanglement**

of entrapment. The suction can cause hair or body entrapment and drowning. Never allow a child to play in a way that could permit the child's hair to come near the drain cover. If you have long hair, pin it up or wear a bathing cap.

- **ENTRAPMENT** – Older, missing or broken outlet (drain) covers or grates and other suction fittings can entrap hair or body parts and result in drowning. To prevent injury, be sure your pool is equipped with an outlet (drain) cover that is marked in accordance with ASME A112.19.8 *Suction Fittings for Use in Swimming Pools, Wading Pools, Spas and Hot Tubs* or the ANSI/APSP/ICC-16 2017 *Standard for Suction Outlet Fitting Assemblies (SOFA) for Use in Pools, Spas and Hot Tubs*. If you need assistance to determine this, please consult a professional.

- For further consumer awareness information, visit the website of the U.S. Consumer Product Safety Commission at [CPSC.gov](http://CPSC.gov), [PoolSafely.gov](http://PoolSafely.gov) and the Pool & Hot Tub Alliance at [PHTA.org](http://PHTA.org).

### ❖ **POOL COVERS (SOLAR OR INSULATING ONLY)**

- Pool covers are a real benefit to you in terms of saving energy and keeping debris out of the pool. For safe installation, use and maintenance of these covers, carefully read and follow the directions of the manufacturer. **These are not safety covers. They do not prevent drowning or entry into the pool.** Safety pool covers must be in compliance with ASTM F 1346 *Standard Performance Specification for Safety Covers and Labeling Requirements for All Covers for Swimming Pools, Spas and Hot Tubs*.. Avoid the possibility of someone being trapped under the pool cover by completely removing the cover before use. For more information, see “Drowning Prevention Tips” on page 5.

*Layers of protection such as a fence, wall, or natural barrier around your pool can help keep out children under the age of five and all other unauthorized users. Make sure that your fence has a self-closing and self-latching gate and is properly maintained. Remember, there is no substitute for adult supervision.*



❖ **DECKS** – A deck or patio around your pool can add real beauty and enjoyment. Be sure your deck or patio has a slip-resistant surface with adequate drainage. Overall, slips and falls constitute the greatest number of accidents involving pools. Keep the deck or patio clean and clear of all debris. Check periodically for any signs of wear and tear, which may make these surfaces hazardous.

Insist that there be no running, pushing, or roughhousing near the pool. Never throw anyone into the pool.

### Layers of Protection

**Pools are attractive to children, and children must be kept away from them in the absence of adult supervision. Layers of protection such as a fence, wall, or natural barrier of sufficient height should keep unauthorized people out of your pool. All gates or doors with access to the pool must have a self-closing and self-latching mechanism that protects against unauthorized entry and use.** (The inside latch should be above the reach of toddlers or young children.) Check with your state and local government to learn their specific requirements

concerning barriers and other layers of protection around the pools. If none exists, contact PHTA for the recommended ANSI/APSP-8 2005 (R2013) *Model Barrier Code for Residential Swimming Pools, Spas and Hot Tubs*. If your pool is indoors, lock the door to the room or have a cover that locks, to keep out children and other unauthorized users. Doors, including sliding glass patio doors, should be self-closing and self-latching to prevent entry to the pool area by children. Alarms similar to burglar alarms may be placed on the doors to alert caretakers of unauthorized entry to the pool area. All fences can be climbed by



children given sufficient time. Do not assume that your pool is safe from entry because you have a fence. A fence may lull you into a false sense of security. **Only adult supervision can prevent drowning accidents.** All layers of protection must be kept in good working order at all times.

❖ **HANDRAILS, STEPS, AND LADDERS** – Handrails,

swimming pool steps, and ladders must be securely mounted. Routinely inspect them to ensure that they are firmly in place. Check for broken treads, sharp edges, and loose bolts and nuts. Keep handrails, steps, and ladders unobstructed for use. Don't use them for hanging towels or goggles, tying up rubber rafts and the like.

❖ **ELECTRICAL OUTLETS** –

To safely use electricity in and around your pool, you must have equipment expressly designed for this purpose. **Consult with a licensed electrician for help in equipping your poolside area correctly for electricity.** Ask the licensed electrician to be aware of any local

electrical codes that apply in your area to ensure that your pool and its equipment are designed and installed to conform to the National Electrical Code for pools and related equipment. Electrical work is not for do-it-yourselfers or other amateurs. Contract with a licensed electrician to make sure that all of your outside electrical lines (not just those for the pool, its equipment and accessories, but also other appliances used outside as well) are protected by ground fault circuit interrupters (GFCIs), which are designed to protect against the hazards of electrical shock.

If you are installing your own pool, it is your responsibility to make certain that all work performed complies with the National Electrical Code and all other applicable codes and regulations.

❖ **DIVING EQUIPMENT** –

**Diving equipment should only be installed on pools that have been designed to accommodate diving; diving equipment should never be installed on an aboveground pool.** Comply with the manufacturer's or installer's instructions and consult the applicable pool standards.

• The particular piece of equipment selected must be matched with your pool's dimensions. The selection and installation of diving equipment is not for do-it-yourselfers or other amateurs. Contract with a pool professional to do this job for you. Insist that diving equipment be installed in conformance with recognized pool standards such as those published by the Pool & Hot Tub Alliance (PHTA). Equipment manufacturers will provide detailed specifications with regard to minimum pool dimensions and slopes, as well as the proper elevation and location of their

products. Insist and ensure that all of these requirements are met or exceeded.

- Diving equipment must be kept in good repair. Routinely inspect this equipment to be sure it is firmly in place and check for sharp edges and loose bolts and nuts.
- Diving equipment surfaces must be slip-resistant. Keep them clean.
- Entering the water from a raised starting block entails a high level of risk and therefore starting blocks are not for use on residential pools.

### ❖ SLIDING EQUIPMENT

– **Just like diving equipment, sliding equipment must be matched to your pool and installed by a pool professional.**

In accordance with manufacturers' instructions, your pool professional will help you find the best location on your pool for the chosen slide. Sliding equipment must be kept in good repair. Routinely

inspect it to be sure it is firmly in place, and check for broken treads, sharp edges, and loose bolts and nuts.

### ❖ FITTINGS, GRATES AND DRAINS

– Your pool's inlet and outlet fittings, grates and skimmer, and main drain covers should be kept in good repair and in place at all times and should be secured in such a manner that they can't be removed without the use of tools.

- Tell children, particularly, that these devices are not toys. **Instruct all swimmers not to stick their fingers, toes, or body into them. Entrapment and drowning can occur.**
- Everyone with long hair should be cautioned not to get their hair near a pool outlet. The suction can cause hair or body entrapment and drowning.

For example, a drain without a grate can have a pull of approximately 700 lbs.—enough to hold an adult under water.

*Keep grates and drain covers in good repair and secured in place. Alert your family and guests to stay away from these devices, as the suction from drain outlets is strong enough to cause entrapment of hair or body parts and drowning.*

### ❖ FILTER SYSTEMS

– Most filter systems can maintain internal pressure even when shut off. **Never perform work on your filter equipment without turning the entire system off and bleeding off the internal pressure.** When you restart your filter after maintenance, or when you are turning on your equipment to put your pool in operation, always bleed off the air in your filter tank and then stand back. Serious bodily injury can occur if the top of the filter separates from the bottom with sudden force because of some problem or error on your part. Always securely clamp the top and bottom of a two-piece filter in accordance with the manufacturer's instructions. Serious bodily injury can result if the top of a two-piece filter is blown off by air pressure that is



allowed to accumulate in the tank. If you are at all unsure of how to proceed, ask your pool professional.

- Carefully follow the manufacturer's instructions for maintaining, servicing, or repairing a filter or separation tank. Regularly inspect this equipment while it is turned off, with the idea of replacing worn or damaged parts. Never inspect filtration equipment without being sure that the internal pressure has been bled off through the manual valve provided for that purpose.

- Filtration equipment requires care in handling as well as regular maintenance and replacement parts to function properly and efficiently.

❖ **HEATERS** – Heaters should be installed according to the manufacturer's instructions and should be in accordance with state or local government regulations or fire codes.

Heaters may be hot to the touch. Do not place or drape any flammable material (e.g., a towel or tee shirt) on top of or near a heater.

- If you wish to use a propane heater, consult your local regulations for the safe use, hook-up, and storage of propane products. These regulations may be under the control of local fire or municipal departments, county building codes, etc. Learn your local regulations and follow them. If using a propane or natural gas heater indoors, make sure that the products of combustion are vented to the outdoors to avoid possible deadly carbon monoxide poisoning.

- **With propane or natural gas heaters, when lighting or relighting the pilot or turning the heater on or off, refer to the manufacturer's instructions on the name and rating plate.** This plate is attached to the heater inside the control compartment. Following these

instructions will prevent injuries. Gas is explosive and flammable.

#### ❖ **LIFESAVING EQUIPMENT**

– Plan ahead for potential emergency situations by owning and being familiar with basic lifesaving equipment and procedures. **Have at poolside a device such as a solid pole, a rope, or a life ring, which can provide immediate assistance to a person in trouble.** Practice using these devices correctly to be ready in an emergency. Only use these devices for emergencies. Do not allow children to play with lifesaving equipment.

If proper equipment is not available in an emergency situation, throw something floatable (e.g., styrofoam toys or boards, etc.) into the pool for the person to grab onto until help arrives, or until he or she gets to the side of the pool.

*Don't guess with chemicals. Before using, read the labels and follow directions carefully. Be sure to store them properly.*

### ❖ ROPE AND FLOAT

**LINES** – If your pool has variations in depth, install and secure a rope and float line across the width of the pool 1 to 2 feet just before the point where the deep end slope begins. The rope and float line will alert swimmers and divers to the separation of the deep end and the shallow end of the pool. Prohibit playing with or hanging from the rope and float line.

### ❖ ADEQUATE LIGHTING –

If the pool is used after dusk, adequate lighting must be provided. Illumination in the pool area must be sufficient to clearly judge pool depth as well as all features in and around the pool. For recommendations, consult your local licensed electrical contractor.

### ❖ MAINTENANCE OF POOL WATER – **Keep the pool clean and clear of debris.**

For safety's sake, any pool user—or supervisor of young swimmers—must be able to see the bottom drain or bottom of the pool. This is especially important

for informed decisions about jumping, sliding, or diving.

- **Keep the pool filled to its proper level.** Periodically check the water levels.
- When opening your pool each year, have the water professionally tested to ensure safe swimming, and replace your own test kit reagents.

❖ **FIRST AID** – Have a complete first aid kit at poolside and make sure that someone knows how to use the contents properly. Post a list of emergency telephone numbers by the phone nearest the pool. This list should contain the names and telephone numbers of the closest physician, ambulance service, hospital, police and fire or rescue unit. It is a good idea to include your home address on this list.

- **At least one responsible person should be trained in artificial respiration and or cardiopulmonary resuscitation (CPR).**

Such training is available from local organizations such as the American Red Cross.

## Chemicals

The chemicals for your pool help make it clean, disinfected, and more attractive. But remember that these chemicals are potentially dangerous and may present some hazards if not used properly. Carefully follow the manufacturer's instructions for the use and storage of chemicals.

### ❖ **IN GENERAL, HERE ARE SOME TIPS FOR CHEMICAL USE AND STORAGE:**

- Before using chemicals, read the labels and directions carefully and follow the instructions carefully.
- Keep all chemicals out of the reach of children.



## STORAGE:

- Chemical reagents for test kits should be replaced each year.
- Keep the original lids on all chemical containers and make sure the lids are closed tightly when not in use.
- Do not stack different chemicals on top of one another.
- Store your pool chemicals in a clean, cool, dry, well-ventilated area, preferably off the floor to prevent contamination from other materials. Do not store chemicals near the pool heater. Keep them away from chemicals and equipment used for garden and lawn maintenance. Keep acids away from other chemicals.
- Keep liquid chemicals away from dry chemicals. Keep apart chemicals that are different forms of oxidizing compounds. Physically separate all different forms of chemicals.
- Do not store your pool chemicals where other flammable items could mix with them. For example, a mixture of pool chemicals and fertilizer can cause a fire or explosion.
- Wash your hands thoroughly after using chemicals.

## USAGE:

- Always add the chemicals directly to the pool water, either in a suitable feeder, distributed across the surface of the pool, or diluted and poured into the water. Follow use instructions on the label.
- When preparing water solutions for feeder application (e.g., disinfectant or soda ash) pour the chemical slowly into the appropriate amount of water, stirring constantly to thoroughly dilute and mix.
- Always add chemicals to water. Never add water to chemicals.
- Never add chemicals to the pool water while swimmers are using the pool.
- Carefully clean up any spilled chemicals with large amounts of water, to dilute and wash away the chemicals. Check with local authorities before sending disinfectants and pH adjustment chemicals to the sewer as waste.
- Wash out empty disinfectant containers before disposing to eliminate danger of fire, explosion, or poisoning.
- Test the water in your pool with a reliable test kit on a schedule recommended by your pool professional. As a rule, the more people who use your pool, the more frequently you should test the water. Add the necessary chemicals according to the test results and the manufacturer's instructions.

- Chemicals for test kits should be replaced every year.
- Do not inhale dust or fumes from any pool chemicals. If necessary, use protective devices for breathing, handling, and eye protection. Promptly wash off any residues that get on your skin.
- Never reuse old chemical containers.
- If you have any questions regarding safe handling, storage, or use of pool chemicals, contact the manufacturers.

### Electrical Maintenance

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Working with electricity is a job best left to the experts. Here are some general safety rules and precautions for electrical maintenance:

- Before working with any electrical equipment, make sure the electricity is turned off at the circuit breaker or fuse box.
- **Make sure that the electrical outlets near the pool are protected by ground fault circuit interrupters.** Ground fault circuit interrupters are designed to prevent electrical shock. They are a kind of “fail safe” device that can shut off electrical current in fractions of seconds. Ask a licensed electrician for more details.
- If you have any frayed cords, loose connections, sparking or arcing, turn off the power at the circuit breaker and call a licensed electrician.
- Have a licensed electrician inspect and test all equipment prior to initial operation and before each season.
- Never replace bulbs in underwater lights yourself. Get an expert to do this for you.

- Do not let water accumulate on floor or deck areas where electrical switches are located.
- Do not stand in water while operating electrical components.

### Recommended Use of Professionals

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For your protection, only pool professionals, licensed electricians, builders, carpenters, or other appropriate experts should perform the following services:

- Selection, installation, and servicing of diving boards; pool slides; electrical equipment; heaters, filters, and separation tanks; covers (including solar); solar systems; and plumbing and related devices.
- Acid washing of pool surfaces.
- Inspection and replacement of vinyl liners.
- Replacement and repair of electrical wires and apparatus including pool lights.
- Building of walls, fences, and other barriers as layers of protection.
- Annual inspection of all pool equipment and accessories.



## For More Safety Information

Pool & Hot Tub Alliance (PHTA) offers many publications and materials to help you enjoy your pool. They also offer informative materials on spas and hot tubs.

**Contact:**

Pool & Hot Tub Alliance  
2111 Eisenhower Avenue, Suite 500  
Alexandria, VA 22314

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

## Notice to Parents and Pool Owners

It is your responsibility to enforce the rules of safety. A good exercise would be to have each of your children and the other pool users who reside with you read this booklet and sign in one of the spaces indicated below. This will help you enforce the rules since you can always refer back to their promise reflected by their signature.

We the undersigned have read this safety booklet. We understand what is says and we promise to follow the rules of safety and to use our common sense.

Signed \_\_\_\_\_  
\_\_\_\_\_

**Parents:** The life and health of you and your children as well as your friends and neighbors are important. Please practice safety and supervise your pool.



**POOL &  
HOT TUB  
ALLIANCE**

2111 Eisenhower Avenue, Suite 500  
Alexandria VA 22314

**PHTA.org**

## About PHTA

Pool & Hot Tub Alliance (PHTA) is the world's oldest and largest association representing swimming pool, hot tub, and spa manufacturers, distributors, manufacturers' agents, designers, builders, installers, suppliers, retailers, and service professionals. Dedicated to the growth and development of its members' businesses and to promoting the enjoyment and safety of pools and spas, PHTA offers a range of services, from professional development to advancing key legislation and regulation at the federal and local levels, to consumer outreach and public safety. PHTA is the only industry organization recognized by the American National Standards Institute to develop and promote national consensus standards for pools, hot tubs, and spas. For more information, visit [PHTA.org](http://PHTA.org).

### **Warning:**

*There is no substitute  
for competent adult  
supervision in the  
swimming pool  
environment.*

*Lives depend on you!*