



# Entrapment Avoidance Guidelines

## What is Entrapment?

Entrapment occurs when someone becomes stuck to a drain or suction fitting in a pool or spa, either from water suction, or from getting stuck in an opening—even if the pumps are turned off. It is a serious potential hazard, particularly for children, who are too small to break away.

## How can I prevent it?

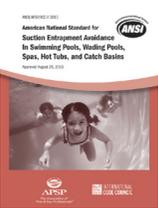
- Have your pool or spa inspected by a licensed industry professional. He/she can tell you if there's anything else you need to do.
- If your pool or spa has a missing or broken drain cover, do not use the pool! Have it replaced with one that is up-to-date and compliant with the ANSI/APSP Standards.
- Never let anyone swim alone, especially a child. A responsible adult, who can swim, should always be either right with the child, or actively watching.
- Never run your pump at higher speeds than the manufacturer's stated maximum. High water velocity can contribute to suction entrapment.
- Make sure your pool or spa is protected with proper barriers such as fencing and safety covers to prevent unauthorized access. Additional safety measures include various alarms and self-closing/self-latching devices.
- Make sure there is an emergency shut-off switch that is clearly marked by a permanent sign, easily visible in the pool or spa area, so that anyone can find and use it within seconds.
- Don't let anyone swim or play near drains and suction fittings. The suction at a main drain can be fatal.
- Maintain water clarity so that when standing at the pool's edge at the deep end, the deepest portion of the floor is visible including the drain cover.

## The 2008 Virginia Graeme Baker (VGB) Pool and Spa Safety Act

The VGB Act was passed by Congress with the support of the PHTA (formerly the Association of Pool & Spa Professionals) and its members. The Act imposes requirements for all drain covers, and requires retrofitting of all public pools and spas. The Act also encourages each state to adopt entrapment avoidance laws for residential pools and spas, and barrier requirements to prevent drowning.

## The Standards on Protection

Use these two standards to protect your customers from the risk of entrapment: *ANSI/APSP/ICC-7 2013 Standard for Suction Entrapment Avoidance in Swimming Pools, Wading Pools, Spas, Hot Tubs and Catch Basins*



*ANSI/APSP/ICC-16 Standard for Suction Outlet Fitting Assemblies (SOFA) for Use in Pools, Spas and Hot Tubs*

## Additional Resources:

Pool & Hot Tub Alliance  
[APSP.org](http://APSP.org)

U.S. Consumer Product Safety Commission – Pool and Spa Safety  
[PoolSafely.gov](http://PoolSafely.gov)

The Centers for Disease Control and Prevention (CDC) -  
Healthy Swimming  
[cdc.gov/healthywater/swimming/](http://cdc.gov/healthywater/swimming/)



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Courtesy of Michelle Vlach



**Keep your pool, spa, portable spa\* or hot tub free from entrapment risk**

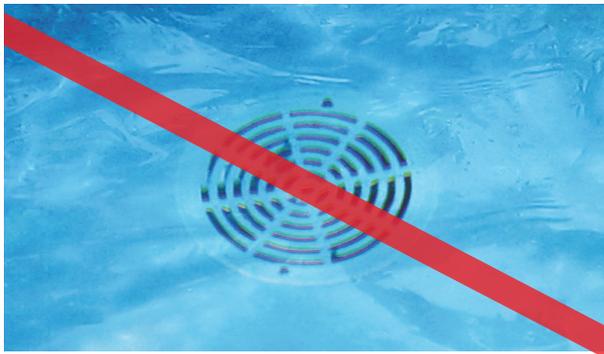


**POOL & HOT TUB ALLIANCE**



## Avoid Entrapment! Always follow these important rules:

- Never enter—and never let anyone enter—a pool or spa with a loose, broken, or missing suction fitting or drain cover.
- Never allow anyone to play or swim near drains or suction fittings. If a drain cover is not compliant with the new standards, or is loose or broken, bodies or hair can be trapped, causing permanent injury or drowning.
- Immediately notify the owner or operator of a pool or spa if you see a loose, broken, or missing drain cover. The pool or spa should be closed immediately, and an industry professional should make the necessary repair or replacement.



Example of a **non-compliant** blockable flat cover

There are 5 kinds of entrapment:

# ! WARNING

## Drowning Hazard



Avoid Drain Covers



Avoid Body Entrapment



Avoid Evisceration



Avoid Hair Entanglement



Avoid Finger Entrapment



Avoid Object Entrapment

- **Hair entrapment:** Hair can become entangled or knotted in an outlet cover.
- **Limb entrapment:** Arms or legs can get stuck in an outlet with a missing or broken cover, even when the pumps are turned off.
- **Body entrapment:** Any part of the body that covers an outlet cover can be held down by the suction.
- **Evisceration:** Sitting on an unprotected sump or an outlet with a broken or missing cover can cause injuries or disembowelment.
- **Mechanical entrapment:** Fingers, toes, and items such as jewelry or a bathing suit can become entangled and stuck in a non-compliant drain or cover, even when the pumps are turned off.

**There is no backup in the marketplace today for a missing or broken drain cover that will protect against all five suction entrapment hazards.**

Ask your pool professional what works best for your new or existing pool or spa. New pools must have—no drain, multiple drains, or a single “unblockable” main drain. Existing single drain pools require either a safety vacuum release system, an equalizer line, or any of several other solutions.

Make sure your builder and service professional know about the *ANSI/APSP/ICC-7* and *ANSI/APSP/ICC-16* Standards (see back panel), and will build and service your pool to meet them.

**Take these steps to keep your pool, spa, portable spa\* or hot tub safe and free from entrapment risk:**

- 1 Have your pool or spa inspected by an industry professional.
- 2 Have them replace any broken, missing or non-complaint outlet covers with a cover marked: **VGB2008**, and/or **Conforms to ANSI/APSP/ICC-16**. Do not try to do it yourself.

Compliant outlet covers are the only covers that may be sold. They are usually domed or ridged, not flat, and have openings that keep out fingers and prevent hair entanglement. They state on the cover, where they can be mounted, the maximum flow rates they can handle, and when they must be replaced.



Examples of compliant covers

- 3 If your existing pool or spa has **only one main drain, and it is not unblockable**, you can have the drain eliminated. If not you make sure you have an approved anti-entrapment cover, and also do one or more of the following::
  - add a second, properly spaced outlet (drain)
  - install a safety vacuum release system (SVRS)
  - install an automatic pump shut-off system
  - install a suction limiting vent system
  - add a gravity drainage system.

\* Portable factory-built electric spas/hot tubs that conform to UL1563 shall be deemed to be in compliance with these guidelines.