



Virginia Graeme Baker Pool and Spa Safety Act

By Terri Konchesky, MS, and Nancy Key, MS, GSP

From 1999 through 2008 there were 83 reports of entrapments in pools and spas resulting in 69 injuries and 11 deaths from drowning and/or evisceration. Few people are aware of the dangers from drain suction outlets. Hair, limbs, jewelry, clothing, or the entire body can become entrapped by drain suction when suction outlets are not properly covered. This has led to drowning deaths and in some instances small children have been disemboweled by the force of the drain suction.

The Virginia Graeme Baker Pool and Spa Safety Act went into effect December of 2007. The law requires that anti-entrapment drain covers and other safety systems be installed in public pools and spas. Pool and spa operators were given one year to comply, so the enforcement period is already in effect.

The latest data from the U.S. Consumer Product Safety Commission (CPSC) shows that nearly 300 children ages 5 and younger drown in pools and spas each year, and about 3,000 suffer injuries that require emergency room visits or hospitalization. Many of these injuries result in permanent disability, including brain damage.

At a press conference on Capitol Hill, May 21, 2009, CPSC Acting Chairman Nancy Nord stated, "Preventing child drowning is a key part of CPSC's mission. I call upon all parties, caregivers, and pool and spa operators to ensure that fencing and other layers of protection are in place; that there is constant supervision of children in and around the water; and that the new, safer drain covers that prevent entrapment incidents are installed."

DRAIN COVER REQUIREMENTS

Under the Act, all public pools and spas must have ASME/ANSI A112.19.8-2007 compliant drain covers installed. Facilities operating with a single suction outlet must add an additional layer of protection. There are multiple options that include suction-limiting vent systems, safety vacuum release systems, gravity drain systems, automatic pump shut-offs, or other means to disable the drain.

Drain cover testing and certification is performed by Underwriters Laboratories, the National Sanitation Foundation, and the International Association of Plumbing and Mechanical Officials (IAPMO). CPSC has asked manufacturers to label the approved drain covers "VGB 2008." Drain covers made during the summer of 2008 may have the ASME symbol on them instead. Covers also display the usage (single or multiple), the flow rate in gallons per minute, the life in years, whether they are for use as a floor or wall mount, and the manufacturer's name and model number.

All drain covers have to be compliant to the ASME/ANSI A1 12.19.8-2007 standard. As of December 29, 2008, non-compliant drain covers may not be imported, manufactured, distributed, or sold in the United States. Some drain covers were custom made and may be of unique design. These covers and other existing drain covers may already be compliant. Current drain covers must be certified that they meet the standard by a Registered Design Professional or a licensed professional engineer or be replaced with compliant covers. It is recommended that residential pools also comply by replacing their old covers.

ADDITIONAL PROTECTION

Public pools and spas with single main drains must have a secondary layer of entrapment protection in addition to the compliant drain cover. There are several systems available that can meet this requirement:

- **A safety vacuum release system** will stop operation of the pump, reverse the circulation of flow, or otherwise provide a vacuum release when a blockage is detected. This type of system must be tested by an independent third party and found to conform to the ASME, ANSI, or ASTM standards.
- **Suction limiting vent systems**, also called atmospheric vents, allow air to be introduced into the suction line, which causes the pump to lose prime and relieve the suction force at the main drain. The ASTM International voluntary standards task group is in the process of developing minimum requirements for suction-limiting vent systems. Currently there are no approved voluntary standards; however, the design and function should be certified and inspected by a licensed inspector.
- **Automatic pump shut-off systems** sense blockages and automatically shut off the pump. Some safety vacuum release systems meet this definition. The National Electrical Code (NEC 680.40) requires an emergency shut off switch that is accessible to users, but not less than five feet from a public spa, however this is not an automatic system as required under the Virginia Graeme Baker Act. There are no current voluntary standards for automatic pump shut-off systems. The current safety vacuum release system standards (above) do specify response and release times.
- **Gravity pools**, also called reservoirs, surge tanks, or surge pits, have a

separate collection vessel that the pump draws water from for pool circulation. Water flows from the pool to the collection vessel by means of gravity. This relieves the need for suction at the pool level, so they are automatically considered to have a second anti-entrapment system. They must still be fitted with VGBA compliant covers. There are no current voluntary standards for gravity drainage systems or collection vessels.

- **Drain disablement** eliminates, rather than mitigates, the hazard of entrapment by physically removing a drain from the system. Turning the drain off doesn't count. The drain needs to be re-plumbed, the piping needs to be cut and capped in such a way that it cannot be reinstalled, or the sump needs to be filled with concrete.
- **Other systems** may be designed or developed that would prevent or eliminate the risk from pool drainage systems. Such systems would have to be presented to the Commission and approved. This portion of the act allows for the development of future products and designs.


ENFORCEMENT

The U.S. Consumer Product Safety Commission has focused enforcement priorities on public wading pools, pools designed specifically for small children, and in-ground spas. State Health Departments may assist the agency in enforcement, but this will vary from state to state. According to the CPSC, State Attorney Generals have been given the power to close down any pool or spa that fails to meet the requirements of the Act, but this is under dispute by some states. State and local laws may be passed that are stricter than the Act as long as they do not prevent pool owners and operators from complying with the Act.

The Act also includes provisions for grant funding to states, but funds have not been appropriated by the federal government to date. When available, these funds may be used to hire and train

enforcement personnel and to educate pool owners, operators, and companies about the Act and about preventing drowning and entrapments.

MORE INFORMATION

CPSC launched the website *www.PoolSafety.gov* to provide information on regulations and drowning prevention. 

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