Anti-entrapment

The general public and even some within the swimming pool industry, remain unenlightened when it comes to this issue of suction entrapment. What exactly is suction entrapment and how does it happen?

Children are sometimes fascinated with the current created by a swimming pool's circulation system, often sticking their hands or feet in its path just for the thrill of feeling the powerful force of the suction.

Occasionally, drain covers break, or are removed by people who don't know the possible repercussions. When this hap-pens, a swimmer playing with the drain or near it can become stuck to the outlet much the way the hose of a vacuum cleaner sticks to your palm. The force of a pool's suction can be tremendous: 350 pounds of pressure for an 8-inch main drain with a standard pump. This "suction entrapment" will hold the bather in its grip until either the vacuum is broken, or he or she drowns.

This safety information will help identify and eliminate dangerous entrapment hazards in swimming pools and spas.

There are 5 potential hazard categories that are associated with suction covers.

- **Hair Entrapment**—Hair becomes knotted or snagged in an outlet cover.
- **Limb Entrapment**—A limb sucked or inserted into an opening of a circulation outlet with a broken or missing cover in the pool resulting in a mechanical bind or swelling
- **Body Suction Entrapment—**Suction applied to a large portion of the body or limbs resulting in an entrapment.
- **Evisceration/disembowelment—** Suction applied directly to the intestines through an unprotected sump or suction outlet with a missing or broken cover.
- **Mechanical Entrapment—**Potential for jewelry, swimsuit, hair decorations, finger, toe or knuckle to be caught in an opening of a outlet or cover
  (all definitions taken from ANSI/APSP-7 2006 pg viii)

All pools that are constructed now are required to have dual main drains located at least 3' apart and plumbed in parallel along with approved drain covers. Imag-ine the vacuum hose talked about before, if the same vacuum hose was split and provided suction from two outlets when one was covered by your palm then the motor could continue suction from the open hose. This would allow your palm to become free.

In retro-fitting many older pools one may chose one of three options.

Option 1--To change the drain suction covers to one of the newer listed suction outlet covers/grates. These covers are tested and listed by nationally recognized testing laboratory and are marked as being tested. These covers are usually dome shape that helps prevent a person from covering all suction ports located on the suction cover.

Option 2—Drain pool, saw cut floor and install a second suction outlet with approved covers.

Option 3—Install a safety vacuum release system. "SVRS. These devices are designed to shut off the pump when they sense an excessive vacuum buildup.

There is one major inescapable conclusion, there is no back-up for a broken or missing suction cover. If the suction cover is missing, or is broken the pool/spa must be closed and all swimmers forced to leave the water until repairs are made. Never allow children to play near areas of suction covers. Also remember that there is no substitute to parental supervision.

If you do not know if your suction covers are the safer ones mentioned above, or if your suction cover is missing or is damaged, please close the pool to swimmers and contact us so that we can make necessary repairs.

Note:

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-Always follow label directions and manufacturer's instructions for each product used.