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CERTIFIED POOL•SPA OPERATOR

The Newsletter of The National Swimming Pool Foundation Written for CPOs, Owners, Managers, Health Officials, Builders & Designers of Public, Semi-Public and Residential Swimming Pools & Spas

New Calif. Law Aims At Pool Entrapment

California has passed a new law mandating two circulation drains per pump at least three feet apart to reduce the risk of injury or death due to entrapment in pools.

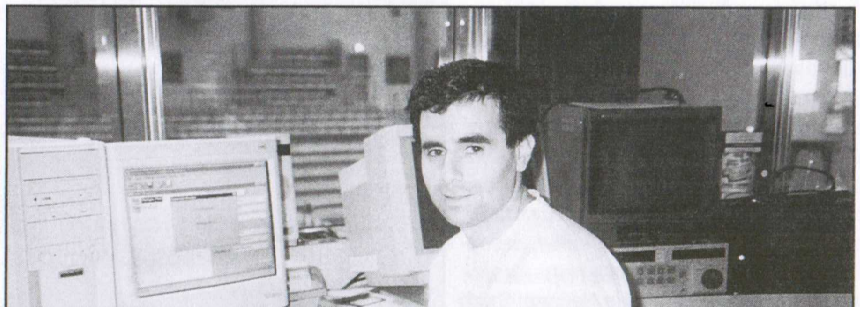
The law also requires anti-vortex grates or similar protective devices.

The law also mandates ground-fault circuit interruptors for all commercial pools, which lack the devices, to be retrofitted no later than July 1, 1998. ■

Safety Around Pools

Are Pools Safe Enough? Could They Be Safer?

By Kenneth Alvin Solomon, Ph.D., P.E., Post Ph.D. Chief Scientist, Institute of Risk and Safety Analyses, Woodland Hills, CA



The swimming pool industry is not

in the past; and they have safety belts, a

Healthy Issues

Fecal Contamination of Pool Water Preventing Disease Transmission

Alison Osinski, Ph.D.Aquatic Consulting Services, San Diego, CA

Fecal contamination of pool water can cause serious illnesses. Ingestion of contaminated water while swimming, inhalation of water vapor above the pool surface, and body contact with pathogenic organisms and absorption through the skin while swimming can result in transmission of a variety of diseases. Some pathogens may cause mild gastrointestinal discomfort, while others, if not recognized or if left untreated, can become life threatening.

In addition to human fecal matter intentionally or accidentally being deposited in the pool by swimmers, fecal contamination of pool water can result from a wide variety of sources including animal, rodent and bird droppings. Contaminated ground water, reservoirs, or wells, particularly in agricultural areas, where fertilizer or animal wastes have tainted the water used to fill or add water to the pool can be the source of contamination, as can rain and storm water run-off into the pool after flooding. Fecal matter can be tracked into the pool area on shoes that are not removed prior to walking on a deck. Fertilizers or grass can be blown into the pool from the adjoining landscaping. Although a serious design error, cross connections between the pool circulation and sewage systems do exist.

To lessen the likelihood of fecal contamination, pool operators should remind swimmers to use the toilet before entering the pool, and not to use the pool if they are suffering from an illness that causes diarrhea. Although serious infection could be life threatening;^ many state and county health departments have revised their fecal contamination procedures. Although procedural guidelines vary from enforcement agency to agency, most of the new regulations include periods of pool closure up to 24 hours, constant filtration, and maintenance of elevated sanitizer and ORP levels.

Unfortunately, fecal accidents occur frequently at some public swimming pools, and compliance with the new guidelines has been disruptive and costly. But, given the potential treat to the public health, enforcing agencies are erring on the side of caution until more reliable data are available. ■

Action Steps for Fecal Contamination of Pool Water

If a fecal accident occurs:

- Have all swimmers exit the pool immediately, and close the pool for 24 hours or a minimum of 3 to 4 complete turnovers.
- Remove the fecal matter from the pool, and dispose of the fecal matter to a sanitary sewer.
- Disinfect the pool vacuum or skimmer net used to remove the fecal matter with a solution of 20 parts of water to 1 part 12%-15% sodium hypochlorite.
- Gather representative samples of pool water for bacteriological analysis. If using the membrane filtration technique for testing total Coliforms, fewer than 1 colony per 100 milliliters should develop over the 24 hour period. Currently, there are no rapid result tests for Cryptosporidium protozoa.
- Raise the free chlorine level (or equivalent sanitizer-oxidizer) in the pool to at least 20 ppm, and maintain the 20 ppm level for at least nine hours in order to achieve a 10,000 CT value, and ORP levels in the range of 900 mV.
- You may choose to completely drain the water from small volume wading pools and spas with rapid (30 minute to 2 hour) turnover periods, after the fourth turnover. All interior pool surfaces must be disinfected with a 20 parts of water to 1 part 12%-15% sodium hypochlorite solution.
- After 3 to 4 turnovers, backwash sand filters, or disassemble and clean diatomaceous earth or cartridge filters according to manufacturers recommended procedures. Disinfect the filter media or elements with a solution of 20 parts of water to 1 part of 10-15% sodium hypochlorite prior to reopening the pool.
- Do not allow swimmers back into the pool until tests show the water is free from contamination. ■

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