



## Public Pool Safety Program

# Response to Fecal Incident, Drowning Incident, Vomitus, or Dead Animal in a Pool

Fecal incidents, fatal or nonfatal drowning incidents, vomitus, and dead animals can contaminate a pool. Contamination can be from bacteria, viruses, or chlorine hardy microbes like Cryptosporidium (“Crypto”). When these incidents happen, it’s important that the pool owner or operator quickly close the pool and mitigate harm to the public before reopening the pool.

### Checklist—What to do before reopening your pool

#### 1. Close the Pool

Immediately have all pool users exit the pool and post a “Pool Closed” sign. Keep the pool closed while the disinfection process is being conducted.

#### 2. Remove Visible Material

Remove all visible material using a net or scoop. Afterwards, thoroughly clean and sanitize equipment before storing. Vacuuming the pool is **NOT** recommended, as most pool vacuums recirculate the water in the vacuum back into the pool and may result in further spread of contaminated material.

#### 3. Raise the Temperature

Raise and maintain the public pool water temperature at 77°F (25°C) or higher.

#### 4. Disinfect

Follow the disinfection process described on page 2. Add chlorine as needed, based on the incident type. Ensure that the filtration system is operating throughout this process.

#### 5. Adjust pH

Maintain the pH level at 7.2 - 7.5. For a loose stool fecal incident, lower pH to 6.5. Make any adjustments as needed when chlorine is added.

#### 6. Reopen the Pool

At the end of the disinfection period, properly backwash the filtration system. Do not return the backwash water into the pool. Replace the filter media or cartridge filters. Return the free chlorine and pH levels to the normal operating range. Once the free chlorine and pH levels are in the normal operating range, you may reopen the pool.

#### 7. Maintain Records

Any of these incidents must be recorded. In the record, include the date and time of the incident, the affected pool, free-chlorine concentration, pool temperature, pH, and any known facts about the circumstances and cause of the incident.

**If this is a public pool that was closed due to a drowning incident, contact this Agency to have an inspector reopen the pool.**

## Disinfection Requirements by Incident Type

**Formed/Solid Stool**—Maintain free chlorine level at 2 ppm. Maintain for 25 minutes.

**Loose Stool (Diarrhea)**— All swimmers who are sick with diarrhea should stay out of the water. Diarrhea can spread Crypto, which is a germ that causes diarrhea and is hard to kill with chlorine. Swimmers with diarrhea can contaminate the pool, which can make others sick. If your pool has a diarrhea incident, follow these disinfection steps:

- For pools **with** chlorine stabilizer (dichlor/trichlor), raise the free chlorine concentration to 40 ppm and maintain for 30 hours.
- For pools **without** chlorine stabilizer, a contact time (CT) inactivation value of 15,300 should be achieved to kill Crypto. The CT inactivation value divided by the concentration of free chlorine in ppm equals the time in minutes required for the pool to be closed at a specific pH and temperature.

Use the formula below to calculate time required to inactivate or kill Crypto **WITHOUT STABILIZER**.

| Contact time (CT) inactivation value | Free chlorine concentration (ppm) | = | Time                             |
|--------------------------------------|-----------------------------------|---|----------------------------------|
| 15,300                               | ÷ 20                              | = | 765 min (or 12 hours & 45 min)   |
| 15,300                               | ÷ 10                              | = | 1,530 min (or 25 hours & 30 min) |

**Only non-stabilized chlorine should be used to kill pathogens associated with fecal contamination. The CDC has determined that stabilized chlorine is less effective at killing Crypto.**

**Vomiting**—If the contents of the stomach are vomited, it is important to act immediately because diseases like Norovirus and Giardia spread by vomit. Maintain free chlorine level at 2 ppm and maintain for 25 minutes.

**Drowning Incident**—All drowning incidents should be treated like a loose stool (diarrhea) incident. In response to drownings or diarrhea incidents in small volume pools, such as a wading pool or spa, it may be more efficient to completely drain the body of water to the public sewer or approved disposal system. Consult with a pool service provider.

Scrub and sanitize all accessible surfaces that came in contact with contaminated water as well as the pump and filtration equipment with a “9600 contact time” using 20 ppm sodium hypochlorite. Replace or clean filter media when appropriate and refill.

**Dead Animals**—Smaller animals that are found in pools do not necessarily pose a health risk. Animals such as skunks, birds, mice, gophers, squirrels, rats, snakes, lizards, frogs, and bats are commonly found in pools. Most germs carried by these small animals are killed by chlorine within minutes in a well-maintained pool (2 ppm for 30 minutes).

However, **raccoons** can pose a health risk to swimmers. Raccoon feces can contain the eggs of a roundworm called *Baylisacaris procyonis* that can infect humans and cause severe neurological illness. *Baylisacaris* eggs are particularly tough, and simply adding chlorine to the water will not kill them. If a lab test confirmed that the raccoon was infected with *Baylisacaris* or if you don’t know whether the raccoon was infected, there are two options for cleaning the pool:

- Option 1: Filter the pool for a minimum of 24 hours and then backwash. Put on disposable gloves to replace the filter media (if possible). Double bag the discarded material in plastic garbage bags. Throw away gloves in the garbage bags. Wash hands thoroughly with soap and water.
- Option 2: Backwash the pool filter. Drain and hose down the pool. Put on disposable gloves to replace the filter media (if possible). Double bag the discarded material in plastic garbage bags. Throw away gloves in the garbage bags. Wash hands thoroughly with soap and water.



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