Indiana State Department of Health

Environmental Public Health Division
2 North Meridian Street
Indianapolis, IN 46204

INTERACTIVE WATER FOUNTAINS

Introduction

Interactive water fountains, also known as “spray grounds,” “wet decks,” “splash pads,” “spray pads,” or “spray parks,” are water fountains on decks or pads, provided for water recreation. They give children the chance to play in water without the danger of drowning associated with swimming pools. Many are located in nontraditional areas such as malls. While most interactive water fountains are designed so the sprayed water lands on the deck for collection and reuse, some are designed so the sprayed water drains to waste. Since water does not pool, these facilities are not regulated as public swimming pools. However, similar to swimming pools, those interactive water fountains that recirculate water can cause disease if improperly designed or operated. Few interactive water fountains are guarded or fenced to prevent entry by animals or sick children. Few are even closely supervised. Sprayed water will rinse off dirt, vomit, blood, urine, fecal material, or other pathogens from a patron’s body; then flow back to the collection reservoir to be re-sprayed. Children have been observed squatting over spray nozzles, which increases the chance that there will be fecal contamination of the recirculated water.

While recreational water illnesses can be caused by a number of bacteria or viruses, such as E. coli 0157:H7, Hepatitis A, Giardia, or Shigella, the number one waterborne disease is Cryptosporidiosis, caused by the microscopic parasite *Cryptosporidium parvum*. Called “Crypto” for short, it is protected by an outer shell that allows it to survive outside the body for long periods of time. While some people exhibit no symptoms from Cryptosporidiosis, most experience diarrhea, loose or watery stools, stomach cramps, upset stomach, and a slight fever. Young children, pregnant women and those with weakened immune systems, such as those with AIDS, cancer, transplants, and some inherited diseases may develop more serious illness. Infections can result even at very low concentrations of Crypto in water. Its shell makes Crypto very resistant to chlorine disinfection. If a recreational water facility is properly designed to remove or inactivate Crypto, it will easily handle the other types of waterborne disease bacteria and viruses.

Guidelines

The following guidelines are based on the requirements of ISDH’s Public Swimming Pool Rule, 410 IAC 6-2.1, modified to fit the needs of an interactive water fountain. Guidelines 2 and 3 do not apply to interactive water fountains that drain to waste and do not recirculate water.

1. Potable water that meets the provisions of 327 IAC 8-2 shall be used.

2. Disinfect the recirculated water. A minimum concentration of 2.0 ppm chlorine or 4.0 ppm bromine, with secondary disinfection of ultraviolet light or ozone and a pH in the range of 7.2-7.8 must be maintained. This higher level of disinfection is needed because the probability of fecal contamination is increased with an interactive water fountain. Also, chlorine will dissipate faster in an interactive water fountain due to the water being sprayed. Chlorine concentrations should be monitored electronically, so the water fountain will shut off automatically if the chlorine level drops below 2.0 ppm. The best point for electronic monitoring of the chlorine concentration would be in the collection tank.

Do not use stabilized chlorine for disinfection.

Over the average outdoor recreational season, cyanuric acid levels would build to the point of exceeding the 60 ppm safe upper limit for cyanuric acid (see Swimming Pool Rule 410 IAC 6-2.1, Section 30(j)). Exceeding this limit will cause water chemistry problems and may cause adverse health effects.

3. Filter the recirculated water. The design should provide a separate filter for the interactive water fountain. Do not use the same filter serving a pool or other water recreation facility to also filter the water from an interactive water fountain. Shared filters could spread contamination to all pools and fountains on the same system. Also, other water venues may not be set up to disinfect at the high levels required for water from an interactive water fountain.

4. Both the design and operational procedures should assure that trip hazards are prevented.

5. Any grates on the deck pad must be kept secured and in good repair.

6. Flush any materials or contaminants off the surface of the spray pad daily prior to opening. Clean more thoroughly, if necessary. Both the design and operational procedures should assure that the water used for pre-opening cleaning is discharged to waste.

7. Bathrooms, with diaper changing areas must be provided, and be located to assure easy access. Bathroom breaks should be encouraged.

8. Drinking fountains must be provided, and be located to assure easy access. Easily accessible sources of safe drinking water will discourage drinking of water from the interactive water fountain.

9. The following signs should be posted:

    - Do not use if you had diarrhea within the last 2 weeks
    - No pets allowed.
    - No glass or sharp objects are allowed on the spray pad.
    - Do not drink the water. (Not required on interactive water fountains that do not recirculate water).
    - Children who are not toilet trained must use swim diapers covered by rubber pants with tight fitting elastic at the waist and legs.

10. In case of a fecal accident, the fecal accident procedure outlined in Swimming Pool Rule 410 IAC 6-2.1, Section 44 should be utilized.

11. Overhead electrical wires should be located at least 20 feet away from any spray pad, measured horizontally. Also, there should be no unprotected electrical circuits or wiring within 10 feet of any spray pad.

12. To prevent injury to patrons, unless certified by a feature designer and/or manufacturer, the water spray from a feature nozzle shall not exceed a height of 6 feet and not exceed a flow rate of 20 psi.