

Preventing the Spread of Germs in Splash Pads: A Quick Guide for Health Departments and Operators



What is an interactive water play venue?



Any indoor or outdoor installation that sprays or jets bathers with water designed in a way that standing or captured water is not part of the bather activity area. These aquatic venues are also known as “splash pads,” “spray pads,” or “wet decks.”

What are the risks of splash pads if not maintained properly?



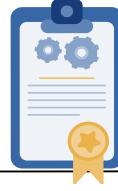
Background

This reference guide can be used by local, state, tribal, and territorial health departments, and pool operators as a tool for understanding the Centers for Disease Control and Prevention’s (CDC’s) recommendations for operation and maintenance of splash pads. A similar quick guide has been created for floatation tanks at bit.ly/floatation-tank-guide. The guides combine information from CDC’s 2023 Model Aquatic Health Code (MAHC) and website to highlight key takeaways.

Go to cdc.gov/mahc for more detailed information.

- Splash pads are usually designed so that standing water does not collect in the water play area, in a way to reduce the risk of drowning. However, splash pads can spread germs and make bathers sick if the water is not disinfected properly.
- Because splash pads are not like pools, their designs do not always meet the local, state, territorial, or tribal definition of an “aquatic venue.” This means they are not always regulated, nor are they always required to be disinfected with germ-killing chemicals.
- *Cryptosporidium* is a common parasite that can be found in splash pads. From 2001-2010, *Cryptosporidium* was the leading cause of waterborne disease outbreaks, leading to the stringent disinfection policies promoted by the MAHC for splash pads. See cdc.gov/parasites/crypto/general.html for more information.
- Making sure that the water used for splash pads is properly recirculated and disinfected is key to preventing the spread of germs and disease.

How to filter, disinfect, and recirculate water in splash pads?



Splash pads should have a **maximum turnover of 30 minutes or less** and need a secondary disinfection system.

The reuse ratio (the ratio of water to the splash pad feature to water to the filter) shall **not be greater than 3:1** to maintain filtration system efficiency.

Secondary disinfection systems should be designed to achieve a minimum of **99.9%** reduction in the number of infective *Cryptosporidium parvum* oocysts (pathogen known to cause cryptosporidiosis in humans) per pass. See [cdc.gov/parasites/crypto/pathogen.html](https://www.cdc.gov/parasites/crypto/pathogen.html) for more information.

- Each secondary treatment *may* be composed of multiple treatment processes or steps that result in the minimum requirement determined.

Secondary treatment, such as UV or Ozone, should be located after the feature pump so that all water is 100% treated before reaching bathers.

- When the splash pad is not operational, the secondary treatment system shall continue to circulate a minimum amount of water back through the tank, if required by the manufacturer for warm-up and cool-down purposes.

Maintain adequate disinfectant level in the water:

- If not using cyanuric acid, minimum free available chlorine should be 1.0 ppm (mg/L).
- If using cyanuric acid, minimum free available chlorine should be 2.0 ppm.
- Minimum total bromine should be 3.0 ppm.

What safety features should a splash pad have?



- The slope of the splash pad should be adequately sloped and drained to prevent standing water from collecting on the pad.
- The collection tank should be designed to provide ready access for cleaning and inspections, and it should be able to drain completely.
- To avoid being a hazard to bathers, spray features at the splash pad should not release water greater than a velocity of over 20 feet (6.1 m) per second.



How to clean and test splash pads?



Any contaminants should be removed or washed into the sanitary sewer. If the splash pad venue does not have a sanitary sewer, then the contaminants should be washed into the nearest deck drain or removed to prevent reentry into the venue.

Conduct the following daily inspections before opening to the public.

- Ensure that disinfection, secondary disinfection (e.g., UV), recirculation, and filtration systems are working properly.
- Properly identify and clean biofilm on splash pad surfaces.
- Test free available chlorine or total bromine and pH before daily public use and maintain an adequate disinfectant level in the water. Continue to test levels every 2-4 hours while open for public use.

What are additional best practices for pool operators?



- Maintain pH 7.0 - 7.8.
- Properly record operation and management activities (e.g., water testing results).
- Require staff who handle pool chemicals to be trained in pool chemical safety.
- Test the backflow preventers regularly to ensure they work effectively to prevent backflow into the water distribution system.
- Make sure that water used for splash pads is from a potable (drinking water) source or other source approved by the jurisdiction's authority.
- Educate operators about the proper operation and management of splash pads and jurisdiction code requirements.

Additional Information

Refer to the following sections in the 2023 MAHC for more information:

- **Filter, disinfect, and recirculating water in splash pads:** Compiled from 2023 MAHC Sections 4.7.3.3.3.3, 4.7.3.3.2.2A, 4.7.3.3.2.1A, 4.7.1.10, 4.7.1.10.4 A
- **Features of a splash pad:** Compiled from 2023 MAHC Sections 4.12.8.3.2, 4.12.8.6, 4.12.8.6.1, 4.12.8.10A, 4.12.8.11, and 5.12.8.1
- **Cleaning splash pads:** Compiled from 2023 MAHC Sections 5.12.8.2, 5.12.8.2.1

Learn more about splash pad operation and management at CDC's website:

[cdc.gov/healthywater/swimming/swimmers/splash-pad-operation-and-management.html](https://www.cdc.gov/healthywater/swimming/swimmers/splash-pad-operation-and-management.html)

[QUICK GUIDE]

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Check out our other guide “Safely Managing Floatation Tanks:
A Quick Guide for Health Departments and Operators”
at bit.ly/floatation-tank-guide.

Disclaimer

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Have Questions?

Contact NACCHO at mahcnet@naccho.org.



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