

How to Shut Down or Reopen a Hot Tub or Spa during the Coronavirus Pandemic

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May 8, 2020

In a nutshell...

This article discusses the U.S. Centers for Disease Control and Prevention (CDC) guidance for shutting down and reopening spas and hot tubs to avoid the growth of bacteria, such as *Legionella*. Guidelines are different depending on the construction of the spa or hot tub.

As the coronavirus (COVID-19) pandemic evolves, aquatic facility managers may be opening or closing hot tubs and spas in accordance with local decrees. The question of how to correctly shut down and reopen these features was addressed recently in a [CDC update](#).

The concern is that closing a hot tub or spa for weeks or months could create conditions favorable to bacteria growing in these features. Bacteria in a hot tub or spa could present a risk to patrons when they are permitted to use them again. Risks may arise from bacteria growing in areas of the hot tub or spa remaining wet after draining. Alternatively, bacteria may be growing because a qualified operator was unable to maintain water quality in a filled but unused hot tub or spa.



Beware of Legionella

Legionella bacteria are a particular concern of those who manage hot tubs and spas. When fine, warm water mists contaminated with *Legionella* are inhaled by hot tub and spa patrons, there is a risk of developing [Legionnaire's disease](#), a serious and potentially deadly form of pneumonia. *Legionella* bacteria can live in slimy layers, known as [biofilms](#), on hot tub and spa surfaces that are in contact with water. These slippery layers protect the bacteria from contact with disinfectants, which explains why physically scrubbing all accessible surfaces is an important step in maintaining, reopening, and shutting down a hot tub or spa. Once exposed through scrubbing, *Legionella* and other bacteria can be destroyed by contact with disinfectants, such as chlorine bleach.

How to Shut Down Hot Tubs and Spas – Based on CDC Guidance

CDC provides separate guidance for shutting down hot tubs and spas based on their construction. In some cases facilities may be drained, treated, and remain temporarily dry; in others, these features must be refilled with water after draining and treating, and remain filled during the shut-down period.¹ A “dry shut-down” pertains to those facilities with a tiled or painted finish or made of prefabricated shell materials, such as fiberglass and stainless steel. A “wet shut-down” pertains to facilities with a plastered finish.

I. Dry Shut-down

1. Clean accessible surfaces, scrubbing away slime and biofilm. This can be done most conveniently with most or all of the water emptied from the hot tub or spa.
2. Apply a disinfectant shock treatment.
3. Drain and remove water from the system.
4. For hot tubs/spas with cartridge filters, remove the filter elements and leave them to dry.
5. Shut down hot tub/spa following manufacturer recommendations. This includes but is not limited to removing and storing probes.
6. Keep hot tub/spa as dry as possible and protect it from external water sources (for example, hoses).
 - If in-ground hot tub/spa is installed in an area where the ground water level is above the base of the hot tub/spa, the surrounding ground water may apply an upward and inward force that can cause the hot tub/spa to either crack or shift upward:
 - i. Consult with company or engineer that designed aquatic facility;
 - ii. Confirm that groundwater is below the hot tub/spa before draining;
 - iii. Refill the hot tub/spa with cool or cold water from potable water source; and
 - iv. Continue to discourage use of re-filled hot tub/spa with appropriate signage, barriers, or approved covers as described in CDC’s [Model Aquatic Health Code](#) (element 5.4.1.1.3).

II. Wet Shut-down

This guidance was added when CDC learned from the aquatics sector that plastered finishes may crack if left dry for a prolonged period of time.

1. Clean accessible surfaces, scrubbing away slime and biofilm.
2. Apply a disinfectant shock treatment.
3. Drain and remove water from the system.
4. For hot tubs/spas with cartridge filters, remove, clean, and replace filter elements, as recommended by manufacturer.
5. Shut down hot tub/spa following manufacturer recommendations. This includes but is not limited to removing and storing probes.

¹ CDC states on its [website](#) that its guidance does not replace existing regulations and guidelines from local or state regulatory agencies. It also notes its guidance is not a substitute for consulting with a service company or the company (or engineer) that designed the facility.

6. Refill hot tub/spa with cool or cold water from potable water source.
7. Continue to discourage use of refilled hot tub/spa with appropriate signage, barriers, or approved covers as described in CDC's [Model Aquatic Health Code](#) (element 5.4.1.1.3).

How to Safely Reopen Hot Tubs and Spas

CDC notes that *not every* public hot tub/spa needs to be tested for *Legionella* before reopening.

- a. Check for existing guidelines from your local or state regulatory agency before use.
- b. Ensure that hot tubs/spas are free of visible slime or biofilm before filling with water.
- c. Perform a hot tub/spa disinfection procedure before use.
 - i. CDC Guidance (follow Steps 4–9 and 12–13): <https://www.cdc.gov/legionella/downloads/hot-tub-disinfection.pdf>
 - ii. Facilities may decide to test the hot tub/spa for *Legionella* before returning to service if previous device maintenance logs, bacterial testing results, or associated cases of Legionnaires' disease indicate an elevated level of risk to occupants. All *Legionella* testing decisions should be made in consultation with facility water management program staff along with relevant public health authorities.

Avoiding Coronavirus and Legionella Bacteria

With global attention focused on a notorious *virus*, we commend CDC for its expert guidance on avoiding risks from *bacteria* in hot tubs and spas. For those who manage these enjoyable water features, carefully following CDC guidance for both shutting down and reopening them will help prevent the unintended and very much unwanted consequence of even one case of Legionnaire's disease.

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