



# NAVY AND MARINE CORPS PUBLIC HEALTH CENTER

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## Aquatic Facilities: COVID-19 Guidelines Reopening and Reset

The following information and guidelines are good safe practices that apply to all aquatic facilities (recreational and/or training) reopening or resetting in response to the COVID-19 pandemic. Working with your local Preventive Medicine personnel is essential to ensure safe operation. The provided guidance serves as a blueprint for ensuring a safe experience for workers and their patrons.

The Centers for Disease Control and Prevention (CDC) states that there is no evidence that COVID-19 can be spread to humans through the use of pools and hot tubs. Proper operation, maintenance, and disinfection (e.g., with chlorine and bromine) of pools and hot tubs should remove or inactivate the virus that causes COVID-19. The Navy and Marine Corps Public Health Center (NMCPHC) is closely monitoring and ensuring the most [updated information](#) and recommendations are provided during the COVID-19 pandemic. While public pools and spas on your installation may remain closed, it is critical that they are not ignored. NMCPHC wants to remind all aquatic facilities operators that controlling water quality is important at all times and necessary to prevent the transmission of infectious diseases.

### References

COVID-19 military resources are available through the following military public health websites:

- [Navy and Marine Corps Public Health Center Coronavirus Page](#)
- [NAVMED P-5010-4 - Swimming Pools and Bathing Places](#)
- [CDC, Coronavirus Disease 2019 \(COVID-19\)](#)
- [CDC, Cleaning, and Disinfection for Community Facilities](#)
- [EPA List N: Disinfectants for Use Against SARS-CoV-2](#)
- [OSHA Guidance on Preparing Workplaces for COVID-19](#)

**Employers:** Operators should review all health and safety guidelines, [OSHA guidance](#), COVID-19 guidance, new responsibilities, local and higher authority policies, safe use of cleaning, sanitizing, and disinfection products, and requirements outlined in the [NAVMED P-5010-4 - Swimming Pools and Bathing Places](#).

Employees who are sick should remain at home. If an employee becomes ill or presents signs of illness, the person in charge should identify the signs during a pre-work screening and follow the established policies on when the ill employee is allowed to return to work. Contact your local Preventive Medicine personnel for detailed guidance.

- Employee health must be closely monitored, and employees must understand the requirement to report symptoms and illness immediately to the facility manager.
- **Temperature checks:** Recommend using a touchless infrared thermometer to check the temperature of employees each day when they enter the facility. If an employee has a temperature above 100°F, the employee should be sent home immediately and not allowed to return to work until they have no fever and no evidence of COVID-19 symptoms. Also, if an employee reports a flu-like illness immediately contact your local Preventive Medicine personnel for guidance.
- In addition to ensuring water safety and quality, operators of aquatic facilities should follow the [interim guidance for businesses and employers](#) for cleaning and disinfecting their community facilities.



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- Employers should emphasize staying home when sick, respiratory etiquette, and hand-hygiene by all employees using the following actions:
  - Provide tissues and no-touch disposal receptacles for use by employees.
  - All employees should cover their noses and mouths with a tissue when coughing or sneezing (or an elbow or shoulder if no tissue is available). Do not shake hands with others during this time.
  - Instruct employees to clean their hands often by washing their hands with soap and water for at least 20 seconds. An alcohol-based hand sanitizer that contains at least 60% alcohol is acceptable but, handwashing is always the first choice.
  - Provide soap and water and alcohol-based hand rubs in the workplace. Ensure that adequate supplies are maintained.
  - The CDC has published a [coughing and sneezing etiquette](#) and has a [clean hands webpage](#) containing more information.

### Outdoor Aquatic Venues Staying Closed

If an outdoor pool/spa will remain closed it **does not mean** it does not require maintenance. Unused outdoor pools can create a breeding ground for mosquitoes, other pests and diseases (e.g., West Nile Virus and Zika Virus) which presents a risk to the entire community. An unmaintained pool and/or spa creates not only a public health risk with stagnant water, but can also lead to an extremely dangerous safety situation as well as a significant repair expense when the crisis has passed.

### Preopening/Reopening

In preparation for opening and during operations, the aquatic facility operators, management, and maintenance personnel must follow all guidelines set by higher authority, the NAVMED P5010, Chapter 4, "Recreational Waters", and current COVID-19 recommendations promulgated by NMCPHC. Another good source of information is the CDC Model Aquatic Health Code. Ensuring proper execution of all required operation measures can reduce the potential for pathogens grow, such as E.coli, Shigella, Pseudomonas, and Cryptosporidium.

Before opening for the season, reopening, and each day thereafter, the facility and equipment must be thoroughly cleaned and disinfected per the provided below and CDC guidelines. Focus on high-contact touch areas as described below that would be frequently touched by employees and customers. It is strongly recommended discontinuing water fountains until further notice.

To prevent unhealthy conditions, and ensure pools and spas are prepared to open as permitted, we recommend operators take the following steps. Operators should work through maintenance personnel (NAVFAC or MCICOM), which are subject to oversight by the local Preventive Medicine personnel:

1. Clean the pool and surrounding customers area by removing debris and disinfect surfaces that frequently come in contact with customers. This will remove any pathogens (i.e., bacteria, viruses, algae) that may be present.
2. Vacuum and brush the pool.
3. Refill or restock pool/spa with clean water. With smaller spa completing draining the water and refilling is strongly recommended.
4. Backwash filter or clean cartridges to ensure minimum required flow rate is maintained.



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5. Start the filter system.
6. Introduce disinfectants at required levels and establish proper balance.
7. Monitor disinfectant and all other quality parameters levels and correct as needed.
8. When ready, contact your local Preventive Medicine personnel for an opening inspection. This **MUST** be accomplished prior to allowing patrons or trainees to enter a pool/spa when it has been closed for 30 days or greater.

### During Operations

Aquatic facilities must follow all current health and safety requirements and guidelines found in [NAVMED P-5010-4](#) - Swimming Pools and Bathing Places. Due to COVID-19, it is important for individuals as well as owners and operators of these facilities to take extra steps to ensure health and safety.

- Everyone should follow local and DOD guidance that may determine when and how recreational water facilities may operate.
- Individuals should continue to [protect themselves and others](#) at recreational water venues both in and out of the water – for example, by practicing social distancing and good hand hygiene.
- Though a minimum of 1 ppm of free available chlorine (FAC) is currently the minimum requirement per NAVMED P 5010-4, during the COVID-19 pandemic and when installation is at HPCON Charlie or above we **strongly recommend maintaining** **\*\*[water quality parameters](#)** as outlined in chart provided below.

### Routine Environmental Cleaning

Clean and disinfect all frequently touched surfaces in the workplace, such as workstations, countertops, and doorknobs, every 2-3 hours. Under the Occupational Safety and Health Act (OSHA) and similar policies, employers have a general duty and obligation to provide a safe and healthy work environment, even when the work occurs outside the employer's physical premises.

- If possible, consider an exit from the facility separate from the entrance. Determine ingress/egress to and from restrooms to establish paths that mitigate proximity for guests and staff.
- Discontinue the use of electronic check-in/out monitors.
- Recommend install plexiglass barrier at customer service counters.
- Provide hand sanitizer (at least 60% alcohol) throughout the facility.
- Always reduce or eliminate customers in lobby ensuring 6-foot distancing.
- Organize or remove seating in deck area to allow for a minimum of 6-foot distance for social distancing.
- Provide approved disinfecting wipes for individuals to wipe down chairs and tables.
- Strongly recommend workers closely monitor pool area to ensure proper cleaning and disinfection of equipment by customers. Consider having employee disinfect chairs and tables after customer use to ensure it is properly done.
- The act of cleaning and wiping a surface will remove soils where germs can hide, which also removes some of the germs from the surface. Chlorine solutions must be prepared fresh each day and replenish throughout the day to ensure it works. The free available chlorine [FAC] concentration of the prepared solution should be verified using an appropriate test strip or paper. Bleach solutions and other disinfectants should be applied using a spray bottle and disposable paper towels. Treated surfaces must be allowed to air dry before the next use.



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- [U.S. Environmental Protection Agency \(EPA\)-registered antimicrobial \(disinfecting\) wipe](#) is appropriate for conducting individual wipe-down between uses.
- Disinfect high touch surfaces in **customer areas** every 2-3 hours, e.g., entrance, exit, and restroom door handles, tabletops, chairs, service counters, credit card machines (keypad, digital touchpad), restroom light switches, handicap rails, hand wash sink fixtures, soap dispensing levers, paper towel dispensing levers, forced air hand drying control button, and door latches for toilet stalls.
- Use EPA-registered disinfectants on *List N: Disinfectants for Use Against SARS-CoV2* (the virus that causes COVID-19), available at: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>. If a listed product is **not** available, prepare a chlorine bleach disinfecting solution at a dilution of 1,000 ppm as prescribed in **\*chart provided below**.
- **DOD** currently mandates the use of face coverings. Face coverings are effective tools to mitigate risk from individuals who do not show symptoms, especially in close environments where it is hard for people to maintain social distancing recommendations of six-feet. Coverings worn by employees should be kept clean in accordance with [CDC](#) and [NMCPHC guidance](#) (Face Covering Guidance). Train all employees on the importance of frequent hand washing and the use of hand sanitizers with at least 60% alcohol content, and give them clear instructions to avoid touching hands to face. Remind the employees that proper handwashing is always preferred over just using a hand sanitizer.
- Ensure you always have sufficient cleaning and disinfection product on hand, including hand sanitizer, hand soap, paper towels, toilet paper, and disinfectant wipes.
- Maintain a minimum of six feet between customers within the pool/spa area.
- Discontinue providing towels to customers. Urge customers to use their own personal clean towels.
- Do not allow groups to gather.
- Group classes, if held, must maintain the applicable social distancing guidelines and all other policies.

### \*Bleach Solutions Guidance

**(DO NOT USE chlorine intended for pool/spas as it may contain a higher percentage of chlorine)**

Concentration	Bleach with 5 to 6% Sodium Hypochlorite	Bleach with 8.25% Sodium Hypochlorite
1,000 ppm	1/3 cup bleach per 1 gallon of water	3 Tablespoons bleach per 1 gallon of water
<b>When mixing bleach solutions always adhere to all safety procedures including, but not limited to, good ventilation and proper protective gear (e.g., gloves, masks, goggles)</b>		

The CDC recommends chlorine bleach dilutions at 1,000 ppm with a 1-minute wet contact time. Surfaces disinfected using chlorine bleach must be wiped with clean water after the 1-minute wet contact time to remove any residuals. When using other EPA-registered products for disinfection, you must follow the manufacturer’s label information regarding preparation of a diluted concentration, wet contact time to achieve disinfection, and rinsing requirements after treatment.



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### General Information on Cleaning and Sanitizing

Understand the difference between cleaning and sanitizing. The CDC defines as follows:

**Cleaning** removes germs, dirt, and impurities from surfaces or objects. Cleaning works by using soap (or detergent) and water to physically remove germs from surfaces. This process does not necessarily kill germs, but by removing them, it lowers their numbers and the risk of spreading infection.

**Disinfecting** kills germs on surfaces or objects. Disinfecting works by using chemicals to kill germs on surfaces or objects. This process does not necessarily clean dirty surfaces or remove germs, but by killing germs on a surface after cleaning, it can further lower the risk of spreading infection.

If a surface is not visibly dirty, you can clean it with an EPA-registered product that both cleans (removes germs) and disinfects (kills germs) instead. Be sure to read the label directions carefully, as there may be a separate procedure for using the product as a cleaner or as a disinfectant. Disinfection usually requires the product to remain on the surface for a certain period of time (e.g., letting it stand for 3 to 5 minutes).

### \*\*Recommended Water Quality Standards

Parameter	Minimum	Minimum during HPCON C & D	Ideal	Maximum	Minimum Monitoring Frequency
Free chlorine – pools, spray pads, aquatic play features (mg/L)	1.0 2.0 <sup>2</sup>	2.0 3.0 <sup>2</sup>	2.0 - 4.0	10.0	Every 2 hours
Free chlorine – spas/therapy pools (mg-L)	3.0	4.0	3.0 - 5.0	10.0	Every 2 hours
Free chlorine – military training pools	2.0 <sup>2</sup>	3.0 <sup>2</sup>	2.0 - 4.0	10.0	Every 2 hours
Combined chlorine (mg/L)	0.0	0.0	0.0	0.4	Weekly
Bromine (mg/L)	3.0 (pools) 6.0 (spas)	4.0 (pools) 6.0 (spas)	3.0 (pools) 6.0 (spas)	4.0 (pools) 6.0 (spas)	Every 2 hours
ORP (millivolts)	650	650	750 - 900	N/A	Every 2 hours
pH	7.2	7.2	7.4 - 7.6	7.8	Every 2 hours
Total Alkalinity (mg/L)	60	60	80 - 120	180	Weekly
Calcium Hardness (mg/L)	100	100	200 - 400	1,000 pools 800 spas	Monthly
Total Dissolved Solids (mg/L)	0	0	N/A	1,500 above fill water TDS level	Quarterly
Cyanuric Acid (mg/L)	0	0	30 - 50	90	Monthly <sup>2</sup> Biweekly <sup>3</sup>
Temperature (°F) – pools	75	75	78 - 86	90	Twice a day
Temperature (°F) – spas	75	75	Personal preference	104	Every 2 hours

<sup>1</sup>Pools, aquatic play features, and military training pools <sup>2</sup>Pools adding cyanuric acid <sup>3</sup>Pools using a stabilizer as the primary disinfectant