



# COWLITZ COUNTY HEALTH DEPARTMENT

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**Board of County Commissioners**  
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Volume 4

## THE TIDY POOL

January 2010

### Help for Start-Up of Seasonal Pools

Before opening for the season, a checklist may help in preparing. Here are some ideas to include on a checklist.

- **Chemistry:** Check to make sure chemicals are within acceptable ranges. Appropriate chemical levels should be maintained during off season for easier opening and a longer lasting pool.
- **Test Kit Reagents:** Purchase new test kit reagents that are compatible with current test kit. Make sure viewing tubes are in good condition.
- **Pool Rules:** Verify pool rule signs are still posted and comply with regulations. Send out the annual reminder about pool rules that regulations require. Provide focus on age requirements and showering before use.
- **Safety Equipment:** Verify emergency phone and emergency pump shut-off switches are operable. Make sure first aid kit is stocked and in accessible location. Put the pole with life hook and the throwing device with rope in pool area.
- **Barrier:** Check to verify that gates are still self-closing and self-latching.
- **Pump Room:** Clean pump room and make sure chemicals are stored properly and are separated. Verify that equipment (including flow-meter) appears to be functioning properly.
- **Locker Rooms/Bathrooms:** Clean bathrooms and be sure they are stocked with paper towels and soap. Make sure the plumbing is functioning properly and hot & cold water are available.
- **Miscellaneous:** Verify depth markers are legible and the tread on stairs are still clearly visible. Ensure main drain grates are intact and secure. Verify handrails/ladders are secured tightly.

### Disinfection Basics

Maintaining disinfectant in a pool or spa is one of the most important duties of any pool operator. Disinfectant is one part of the overall comprehensive treatment strategy for recreational water facilities, others include filtration, recirculation, pH adjustment, water replacement and other factors that play a role in properly treated water. Properly maintaining chlorine on its own does not provide a safe pool.

One of the functions of free chlorine is to remove organic wastes such as urine and sweat through a process called oxidation. During this reaction combined chlorines are formed, which can cause an odor and irritate swimmers eyes and skin. Usually the cause of high levels of combined chlorine are a result of not enough free chlorine to handle the organic load.

Free and Total Chlorine residuals need to be checked at least daily and more often during times of high use, hot sunny days for outdoor pools, or if regular testing shows levels continually needing adjustment. Hot tubs typically have more fluctuation in disinfection levels and should be monitored more frequently.

Cyanuric acid is used in outdoor pools/spas to protect the chlorine from quickly dissipating in the sun. Without cyanuric acid a bright sunny day can reduce the majority of chlorine in the pool within 1 hour. However the cyanuric acid binds to the chlorine and reduces effectiveness. This is the reason there is a maximum cyanuric acid level and that more chlorine is required to be in the pool when it is used.

The pH of the pool water will also impact the effectiveness of chlorine. The higher the pH of the pool water the less effective the chlorine is at disinfecting. At a pH of 8 the effective amount of chlorine is only 20% of the free chlorine level.

Another thing to remember is that chlorine does not instantaneously kill germs and so enforcing shower rules and educating users that have been sick with vomiting or diarrhea to not use the pool is a very important piece of pool operation.

Enclosed with the newsletter is a copy of the Water Quality handout that includes required levels for disinfection and other chemicals and the Pool Contamination Guidelines.

### Program Contact Info

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**Pool Program Staff**

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**Environmental Health Secretary**

Melissa Hilts.....360-414-5583

**Health Department Main Line**

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### Health Department Pool Class

The Cowlitz County Health Department will be holding its annual Pool Operators Class on May 6, 2010 at the Health Department, 1952 9th Avenue, Longview. The class will be from 1 to 4 PM.

If you have suggestions for topics or topics you think should be covered in more detail then please contact Jesse Smith at 360-414-5598.

A flyer including the agenda and class details will be mailed closer to the scheduled date.

## 2009 Most Frequently Cited Violations

The table included with this article lists the top six violations for Cowlitz County for 2009. Five of the six top violations were also part of the top six violations from last year. Please take note that approximately 1/3 of all routine or follow-up inspections in 2009 led to closure of a pool or spa. Low chlorine, high chlorine and low pH are three of the top six violations and each can lead to closure of a swimming pool or spa.

**Low Disinfectant:** The second most frequently cited violation in 2009 and most frequently cited violation in 2008 was low chlorine/bromine levels. Maintaining proper chlorine levels is the primary method of protecting swimming/spa pool users from illness. The chlorine level in pools and spas should be tested frequently to ensure proper levels are maintained at all times.

**High Disinfectant:** High levels of disinfectant can lead to irritation of skin, redness, itching and loss of body hair. The maximum allowable level for chlorine/bromine is 10ppm. Even this level may be too high for sensitive individuals or individuals who spend long times in the pool/spa.

**Low pH:** Maintaining proper pH is one of the most important aspects of having properly balanced pool water and the most effective disinfection levels. Low pH is an irritant to the swimmers and creates corrosive water. Corrosive water damages pool surfaces and corrodes pool equipment like the heater.

**Flow Meter Inoperative:** The flow meter should be checked daily to make sure it is operating correctly and that the flow is maintained within the proper range. Water flow that is too low will not allow for adequate turnover of the pool water through the treatment system. Water flow that is too high could lead to improper filtration and entrapment issues with the main drains. When a flow meter is stuck it needs to be cleaned until the bobber fluctuates slightly up and down.

**Skimmers:** The skimmers draw water from the top layer of the pool or spa and send the water to the treatment equipment. Most body oils and contaminants float to the water surface making a properly functioning skimmer system important to maintaining good water quality. The skimmers need to be continually used and set to receive at least 60 percent of the flow through the system. A properly operated skimmer will have a weir gate that floats on the surface of the water and breaks the surface tension of the water allowing the most contaminated part of the pool water to flow into the treatment system.

### **Maintaining Proper Records:**

Records are required to be maintained everyday the pool is open and be kept on file for at least three years. Log sheets are available on our website at [http://www.co.cowlitz.wa.us/health/environmentalhealth/living\\_environment/recwatersafety.htm](http://www.co.cowlitz.wa.us/health/environmentalhealth/living_environment/recwatersafety.htm). Properly maintained pool records can be useful during shift changes, to identify potential problems with the pool and for liability purposes.

| Violation             | # of Violations Marked |
|-----------------------|------------------------|
| Chemical Records      | 27                     |
| Low Chlorine/Bromine  | 24                     |
| Low pH                | 19                     |
| High Chlorine/Bromine | 16                     |
| Flowmeter             | 15                     |
| Skimmers              | 15                     |

| Item to be Recorded                         | Frequency   |
|---|---|
| Chlorine/Bromine                            | Taken as often as needed to verify they are within acceptable ranges and at least daily |
| pH  | Taken as often as needed to verify they are within acceptable ranges and at least daily |
| Alkalinity                                  | Weekly  |
| Cyanuric Acid                               | Weekly (if used)  |
| Spa Pool Temperature                        | Daily   |
| Flow Rates                                  | Daily   |
| Chemicals Added To Pool                     | Quantities to be recorded when added to pool  |
| Incidents of known pool water contamination | Whenever incident occurs  |

### **Replacing Pool Equipment**

Please remember that changes to the pool and surrounding pool facilities requires approval unless you are replacing like for like equipment or doing minor repair work.

An example of replacing like for like equipment would include replacing a 2hp pump with a new 2 hp pump with comparable pump curve but would not include changing to a different size pump.

### **Certified Pool Operator Classes**

|           |             |             |              |
|-----------|-------------|-------------|--------------|
| Beaverton | Feb 24-26   | Phil Oaks   | 360-241-7665 |
| Portland  | March 24-25 | Lee Engvall | 503-620-9200 |
| Vancouver | May 13-14   | Phil Oaks   | 360-241-7665 |

Please see [www.NSPF.com](http://www.NSPF.com) for more Certified Pool Operator Class Listings.