



Response to Pathwest Water Sample Results in Spas Environmental Health Guide

This guide is to provide Local Government Environmental Health Officers (EHO's) with recommended actions to respond to daily Pathwest water sample results in spas.

Recommended actions are based on the Microbiological Water Standards as outline in Table 8 of the *Code of Practice for the Design, Construction, Operation, Management and Maintenance of Aquatic Facilities* (The Code).

The EHO reviews the daily results to identify if action is required based on the following parameters then implements recommended actions.

Table 8: Microbiological Water Standards

Type of Organism	Unsatisfactory Count	Recommended Actions
Heterotrophic Plate Count	> 100 CFU/mL	Super-chlorination
Presumptive Total Coliforms	≥ 1 CFU/100mL	Super-chlorination
Presumptive <i>Pseudomonas aeruginosa</i>	≥ 10 CFU/100mL	<i>Pseudomonas</i> Action for Spas
Thermophilic Amoeba (<i>Acanthamoeba</i>)	detected	<i>Acanthamoeba</i> Action for Spas
Thermophilic <i>Naegleria</i>	detected	Voluntary or Formal Closure

For Group 1 pools, please liaise with the trained Aquatic Facilities Operator. For Group 2-4 pools, contact should be made with the trained Technical Operator in the first instance.

Unsatisfactory Heterotrophic Plate Count and/or Presumptive Total Coliforms Recommended Actions

Super Chlorination

- Super-chlorinate the spa at 10mg/L for approximately 8hrs and ensure chlorine returns below 5mg/L prior to recommending patrons re-enter.





Super-chlorinating Filters

- Pour chlorine directly into the skimmer box while the pumps and filters are operational.
- Wait for a green-blue colour to appear through the returned filtered water.
- Turn off the pumps and filters as soon as the colour change is detected.
- Turn-off pumps & filters for approximately 8 hours to allow chlorine to disinfect filters.
- After 8 hours the filters should be backwashed.

Please note: The above super chlorination procedures are utilised through out this guide.

Pseudomonas Aeruginosa in Spas

Recommended Actions;

1. Recommend the manager of the facility close the spa.
2. Empty spa, clean, lightly scrub walls and concourse, disinfect & refill spa.
3. Super-chlorinate the spa and filters as outlined in stated procedure.
4. The manager of the facility shall contact Local Government to resample water.
5. Recollect water samples at completion of recommended actions.
6. Await outcome of satisfactory water sample results.
7. Re-open spa providing satisfactory water sample results are obtained.

Acanthamoeba in Spas

Recommended Actions:

1. Scrub the walls of the spa with a soft adhesive brush to assist the removal of the amoebae bio-film.
2. Pumps and filters should be kept operational whilst cleaning and for the approximate time (preferably longer) required for the filters to turnover all water; thus to enable water circulation and filtration to assist removal of amoebae from the spa.
3. Super-chlorinate the spa to 20 ppm (mg/L) for 8 hours.
4. Cleaning should not be undertaken during general patron use.
5. Spa should not be made available for use until all the water in the spa has been filtered (i.e. one full turnover cycle completed -refer to approval turnover time).
6. Although the filter may assist to remove, or even destroy amoebae from the pool environment, it is recommended that the filter is backwashed approximately 24 hours after this process to help reduce, or eliminate amoeba within the filter.
7. Regular backwashing or cleaning of filters is recommended.
8. For 2nd consecutive/subsequent *Acanthamoeba* result a temporary sign should be erected stating to the effect “*Persons should not wear contact lenses while swimming*”. This sign should remain in place until confirmation that ***thermophilic Acanthamoeba*** is absent from the spa has been received.
9. Follow-up water samples for the spa are therefore required to be collected once recommended actions have been completed.





***Thermophilic Naegleria* Action in Spas**

Recommended Actions:

1. Recommend the manager of the facility to close the spa.
2. Drain, clean (lightly scrub walls, interior pipe-work & concourse), disinfect & refill spa.
3. Super-chlorinate the spa and filters at 10mg/L for approximately 8hrs.
4. Super-chlorinate the filters.
5. The manager of the facility shall contact Local Government to resample water.
6. Resample spa water
7. Await outcome of follow up water sample results.
8. Confirm absence of *Naegleria* from follow-up water sample results.
9. Re-open spa providing satisfactory water sample results are obtained.

Improvement and Closure Orders

Improvement orders can be issued in circumstances of unsatisfactory counts of *Pseudomonas aeruginosa*, and *Acanthamoeba*. In the case of *Naegleria* a voluntary or formal closure can be implemented.

General Information

Improvement Order and Closure Order must be issued on the approved forms. The approved forms can be accessed from the Department of Health's web site at;

http://www.public.health.wa.gov.au/3/887/2/aquatic_facilit.pm

Further Information

For further information on the topics covered in this guide contact;

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