

10 MICROBIOLOGICAL TESTING

Swimming pool water should be microbiologically tested each month to monitor for the presence of potentially harmful microorganisms.

Hydrotherapy pools, even those not in a healthcare setting, should be tested weekly.

Testing should be performed only by competent personnel at a UKAS- accredited laboratory.

Tests should also be done

- before a pool is used for the first time
- before it is put back into use, after having been shut down for repairs
- if there are difficulties with the treatment system
- if contamination has been noted
- as part of any investigation into possible adverse effects on bathers' health
- in the event of adverse results.



More frequent sampling will be necessary if there is a problem, or for particularly heavily loaded pools.

Arranging for sampling, including its frequency, is the responsibility of the pool operator.

10.1) Chemical testing at the same time

Whenever a microbiological sample is taken it is important that a pool water chemical test of free and combined chlorine and pH is taken at the same time, from the same location as a reference. The water clarity and the bather load should also be noted

10.2) Aerobic colony count (ACC)

Aerobic colony count also commonly known as Total Viable Count (TVC) at 37°C is the basic test for pool water quality and is a measure of the aerobic bacteria present in the water. It does not necessarily give an indication of microbiological safety, but gives valuable information on the general quality of the pool water and whether the filtration and disinfection systems are operating satisfactorily.

- The aerobic colony count should not be more than 10 colony forming units (cfu) per millilitre of pool water after incubation for 24 hours at 37°C
- A colony count in excess of 100cfu/ml is unsatisfactory
- A consistently raised colony count of 10 to 100cfu/ml is unsatisfactory and should be investigated.

10.3) *Escherichia coli* (*E coli*)

Escherichia coli is a bacterium that is normally found only in human and animal faeces and does not grow in water. The presence of *E coli* indicates the presence of recent faecal contamination in the water. *E coli* should be absent in a 100ml sample. However, because most bathers will have some faecal contamination of their skin, particularly if they have not showered before bathing, a single positive sample may be the result of recent superficial contamination by a bather that has