POOL WATER TREATMENT
ADVISORY GROUP

TECHNICAL NOTE

17 Blood or vomit in the pool

April 2012
The commonest infections spread in pools and spas are gastrointestinal (e.g. *Cryptosporidium* and viruses) and skin rashes (bacteria mainly). Blood and vomit are unlikely to cause illness, because they are less likely to be infected than faeces and skin. And pool disinfectants should kill any bugs that there are, provided disinfectant residuals and pH values are within recommended ranges. But there are some precautions to take.

Blood
Small amounts of blood, from a nose bleed say, will be quickly dispersed and any germs present killed by the disinfectant in the water.

If significant amounts of blood are spilled into the pool, it should be
temporarily cleared of people, to allow the pollution to disperse and any infective particles to be neutralised by the residual disinfectant. Operators should confirm that disinfectant residuals and pH values are within the recommended ranges; bathing can then resume.

Any blood spillages on the poolside should not be washed into the pool or poolside drains and channels. Instead, like blood spillage anywhere in the building, it should be dealt with using strong disinfectant – of a concentration equivalent to 10,000mg/l of available chlorine. A 10:1 dilution of the sodium hypochlorite in use may be convenient. Using disposable latex gloves, the blood should be covered with paper towels, gently flooded with the disinfectant and left for at least two minutes before it is cleared away.
On the poolside, the affected area can then be washed with pool water (and the washings disposed of not in the pool). Elsewhere, the disinfected area should be washed with water and detergent and, if possible, left to dry. The bagged paper towels and gloves are classed as offensive/hygiene waste and in only small quantities can be disposed of with the general waste.

Vomit
It is not unusual for swimmers to vomit slightly. It often results from
swallowing too much water, or over-exertion, and so is very unlikely to present a threat through infection.

But if the contents of the stomach are vomited into a pool, the bather may be suffering from a a gastrointestinal infection. And if that is cryptosporidiosis, infective, chlorine-resistant Cryptosporidium oocysts will be present. This is a rather theoretical, unevaluated risk, and there is some disagreement about how it should be dealt with.

PWTAG recommends that vomit in the pool should be treated as if it were blood (ditto vomit on the poolside). See above for details. In the US, the Centers for Disease Control and Prevention suggests treating vomit in the pool like solid stool, which amounts to the same thing. But the World Health Organisation currently recommends responding as if it were diarrhoea (potentially closing the pool for six turnovers etc). The WHO pool guidelines are currently being revised.

Meanwhile, pool operators need to decide what their response will be, and have written procedures in place. If they follow PWTAG guidelines (see Technical note on faecal contamination) vomiting would result in temporarily clearing the pool of people, scooping up vomit where possible and allowing the pollution to disperse and any infective particles to be neutralised by the residual disinfectant. Operators need to confirm that disinfectant
residuals and pH values are within the recommended ranges; bathing can then resume.