

Warm Water Amoeba Hazard

An amoeba called *Naegleria fowleri*, common in many freshwater bodies of water throughout the south, is to blame for at least eight deaths across the country in 2007 .

Naegleria lives in the top few inches of muddy sediment at the bottom of any body of freshwater and thrives when the water temperature reaches 80 degrees or above. It is also present at lower temperatures. Warmer water temperatures due to global warming and lakes that have warmed up over the summer would logically indicate that this amoeba may be a hazard at more northern lakes in the coming years. Flowing rivers tend to be cooler than shallow lakes or ponds and may not harbor as many of the amoeba, though scientists are not certain. Health officials say that the amoeba does not occur in well-maintained swimming pools, but the key phrase is “well-maintained.”

Naegleria enters the body through the nose and travels to the brain, where it causes an infection and swelling called amoebic encephalitis. It is nearly always fatal, though it can be treated with antibiotics if caught quickly enough. It strikes quickly once the symptoms appear (usually 1 to 14 days after contact)—headache, fever, nausea, vomiting, followed by lethargy, stiff neck, and confusion. Brain tissue is destroyed by the amoeba and death can occur 3 to 10 days after symptoms are noticed.

Stirring up the sediment on the bottom of lakes and ponds suspends the amoeba in the water, allowing it to reach the nasal passages. Scientists do not know how many of the amoeba need to be in the water to present a danger or whether there is a safe concentration. Though most of the people who have died have been fairly young, doctors don't know if age is a factor—it could be simply that young people tend to be more active swimmers and do things to stir up the water.

Here are a few risk-management suggestions:

- If you own your swimming area, have the water and the bottom muck tested monthly during the summer. If you don't own your swimming area, see if anyone else is testing the water and find out exactly what they are testing for (usually only e-coli).
- Provide and use nose clips when swimming or diving in freshwater, particularly when water temperatures reach 80 degrees and above.
- Try to swim in deeper bodies of water, and avoid stirring up the bottom.
- Stay on the surface and don't swim near the bottom. Though infections and death have been relatively rare, increasing global temperatures and the lethality of this little bug make it a risk that youth programs should respect. It's a good idea to train your staff to identify the bug's medical symptoms and work to prevent outbreaks.

For more information about *Naegleria fowleri* and other recreational water illnesses, visit the CDC's website at www.cdc.gov/healthyswimming.

If you have a safety or risk management question or a suggestion for a topic, please contact Markel's Risk Management Department at safety1st@markelcorp.com.