

Information Sheet on Amoeba *Naegleria fowleri*

There have been many recent news stories (Summer 2007) concerning young Central Florida boys that died from brain infections after swimming in area lakes. This infection, Primary Amoebic Meningoencephalitis is caused by the amoeba *Naegleria fowleri*. This single cell protozoan is found in freshwater world wide. Infection can result if water containing this amoeba is forced up the nose or ears. Once in the body the amoeba travels to the brain and spinal cord. While this amoeba is common, infection is extremely rare. Only a handful of cases have reported in Central Florida since 1962 and only 24 infections were documented in the U.S. between 1989 and 2000.

There are no practical means of testing for or controlling this amoeba. It is most active during the summer months when water temperatures are above 85 degrees F. This is generally between June and October and the warmest waters are generally in the shallow areas near shore. This amoeba lives in bottom sediments where it feeds on decaying plant materials. It can become suspended in the water when sediments are disturbed. In addition to living in surface waters this amoeba is also found in soils and poorly maintained or under-chlorinated swimming pools.

Infection can only occur when a number of conditions are present:

- The amoeba must be present in the water.
- The amoeba requires warm stagnant calm waters to reproduce in large numbers.
- Water containing an amoeba must enter the nose or ear. (Infection can not occur from swallowing water containing the amoeba.)

Infection can be prevented with precautions:

- Never swim in stagnant or polluted water or in warm waters discharged from power plants.
- Swim in deeper, cooler open areas of the lake.
- Avoid underwater swimming and hold your nose or use nose plugs when jumping into natural waters.
- Swim only in properly maintained pools.

Symptoms of infection:

- Severe headache
- High fever
- Stiff neck
- Nausea
- Vomiting
- Seizures
- Hallucinations as the condition worsens

The disease progresses rapidly and infection usually results in death within 3 to 7 days. If you suspect an amoeba infection do not delay seeking medical help. Anyone who has been swimming in freshwater who exhibits these symptoms should see a doctor as soon as possible. Successful treatment requires early diagnosis.

This article has been summarized from the following references.

- *Naegleria Infection*, Center for Disease Control
http://www.cdc.gov/ncidod/dpd/parasites/naegleria/factsht_naegleria.htm
- *Primary Amoebic Meningoencephalitis*, Volusia County Health Dept.
http://www.volusiahealth.com/eh/public_updates/amoeba.html
- *Primary Amoebic Meningoencephalitis*, – Army Corps of Engineers
<http://www.swt.usace.army.mil/presskit/H2O%20Brochure%20page%208.pdf>

For further information on protecting yourself from recreational water illnesses, go to www.healthyswimming.org.

This document is provided for information only and is not meant to be used for self-diagnosis or as a substitute for consultation with a health care provider. If you have any questions about the disease described above or think that you may have a parasitic infection, consult a health care provider.