



## TEXAS DEPARTMENT OF STATE HEALTH SERVICES

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To: Area Medical Providers

Date: August 24, 2015

SUBJECT: **Primary Amebic Meningoencephalitis linked to Texas Lakes**

Two cases of Primary Amebic Meningoencephalitis (PAM) have recently been diagnosed in Texas Health Service Region 6/5 South following recreational activity in Texas lakes. *Naegleria fowleri* is the causative agent of Primary Amebic Meningoencephalitis (PAM).

*Naegleria fowleri* is a free-living amoeba (single-celled organism) that causes a rare and devastating brain infection, which is generally fatal (case-fatality rate ~ 98%). Infection occurs when contaminated water enters the body through the nose and the amoeba travels to the brain, where it destroys the brain tissue.

*Naegleria fowleri* is found in warm freshwater (e.g., lakes, rivers, and ponds) and soil. Infection most often occurs when people engage in recreational activities in warm freshwaters, like diving and swimming. In very rare cases, *Naegleria fowleri* infection has occurred when contaminated water from other sources (inadequately chlorinated swimming pools or contaminated tap water) enters the nose. Infection does not occur by drinking contaminated water.

Initial symptoms start 1-9 days after exposure and may consist of **severe frontal headache, fever, nausea, and vomiting.** As the disease progresses, later symptoms may include **stiff neck, seizures, altered mental status, hallucinations, and coma.** The disease progresses rapidly and usually results in death 1-18 days after symptom onset. **Clinicians should be aware of possible *Naegleria fowleri* infections in patients presenting with the above symptoms and who have had recent exposure to warm freshwater.**

Infections of *Naegleria fowleri* are extremely rare, but the organism is ubiquitous in warm freshwater making the risk of infection always present. The only way to prevent *Naegleria fowleri* infection due to swimming is to refrain from water-related activities in freshwater. Actions that people can take to reduce the risk of *Naegleria fowleri* infection should focus on limiting water exposure going up the nose.

- Avoid water related activities in freshwater during periods of high water temperatures and low water levels.
- Hold your nose shut, or keep your head above water when taking part in water-related activities in bodies of warm freshwater, hot springs, or untreated water.
- Avoid digging up or stirring up sediment while engaging in water-related activities in shallow, warm freshwater.
- If using a Neti-Pot or syringe for nasal irrigation or sinus flush ALWAYS use sterile, distilled, or lukewarm previously boiled water.

*If you are a physician and healthcare professional considering amebic meningoencephalitis or encephalitis:*

Please contact the Regional Epidemiology Team at **713-767-3000** or after hours at **800-270-3128**.

Thank you,  
Region 6/5S Epidemiology

References:

<http://www.cdc.gov/parasites/naegleria/general.html>

[https://www.dshs.state.tx.us/idcu/disease/primary\\_amebic\\_meningoencephalitis/](https://www.dshs.state.tx.us/idcu/disease/primary_amebic_meningoencephalitis/)