



# COMMONWEALTH of VIRGINIA

Department of Health

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KAREN REMLEY, MD, MBA, FAAP  
STATE HEALTH COMMISSIONER

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Dear Physician:

I am writing today to share with you information and resources related to the very sad death of a Virginia school-aged child confirmed by the CDC to be attributable to primary amebic meningoencephalitis (PAM), due to infection with *Naegleria fowleri*. I know this is not the urgent public health issue my correspondence usually covers, but this tragic case has received significant media attention and your patients may come to you with concerns or questions regarding this rare infection.

*Naegleria fowleri* is an amoeba commonly found in warm freshwater and soil. It causes the disease PAM, a brain infection that leads to the destruction of brain tissue. In its early stages, symptoms will closely resemble the classic presentation of bacterial meningitis. Symptoms of this rare illness start 1 to 7 days after infection, and can include headache, fever, nausea, vomiting and stiff neck. The disease progresses rapidly and almost all infections have been fatal.

The organism infects people by entering the body through the nose, particularly when it makes it high into the nasal passages near the olfactory nerve endings. This can occur when people use warm freshwater for recreational activities such as swimming or diving or jumping in. The organism is essentially ubiquitous in warm freshwater. Infection with *Naegleria fowleri* is exceedingly rare; 32 infections in total were reported from 2001 to 2010 in the United States. Until this most recent case, the last reported case in Virginia was in 1969.

To help you discuss *Naegleria fowleri* with your patients if questions arise, I am including a link to the CDC's online resource for health care providers, which covers the clinical features of the organism as well as its life cycle, laboratory diagnosis, causal agent and treatment. I have also included the link to a brochure from my department that addresses precautions and swimming recommendations related to Virginia's natural waters, and links to both our frequently asked questions (FAQs) factsheet and the CDC's:

- CDC Free-living Amebic Infections for clinicians:  
[www.dpd.cdc.gov/dpdx/HTML/FreeLivingAmebic.htm](http://www.dpd.cdc.gov/dpdx/HTML/FreeLivingAmebic.htm)
- *Naegleria fowleri* Frequently Asked Questions (VDH):  
[www.vdh.virginia.gov/epidemiology/DEE/otherzoonosis/Naegleriafowleri.htm](http://www.vdh.virginia.gov/epidemiology/DEE/otherzoonosis/Naegleriafowleri.htm)
- *Naegleria* Frequently Asked Questions (CDC):  
[www.cdc.gov/parasites/naegleria/faqs.html](http://www.cdc.gov/parasites/naegleria/faqs.html)
- "Safely Enjoy Virginia's Natural Waters" pamphlet:  
[www.vdh.virginia.gov/epidemiology/DEE/Waterborne/documents/RecWater.pdf](http://www.vdh.virginia.gov/epidemiology/DEE/Waterborne/documents/RecWater.pdf)

If you have further questions, please feel free to contact your local health district director or the Virginia Department of Health's Office of Epidemiology at (804) 864-7554.

Thank you for your continued commitment to the health and well-being of all Virginians.

Sincerely,

Karen Remley, MD, MBA, FAAP  
State Health Commissioner