



CDC Outbreak Notice: Malaysia, Sarcocystosis Outbreak Associated with Tioman Is

Disease Outbreak

East Asia & Pacific > Malaysia

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What Is the Current Situation?

CDC has received reports from GeoSentinel[1] of four cases of sarcocystosis have been associated with 2012 summer travel to Tioman Island in Malaysia. Last year, 33 travelers returning from Tioman Island were similarly diagnosed with sarcocystosis.

What Is Sarcocystosis?

Sarcocystosis is a disease caused by a parasite called Sarcocystis. Sarcocystosis occurs in tropical or subtropical countries, including countries in Southeast Asia. This disease is common among wild and domestic animals but can also cause disease in humans. Two forms of the disease can occur: one causes diarrhea and the other causes muscle pain, fevers, and other symptoms. Muscle sarcocystosis is spread through the ingestion of food, water, or soil contaminated with infected animal feces. Many people infected with Sarcocystis may not have symptoms.

The travelers described in this notice returned from Malaysia with severe muscle pain. Other reported symptoms included mild diarrhea and fever. Most people were ill for 2-4 weeks after leaving the island.

How Can Travelers Protect Themselves?

There is no vaccine or medicine that can prevent or treat sarcocystosis. Because sarcocystosis is spread through food or water contaminated with animal waste, travelers are advised to avoid contact with animals, to eat and drink safe food and water, and to wash hands frequently.

Avoid contact with animals Do not touch or feed animals, especially cats and wild animals. Do not touch animal droppings. Avoid contact with soil that may be contaminated with animal droppings. Drink and use safe water Drink bottled water or water that has been boiled or filtered. Water purification tablets and chlorine products may not kill Sarcocystis. Do not drink



beverages with ice unless you are sure the ice was made with safe water. When swimming, avoid getting water in the mouth, eyes, or nose. Eat safe food Cook all meat to 160°F (71°C), especially pork and beef. Eat cooked food hot. Keep all food covered. Do not eat raw or undercooked foods, especially shellfish, except for fruits and vegetables you can wash with safe water or peel yourself. Wash your hands Wash your hands with soap and safe water. If you do not have soap, use an alcohol-based (60%) hand sanitizer. Wash your hands before you eat or prepare food, before feeding your children, after using the toilet, after changing diapers, and after taking care of someone ill with diarrhea.

Clinician Information:

Muscle sarcocystosis can be suspected in persons with signs and symptoms of myositis, with or without fever. Ill patients may have an elevated eosinophil count and may have an elevated creatine kinase (CK) with no other explanation for these findings. Eosinophil counts and CK levels may be normal initially and rise approximately 40 days after infection. A muscle biopsy can be done by using a conventional histologic staining and will show myositis but may or may not demonstrate classic sarcocysts. Molecular testing is not widely available. Physicians are encouraged to contact CDC at 800-232-4636 or 888-232-6348 or cdcinfo@cdc.gov with questions regarding suspicious cases and for assistance with diagnosis.

Additional Information:

Life cycle of Sarcocystis

MMWR: Acute Muscular Sarcocystosis Among Returning Travelers—Tioman Island, Malaysia, 2011

CDC information for safe travel to Malaysia