Baylisascaris Infection
(Raccoon Roundworm Infection)

Baylisascaris is the scientific name of a type of intestinal roundworm. It can infect a variety of meat-eating (*carnivorous*) animals. *Baylisascaris procyonis* is the name of the species found commonly in raccoons. When infective eggs of the roundworm are ingested by humans and other animals, *Baylisascaris* larvae hatch in the intestine. They then travel through the organs and muscles. This is called larva migrans syndrome.

Infection rarely causes problems (*symptoms*) in raccoons. Serious infection is rarely diagnosed. Less than 30 cases have been reported. But it is believed that some cases are incorrectly diagnosed as other infections. Or they may go undiagnosed.

CAUSES

Infected raccoons commonly shed millions of eggs in their feces. The eggs usually develop to the infective stage in 2 to 4 weeks. The eggs are resistant to most environmental conditions. With adequate moisture they can survive for years. Infection is spread when a person or animal accidentally ingests eggs.

- People, especially young children, generally become infected from accidentally ingesting eggs. This can be from:
  - Soil.
  - Water.
  - Hands.
  - Other objects that have been infected (*contaminated*) with raccoon feces.

The eggs must be ingested by a human or other animal to be able to hatch and release larvae. Eating a smaller animal that has been infected with Baylisascaris may also infect animals. Other animals (except raccoons) infected with this roundworm can develop similar symptoms. Or they may die as a result of infection.

SIGNS AND SYMPTOMS

Signs and symptoms of infection depend on how many eggs are ingested and where in the body the larvae travel to (*migrate*). Once swallowed and inside the body, eggs hatch into larvae. Then they cause disease when they migrate through the liver, brain, spinal cord, and other organs.

- Swallowing a few eggs may cause few or no symptoms.
- Ingesting large numbers of eggs may lead to serious symptoms. These symptoms may include:
  - Feeling sick to your stomach (*nausea*).
  - Tiredness.
  - Liver enlargement.
  - Lack of coordination.
  - Lack of attention to people and surroundings.
  - Loss of muscle control.
  - Coma.
  - Blindness.
- Some cases have resulted in death.
- Signs and symptoms of infection may take a week or so after ingestion of eggs to develop.

DIAGNOSIS

Infection is very difficult to diagnose. Often it is made by ruling out other infections that cause similar symptoms. Anyone who is exposed to environments where raccoons live is potentially at risk. Young children and developmentally disabled persons are at highest risk for infection. When they spend time outdoors, they may be more likely to put dirty fingers or objects into their mouths. Hunters, trappers, taxidermists, and wildlife rehabilitators may also be at increased risk if they handle raccoons or raccoon feces.

TREATMENT

No effective, curative treatment is yet available. But early treatment might reduce serious damage caused by the infection. Seek immediate medical attention for any person seen ingesting raccoon feces.

PREVENTION

- Avoid direct contact with raccoons, especially their feces. Do not keep, feed, or adopt raccoons as pets! Raccoons are wild animals.
- Discourage raccoons from living in and around your home or parks. Remove access to food. Clear brush so raccoons are not likely to make a den on your property.
- Stay away from areas and materials that might be contaminated by raccoon feces. Raccoons typically defecate at the base of or in raised forks of trees, or on raised horizontal surfaces such as fallen logs, stumps, or large rocks. Raccoon feces also can be found in sandboxes, on woodpiles, decks, rooftops, and in attics, garages, and haylofts. Feces usually:
  - Are dark and tubular.
  - Have a strong odor (usually worse than dog or cat feces).
  - Often contain undigested seeds or other food items.
- To eliminate eggs, raccoon feces and material contaminated with raccoon feces should be removed carefully and burned, buried, or sent to a landfill. Care should be taken to avoid contaminating hands and clothes. Wash hands with soap and running water. Treat decks patios, and other surfaces with boiling water**.** Prompt removal and destruction of raccoon feces will reduce risk for exposure and possible infection. Newly deposited eggs take at least 2 to 4 weeks to become infective.
- Contact your local animal control office for further assistance.

SEEK MEDICAL CARE IF:

- You suspect infection, see your caregiver immediately. Be sure to report that you have recently been in contact with raccoons.

RESOURCES

For general information, visit the Centers for Disease Control at www.cdc.gov/ncidod/dpd
For information on diagnosis and testing, see:
www.dpd.cdc.gov/dpdx/HTML/Baylisascaris.htm

Information courtesy of CDC.

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