



Timely Topics in Zoonotic and Vector-Borne Diseases II

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Timely Topics I and II

● Timely Topics I

- TickNet
 - Lyme and other Tickborne Diseases Prevention Study
 - Underreporting of Lyme disease
- Karen the elephant
- Animal visitation guidelines

● Timely Topics II

- Trichinellosis survey
- National Park Service collaboration



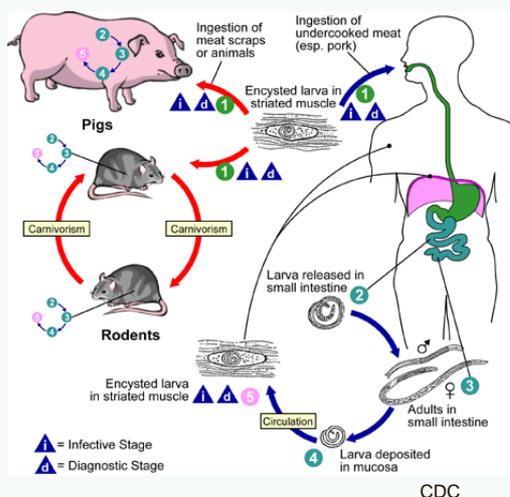
Survey of State Health Departments Regarding the Availability of Educational Materials about the Risks of Trichinellosis from Wild Game, 2009

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Trichinella Life Cycle

- Various species of the parasitic nematode *Trichinella*
- Host ingests striated muscle containing viable encysted larvae
- Larvae released into stomach, invade small intestinal mucosa, mate, and females reproduce
- New larvae spread hematogenously to striated muscle, where the cycle continues





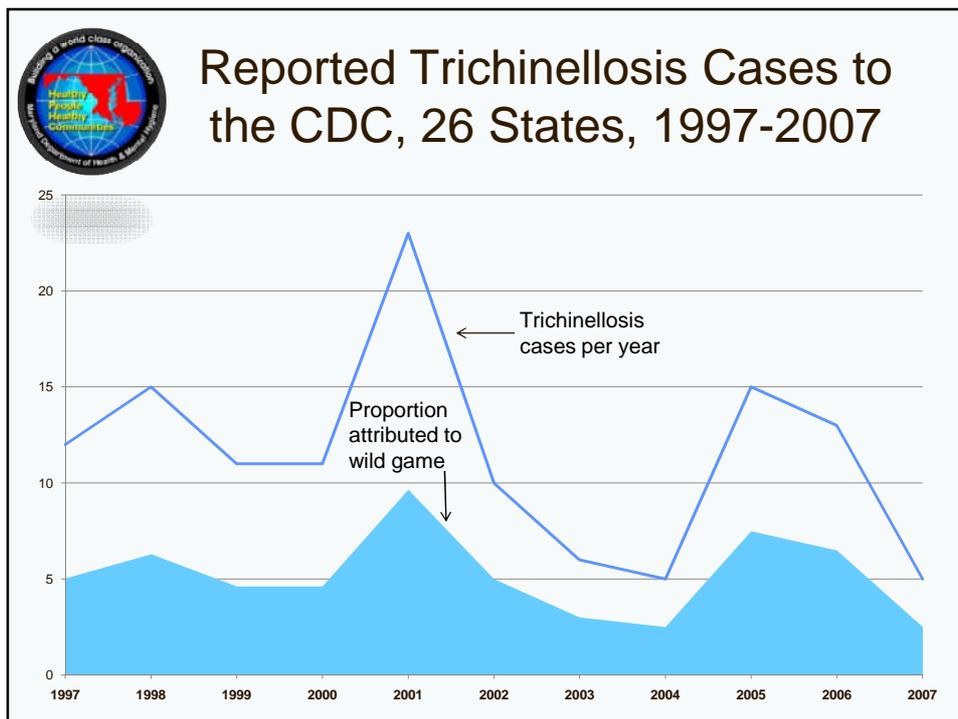
Trichinella Infection Clinical Signs

- Gastrointestinal stage (1-2 weeks post ingestion)
 - Abdominal pain, vomiting, diarrhea, constipation
- Parenteral stage (2-8 weeks post ingestion): associated with inflammation and tissue necrosis
 - Flu-like: fever, myalgia, headaches
 - Periorbital, facial, and peripheral edema
 - Conjunctivitis, rashes, bronchitis, and eosinophilia



Background and Historical Information

- Humans are accidental hosts
- Historically, infection was associated with consumption of undercooked pork
- Changes in commercial pork production have resulted such that undercooked wild game meat is now the most common source of infection
- Cases reported to CDC, 1997-2007
 - Annual average of 11.5 cases
 - 26 states



2009 Survey

- Online survey to assess availability of educational materials regarding association of trichinellosis infection with eating undercooked wild game
- State Public Health Veterinarians targeted



Survey Questions

- Number of cases of trichinosis reported in state from 2004-2008
- Availability of educational materials on the state health department and state wildlife agency websites
- Best methods for educating hunters about trichinellosis
- Relationship between the state health department and state wildlife agency



Results

- 44 states responded
 - 2/3 State Public Health Veterinarians
- Educational materials on state agency website

	State Health Department	State Wildlife Agency
Yes	20 (45.5%)	5 (11.4%)
No	21 (47.7%)	26 (59.1%)
Don't know	3 (6.8%)	13 (29.6%)

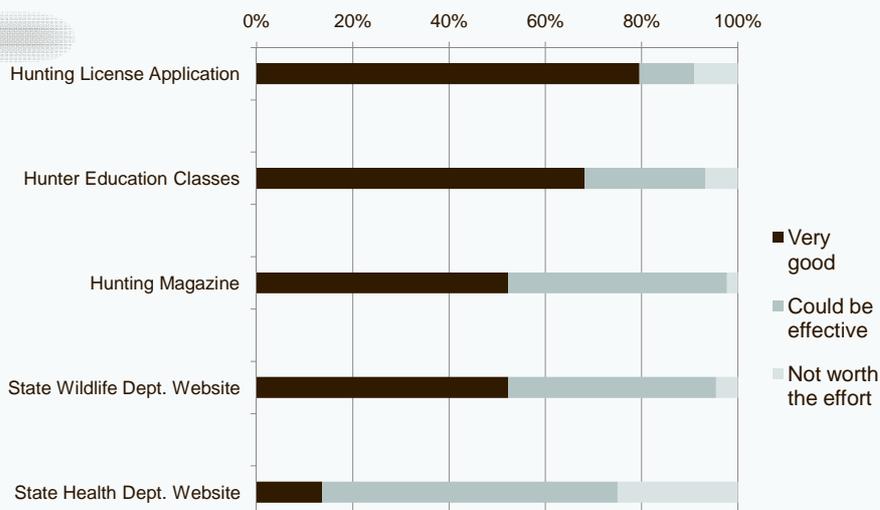


Correlation between Trichinellosis Cases and Educational Material

- States that reported >1 case of trichinellosis from 2004-2008 were 1.75 times (95% confidence interval: 0.94-3.27, p=0.086) as likely to have educational information on their state health department website



Reactions to proposed mechanisms to educate hunters about the risks of trichinellosis from wild game, n=44





State Health Department and State Wildlife Agency Relationship, n=44



	Number and Percent
Regular communication and cooperation	21 (48%)
Occasional communication	22 (50%)
Little to no communication or contact	1 (2%)



Maryland Trichinellosis Resources



- Excellent information available on the Department of Natural Resources website
- Trichinellosis fact sheet to be posted on DHMH website





Disease Reporting System for Park Visitors

**Center for Zoonotic and Vector-borne Diseases
Infectious Disease and Environmental Health Administration
Maryland Department of Health and Mental Hygiene**

Mountain Park



Rabies

Rabies is a preventable viral disease of all mammals that is transmitted by the bite of a rabid animal. Rabies is nearly always fatal once symptoms appear. The virus attacks the nervous system and affects the brain and spinal cord. In Maryland, rabies is most frequently found in wildlife, most commonly raccoons, foxes, skunks, and bats.

TO PREVENT RABIES:

- Enjoy wildlife from a distance.
- Vaccinate your dogs, cats, and ferrets regularly.
- Keep pets on leash.
- Never feed wildlife.
- Teach children to stay away from animals they don't know.



If **ANY** illness occurs at a park, please email us at NPS_Health@nps.gov



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NPS Office of Public Health
National Park Service
U.S. Department of the Interior

Catoctin Mountain Park
and



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Lyme Disease

Lyme disease is the most common tick-borne disease in Maryland and in the United States. Lyme disease is transmitted by the bite of an infected black-legged tick (sometimes called a deer tick). The tick must be attached for at least 24 hours for transmission to occur. From 3-30 days after a tick bite, a gradually expanding rash can occur at the site of the bite in 70-80% of infected people. Other symptoms may include fever, headache and fatigue. If untreated, Lyme disease may progress to involve joints, the nervous system, and the cardiac system. Contact your health care provider if you develop any of these symptoms after a tick bite or after being in tick habitat.

**TO ENJOY THE OUTDOORS SAFELY,
KEEP TICKS OFF:**

- Look for ticks when they are most active in late spring through early fall.
- Wear long pants and long sleeves to help keep ticks off your body.
- Tuck shirts into pants, and pants into socks, to keep ticks on the outside of clothing.
- Wear light colored clothing to help spot ticks more easily.



- Use insect repellent, such as DEET, according to the product label.
- When hiking, walk in the center of the trail when in woods or high grass. Stay away from brushy areas, high grass, and leaf litter.
- Check for ticks daily after being in tick habitat.
- Talk to your veterinarian about tick control products for pets.

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Questions ?



**Maryland
Infectious Disease and
Environmental Health
Administration**

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