

One Health Newsletter

Dedicated to improving the lives of all species—human and animal

Spring/Summer 2019

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Volume 1, Issue 1

What is One Health?

One Health recognizes that the health of people is connected to the health of animals and the environment. It is a collaborative, multisectoral, and transdisciplinary approach—working at the local, regional, national, and global levels—with the goal of achieving optimal health outcomes recognizing the interconnection between people, animals, plants, and their shared environment.

A One Health approach is important because 6 out of every 10 infectious diseases in humans are spread from animals.¹

Ontario Central West Local Public Health Units are starting to collaborate using this approach. Under the Public Health umbrella, there are multiple environmental health (i.e. safe water) and infection control (i.e. disease surveillance) program areas, which we are attempting to collapse, and view from an over-arching “One Health” lens. We also need to educate the Public to view health issues using big-picture approaches, and not viewing health issues in isolation.



Newsletter Spotlight

•What is One Health?

•Rabid Dog in Niagara

•Ticks

•New Tapeworm In Town

CDC [Internet]. USA: One Health; 2019 Mar 22 [cited 2019 April 4]; Available from: <https://www.cdc.gov/onehealth/index.html>



A Rabid Dog Experience in Niagara Region

In mid-February 2019, an unvaccinated eighteen-month old dog was taken three times to different veterinary clinics for what was believed to be accidental poisoning. The dog's condition worsened until it was so ill that it was euthanized on Feb. 13, 2019. Though classic symptoms associated with rabies such as aggressive behaviour, difficulty swallowing/foaming at the mouth were not noted, the dog was experiencing difficulty standing up. The veterinary staff suspected a poisoning, and as a precaution, reported the case to public health. The dog was tested and found to be positive for raccoon rabies. The report came in on Friday, Feb. 15, at approximately 2 p.m. and Public health inspectors immediately began their investigation.



As the dog owners live in an isolated rural setting, there were fortunately few contacts outside the immediate family and vet clinic staff. Even with limited outside exposure, 29 people who were potentially in contact with saliva from the dog received rabies post-exposure prophylaxis. Some of the exposed were veterinary staff that had previously been vaccinated; however, this, in turn, required that blood titres had to be acquired to further determine the appropriate course of treatment.

The dog itself is one of several family pets and livestock that had spent its entire life at the same rural farm where it was born. Neither the positive dog, nor any of the other pets or livestock had ever been vaccinated against rabies in spite of raccoon rabies being present in the area. As a result, the Ministry of Agriculture, Food and Rural Affairs are investigating the other animals at the farm. Fortunately for investigators, the family has been cooperative and understand that the other pets have a significant risk of acquiring rabies too.

A special thank you to the vigilant veterinary clinical staff for contacting public health to follow-up with rabies testing after the animal was euthanized, in spite of the proposed poisoning diagnosis. Had the rabies not been discovered, there likely could have been human cases of rabies in our community.

The health unit subsequently did a media release and a number of radio and newspaper interviews regarding the investigation. As a result of the publicity around the rabid dog investigation, there is a heightened awareness in medical and veterinary communities as well as the general public.

This investigation is a keen reminder that rabies is very much present with us, and pet vaccination still remains the most effective barrier to prevent this fatal illness from entering our communities.

Rabies in Ontario

Did you know there are three different strains of rabies circulating in Ontario?

Locally, we are dealing with a raccoon rabies strain outbreak, other parts of Southwestern Ontario are dealing with cases of fox strain rabies and we continue to see reports of bat strain rabies in low numbers in all areas of Ontario. What does this mean to you? It means that Rabies is Real in Ontario and there is a greater probability that domestic animals could contract rabies.

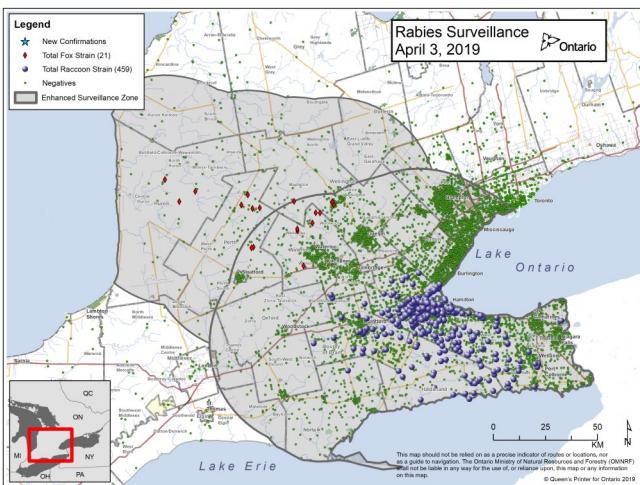
Since the raccoon rabies outbreak began back in December 2015, a total of **460** animals have been found positive with the strain in Ontario. This outbreak has affected multiple health units including: Hamilton, Halton, Brant, Wellington Dufferin Guelph, Niagara, Waterloo and Haldimand Norfolk.

What does this mean for veterinarians and clinics?

What if the cat had contact with a bat recently? What if the dog was unsupervised in the yard and had contact with a raccoon? It is always a possibility and wise to consider rabies during your diagnosis of any animal brought in to your clinic. Remember that animals can be infectious just prior to exhibiting symptoms. Some symptoms to consider; paralysis/or abnormal gait, excess saliva/drool, respiratory distress, loss of appetite, biting at objects/itself or others, change in vocalization by constant meowing or inability to bark, and/or becoming lethargic or increased aggression. It is also best practice to wear gloves with all animals where contact with saliva is possible.



Veterinarians, Registered Veterinary Technicians and other veterinary healthcare team members are encouraged to appropriately assess animal health and consider rabies in the differential diagnosis for ill domestic animals, conduct appropriate risk assessments and implement measures for infection prevention and control and report suspected animal cases of rabies to your local public health unit for appropriate testing and follow-up.



For more information about rabies in Ontario, visit, <https://www.ontario.ca/page/rabies-wildlife>

For more information on MNRF baiting program, visit, <https://www.ontario.ca/page/rabies-wildlife>

To report wildlife to domestic animal exposures to OMAFRA call
1-877-424-1300

Tick Season

In preparation for the 2019 tick surveillance season, the Ministry of Health and Long-Term Care, in collaboration with Public Health Ontario, the University of Ottawa and the University of Guelph are launching a new rapid tick identification system called, *eTick*. In addition, Public Health Ontario will be providing an updated version of the Ontario Lyme disease map showing estimated risk areas across the province.

The *eTick* pilot project is a free, public platform for rapid image-based tick identification and real-time mapping of submissions through www.etick.ca. This surveillance system will run in parallel with the current provincial passive and active surveillance programs. Anyone who finds a tick can submit a picture through the website and receive species identification results within 48 hours. Ticks from all sources can be submitted including those from humans, animals or those found free in the environment. As of April 1, 2019, ticks collected in Quebec, Ontario and New Brunswick will be accepted for identification.

The [*Ontario Lyme Disease Map: Estimated Risk Areas*](#) is used to assist local public health units and public health professionals when conducting Lyme disease case investigations. The map is updated annually, identifying known or potentially emerging risk areas for blacklegged ticks across the province. Estimated risk areas are locations where blacklegged ticks have been identified or are known to occur and where humans have the potential to come into contact with infected ticks.

Blacklegged Tick (Deer Tick) *Can transmit Lyme disease*



Adult Female



Adult Male



American Dog Tick *Cannot transmit Lyme disease*



Adult Female



Adult Male

Keeping Your Pets Safe in Hot Weather

As warmer weather approaches, it is important to remember to take steps to keep our pets safe from the heat. Pets like dogs and cats do not have sweat glands all over their bodies as humans do to regulate their body temperatures. Instead, dogs pant to control their body temperatures, and cats may also rely on panting to control their body temperatures but also groom themselves as a way to cool down.

As our pets have a lesser ability to cope with the heat they are more susceptible to its negative side effects such as a heat stroke. This is especially true for overweight pets and those with long hair, thick coats or short faces. English and French bulldogs are more likely to suffer from heat stroke than the average dog.

What Is Heat Stroke in my Pet?

Heat stroke can occur in pets when their body isn't able to cope with the external heat, leading to illness, organ failure and even death. A dog's normal body temperature is about 39°C; an increased body temperature of 41°C or greater can lead to serious consequences such as brain damage or death. Smaller pets such as cats can suffer from heat stroke if confined to small hot spaces or left out in the sun for an extended period of time.

What are the Signs & Symptoms of Heat Stroke in my Pet?



Excessive panting Muscle twitching Anxious or dazed look
Vomiting Weakness Increased drooling Diarrhea

What Can I Do to Protect My Pets from the Heat?

Provide plenty of clean, fresh, cool water for your pets. Make sure to keep standing bowls of water in the shade to keep the water cool and to replace stagnant water often.

Take outdoor walks during the cooler times of the day such as the early morning or later in the evening;

Keep your pets inside on the hottest days;

Never leave pets inside a parked vehicle or in direct sunlight; and

If your pet is panting hard or making odd noises ensure they are taken out of the heat.

What Do I Do If I Think My Pet Is Experiencing Heat Stroke?

- 1) Take your pet out of the sun and heat.
- 2) Try to lower their body temperature using lukewarm or cool (not cold) water and damp towels.
- 3) Allow your pet to drink cool water if they are able to.
- 4) Take your pet to a veterinarian as soon as possible.

Sources:

Ontario SPCA and Humane Society. (2015). Fast Facts. Retrieved from: http://support.ontariospca.ca/site/PageServer?pagename=nohotpets_Fast_Facts

Ontario SPCA and Humane Society. (2019). Keeping Your Pet Cool in the Summer. Retrieved from: <https://ontariospca.ca/blog/keeping-your-pet-cool-in-the-summer/>

Ontario Veterinary Medical Association. (2019). Pet Safety Tips. Retrieved from: <https://www.ovma.org/pet-owners/basic-pet-care/pet-safety-tips/>

There's a New Tapeworm in Town!

Echinococcus can affect both animals and people

By: Kristina Cooper RVT

What is Echinococcus?

Echinococcus is the scientific term that describes a certain genus of tapeworm. It has recently been discovered to be a new and emerging issue in Canada.

The Taenia genus of tapeworm that most people are familiar with, and from time to time notice in their pet's stool, can be quite large-up to meters long. In contrast, Echinococcus appears quite a bit smaller, under just a few millimeters long. There are two forms of Echinococcus to be concerned about, *Echinococcus granulosus* and *Echinococcus multilocularis*.

How is Echinococcus contracted?

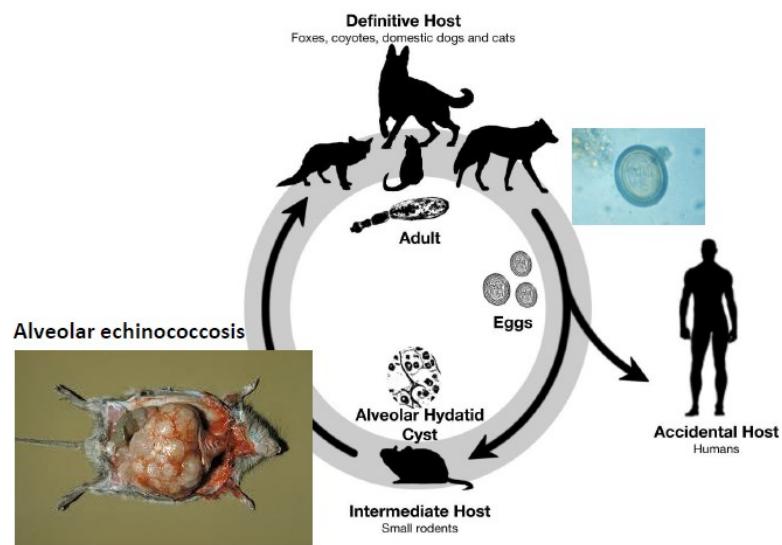
Echinococcus granulosus can be contracted by dogs when they eat the meat of an infected intermediate host like sheep, cattle, goats, horses, pigs and also foxes that contain the larval form of the parasite. The dog (or other canid) then becomes the definitive host for the parasite allowing it to mature into the adult form which will release eggs into feces. These eggs can then be contracted by humans where they will form cysts in organ tissues which can cause Cystic Echinococcosis (CE).

Echinococcus multilocularis is contracted by foxes primarily but also by dogs, coyotes, wolves and cats after they consume rodents, who are the intermediate hosts, that are carrying the larval stage of the disease. Once ingested the larval form matures into an adult worm which will release eggs into feces. These eggs can be contracted by humans where they can form tumors in organ tissue which can cause Alveolar Echinococcosis (AE).

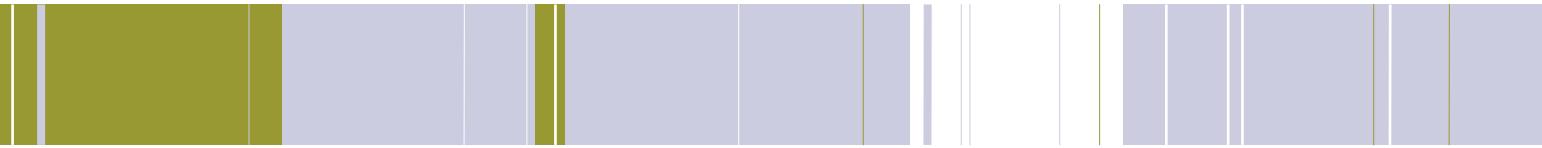
Symptoms of Echinococcosis in pets

Symptoms in animals that have the adult stage of the infection- like pets, and who are the definitive hosts, can be non-existent. Those that are carrying the larval form- like livestock or rodents, and who are intermediate hosts, can become symptomatic when the cysts or tumors the parasite causes begins to disrupt organ function.

Life cycle of *Echinococcus multilocularis*



J. Kotwa



Symptoms of Echinococcosis in people

Echinococcus in people can be quite a concern as it can go undetected without apparent symptoms for many years.

Echinococcus granulosus causing CE may result in one or more fluid filled cysts developing in the lungs and liver mainly but may also be seen in the bones, spleen, kidneys, eyes and central nervous system. Symptoms begin to occur when these cysts (also known as hydatids) begin to affect the tissues they inhabit. These may include, weakness, weight loss, loss of appetite, nausea, abdominal pain and neurological signs.

Echinococcus multilocularis causing AE usually results in one primary tumor most likely occurring in the liver but can proliferate to surrounding tissue. Disease can take 5-15 years to develop with symptoms occurring as the liver tissue is damaged. These tumors often present similar to cancer. AE is more of a concern in people as it can have a high mortality rate.

How is Echinococcosis treated?

In animals regular deworming can effectively kill adult stages of the parasite. In some parts of the world livestock are vaccinated to prevent the larval stage of the parasite.

In humans that have developed Cystic Echinococcus or Alveolar Echinococcus treatment is not as straightforward. Cysts resulting in cases of CE can be drained or surgically removed which can be curative. Tumors resulting in cases of AE will require surgical removal and in some cases long term chemotherapy is often needed to control the disease and prevent it from advancing.

How can Echinococcosis be prevented?

The best option for both people and pets is prevention when it comes to Echinococcosis.

Prevention can include: Regularly deworming of pets and livestock

Washing your hands after touching animals or gardening where eggs may be present in the soil

Washing any fruits and vegetables that may have been grown in infected soil

Pick up after your pets immediately to prevent contamination of the environment

Prevent your pets from consuming raw or deceased animal tissue that may be contaminated

Echinococcus is a Reportable Disease in Ontario

In Ontario, Veterinarians are required by law to report positive cases of Echinococcus multilocularis within one business day to their local Medical Officer of Health as noted under [R.R.O. 1990, Reg. 557: COMMUNICABLE DISEASES – GENERAL](#) under the [Health Protection and Promotion Act, R.S.O. 1990, c. H.7](#). If you suspect or have confirmation of a case of Echinococcus multilocularis please contact your local public health unit to report.

*For more information on Echinococcus please visit the CDC's Emerging Infectious Disease Journal Volume 25, Number 2 – February 2019 to review Echinococcus multilocularis Infection, Southern Ontario, Canada: https://wwwnc.cdc.gov/eid/article/25/2/18-0299_article

Kristina Cooper is a Registered Veterinary Technician (RVT) and proud member of the Ontario Association of Veterinary Technicians (OAVT). She has previously worked in both small animal practice and a municipal animal shelter. With a special interest in the relationship between animal and human health she is currently the Provincial Manager of the OAVT Public Health Rabies Response Program and an active One Health Initiative advocate.

Your One Health Partners and Contact Information

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194 Terrance Hill Street, Brantford, ON N3R 1G7

Tel : 519-753-4937 ext. 238 **Fax :** 519-753-2140

Email: Rabia.Tharani@bchu.org **Website:** www.bchu.org



12 Gilbertson Drive, PO BOX 570, Simcoe ON N3Y 4N5

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Fax: 905-825-8797 **Toll Free:** 1-866-442-5866 or Dial 311

Email: accesshalton@halton.ca **Website:** www.halton.ca



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