**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 through an overarching “One Health” lens. We also need to educate the public to view health issues using big-picture approaches, and not view health issues in isolation.

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¹CDC [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 on three occasions 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 and difficulty swallowing or 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 pm., and Public Health inspectors immediately began their investigation.

The dog owners live in an isolated rural setting, so there were 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 those exposed were veterinary staff who had previously been vaccinated; however, this, in turn, required that blood titres be acquired to further determine the appropriate course of treatment.

The dog is one of several family pets and livestock that had spent their entire lives at the same rural farm where they were 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 in our community.

The Niagara Public Health Unit subsequently released a report to the media, and participated in 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, and that 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, while 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 in December 2015, a total of 460 animals have tested positive with the strain in Ontario. This outbreak has affected multiple health units, including Hamilton, Halton, Brant, Wellington Dufferin Guelph, Niagara, Waterloo, and Haldiman-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? These are always possibilities, so it is wise to incorporate questions about potential rabies exposure during the examination of any animal brought to your clinic. Remember that animals can be infectious just prior to exhibiting symptoms. Some symptoms to consider are paralysis; abnormal gait; excess saliva or drool; respiratory distress; loss of appetite; biting at objects, itself or others; change in vocalization by constant meowing or inability to bark; and becoming either lethargic or increasingly aggressive. It is also best practice to wear gloves with all animals, where contact with saliva is possible.

Veterinarians are encouraged to consider rabies in the differential diagnosis for ill domestic animals. All veterinary professionals should conduct appropriate risk assessments, implement measures for infection prevention and control, and report suspected animal cases of rabies to their 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 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 emerging risk areas for black-legged ticks across the province. Estimated risk areas are locations where black-legged ticks have been identified, or are known to occur, and where humans have the potential to come into contact with infected ticks.
Keeping Your Pets Safe in Hot Weather

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

Because our pets have a decreased 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 bodies aren't able to cope with the external heat, leading to illness, organ failure and even death. A dog's normal body temperature ranges from 37.5-39°C; an increased body temperature of 41°C or more can lead to severe consequences, such as brain damage or death. Smaller pets can suffer from heat stroke if confined to small hot spaces, or left out in the sun for extended periods 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. Keep standing bowls of water in the shade to keep water cool, and replace stagnant water often.
Take outdoor walks during cooler times of the day, such as 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, take them out of the heat immediately.

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 lowering their body temperature with 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:
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 genus of tapeworm. It is a recently-discovered 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 two meters long. In contrast, Echinococcus is much smaller, measuring about seven 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, and other canids such as foxes, when they eat the meat of infected intermediate hosts like sheep, cattle, goats, horses and pigs containing 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 accidentally ingested by humans, and will form cysts in organ tissues, which can cause Cystic Echinococcosis (CE).

*Echinococcus multilocularis* is contracted by foxes primarily, but also by dogs, coyote, wolves and (rarely) cats, after they consume rodents which are the intermediate hosts, and 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 also be accidentally ingested by humans, and form tumours in organ tissue, causing Alveolar Echinococcosis (AE).

**Symptoms of Echinococcosis in pets**

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

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**Life cycle of Echinococcus multilocularis**

![Echinococcus Life Cycle Diagram](image)
Symptoms of Echinococcosis in people

Echinococcosis in people is a serious concern, because it can go undetected without apparent symptoms for many years.

*Echinococcus granulosus*, causing CE, may result in one or more fluid-filled cysts developing mainly in the lungs and liver, 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) start to affect the tissues they inhabit. Symptoms may include weakness, weight loss, loss of appetite, nausea, abdominal pain and neurological signs.

*Echinococcus multilocularis*, causing AE, usually results in one primary tumour, most likely occurring in the liver, but proliferating into surrounding tissue. Disease can take 5-15 years to develop, with symptoms occurring as the liver tissue is damaged. These tumours often present similar to cancer. AE is of grave concern in people, because it can result in 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 Echinococcosis or Alveolar Echinococcosis, treatment is not straightforward. Cysts resulting in cases of CE can be drained or surgically removed, which can be curative. Tumours resulting as a consequence of AE will require surgical removal; in some cases, long-term chemotherapy is 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, including:

- 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
- Picking up after your pets immediately to prevent contamination of the environment
- Preventing 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](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

## BRANT COUNTY HEALTH UNIT

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](http://www.bchu.org)

## Health and Social Services Haldimand and Norfolk

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

**Tel:** 519-426-6170 Ext.3271  
**Email:** kwesi.douglas@hnhs.ca  
**Website:** [www.hnhs.ca](http://www.hnhs.ca)

## Halton Region

1151 Bronte Rd, Oakville Ontario L6M3L1

**Fax:** 905-825-8797  
**Toll Free:** 1-866-442-5866 or Dial 311  
**Email:** accesshalton@halton.ca  
**Website:** [www.halton.ca](http://www.halton.ca)

## Hamilton

110 King St. W, 3rd floor, Hamilton ON, L8P 4V3

**Tel:** (905) 546-2424 x 3327  
**Fax:** (905) 546-2787  
**Email:** jane.murrell@hamilton.ca  
**Website:** [www.hamilton.ca](http://www.hamilton.ca)

## Niagara Region

1815 Sir Isaac Brock Way, Thorold L2V 0A2

**Phone:** 905-688-8248  
**Toll-Free:** 1-888-505-6074  
**Fax:** 905-641-4994  
**Email:** inspect@niagararegion.ca  
**Website:** [www.niagararegion.ca](http://www.niagararegion.ca)

## Public Health Wellington-Dufferin-Guelph

160 Chancellors Way, Guelph, ON N1G 0E1

**Tel** (519) 822-2715 ext 4753  
**Fax** (519) 823-4905  
**Website:** [www.wdgpublichealth.ca](http://www.wdgpublichealth.ca)