

# National Tick Awareness Month 2020 Webinar



## TOP 5 QUESTIONS

The Canadian Veterinary Medical Association (CVMA), in partnership with Merck Animal Health, hosted a live webinar as part of National Tick Awareness Month (NTAM), a client education initiative introduced in 2016.

During this webinar, **Dr. Robbin Lindsay** and **Dr. Katie Clow** provided an update on tick expansion in Canada, discussed changes in tick-borne disease risks over time, and explored the role of veterinarians in the One Health approach to tick control and disease prevention.

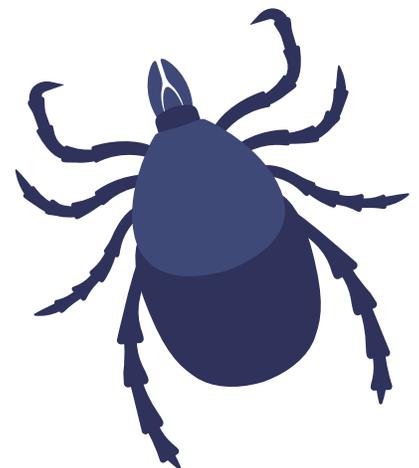
**Dr. Robbin Lindsay, MSc, PhD**  
National Microbiology Laboratory  
Public Health Agency of Canada

**Dr. Katie Clow, DVM, PhD**  
Assistant Professor, Department of Population Medicine  
Ontario Veterinary College

The recorded webinar can be found at  
<https://www.canadianveterinarians.net/practice-economics/practice-tools-national-tick-awareness-month>



Please see the **top 5 questions** from the webinar below:



## 1. WHEN IS THE BEST TIME TO TEST A DOG FOR TICK-BORNE DISEASE EXPOSURE AFTER YOU FIND A TICK?

The commonly used tests to assess for exposure to tick-borne pathogens detect antibodies. Therefore, **it is recommended to wait at least 3 to 4 weeks after you find a tick to conduct the blood test** as it takes time for antibody levels to increase in the body and be detectable.

**There are a few additional considerations with testing:**

- These tests will not differentiate acute versus chronic exposure. Conducting a baseline test at the time of the tick bite will determine if that animal has been previously exposed to any tick-borne pathogens. This however will not change the clinical approach and adds additional cost.
- Serological tests do not provide any predictive value as to whether the animal will show clinical signs and thus require treatment. They are just one tool to assist with your clinical approach.



For more information on serological tests for *Borrelia burgdorferi*, please see the ACVIM consensus update on Lyme borreliosis in dogs and cats, accessible here: <https://www.onlinelibrary.wiley.com/doi/full/10.1111/jvim.15085>.

Littman MP, Gerber B, Goldstein RE et al. ACVIM consensus update on Lyme borreliosis in dogs and cats. *J. Vet. Intern. Med.* 2018; 32:887-903.

## 2. TICK RISKS ARE CHANGING RAPIDLY IN MANY AREAS OF CANADA—WHEN SHOULD CHANGES TO TICK CONTROL RECOMMENDATIONS BE IMPLEMENTED TO RESPOND TO THE CHANGE?

There are two relatively recent studies on modelling or predicting the rate of spread of ticks. Interestingly, both studied the rate of change in the range of blacklegged ticks (*Ixodes scapularis*) primarily in eastern Canada and the predicted rate of spread in both studies was about 45 km per year.

The references to these studies are as follows:

Clow KM, Leighton PA, Ogden NH, et al. Northward range expansion of *Ixodes scapularis* evident over a short timescale in Ontario, Canada. *PLoS One.* 2017; 12(12):e0189393.

Leighton, PA, Koffi JK, Pelcat Y, Lindsay LR, & Ogden N. Predicting the speed of tick invasion: an empirical model of range expansion for the Lyme disease vector *Ixodes scapularis*. *J. Appl. Ecol.* 2012; 49: 457-464.

Tick risks are rapidly changing in many areas and it can be challenging to keep up with the current status! The Canadian Parasitology Expert Panel has just released new Canadian Guidelines for the management of parasites in dogs and cats. This is a great starting point for regional information and recommendations. When it comes to tick prevention across a country as large as Canada, one size certainly does not fit all!

Canadian Parasitology Expert Panel Guidelines (2019).  
Accessible at <https://research-groups.usask.ca/cpep/documents/cpep-booklet.pdf>

**Additionally, there are a number of other resources that provide up-to-date information on tick occurrence. These include:**

- **Provincial and regional public health organizations:** Many provinces conduct active surveillance for ticks and produce annual maps to highlight where tick risks are the greatest, usually in reference to *Ixodes scapularis* or *Ixodes pacificus*.



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- **eTick** ([www.eticck.ca](http://www.eticck.ca)): This is an online platform for photo submissions of tick findings (from humans and pets). Passive submission of ticks of course relies on people actually submitting, so there are some biases in these data. But the maps do provide you with additional information to determine what may be going on in your area.

- **Pet Tick Tracker** ([www.petsandticks.com](http://www.petsandticks.com)): This site has extensive information on ticks in Canada and has also produced maps from submissions of ticks from pets across Canada. Again, just like eTick, there are weaknesses in this data, but the maps can be a helpful resource for you and your clients.

When determining the appropriate prevention protocol for any pet, **it is important to consider the tick species in the area and their seasonal activity, as well as that pet's lifestyle including travel** (both local and long-distance).

### 3. WHAT TICK SURVEILLANCE PROGRAMS ARE AVAILABLE TO THE VETERINARY COMMUNITY TO HELP IDENTIFY TICKS IN A GIVEN AREA AND/OR THE DISEASES THEY CARRY?

The tick surveillance programs available to the veterinary community differ based on the province. Some regional or provincial public health organizations may still accept ticks from pets. It is a good idea to reach out to your local public health authority to determine if this option still exists. Additionally, some universities also run regional, provincial or national programs. Many of these are only funded for a specified time period and will most likely be advertised through provincial veterinary organizations and social media.

**Nationally, there are a few options:**

- **eTick.ca** is an online platform run out of Bishop's University with collaborators in public health and research institutions across the country. Currently, [eticck.ca](http://eticck.ca) is active in New Brunswick, Quebec and Ontario and will be expanding to include Newfoundland and Labrador, Nova Scotia and Saskatchewan in spring 2020. Any person can submit a photo of a tick (from a human, pet or the environment) and receive an identification and relevant information on the tick species within 48 hours.
- **Pet Tick Tracker** ([www.petsandticks.com](http://www.petsandticks.com)) is another online platform run out of the University of Guelph, with collaborators at the University of Prince Edward Island. Submissions of ticks from pets can be made online and if a photo is included, an identification will be provided.

Testing of ticks submitted through passive surveillance activities has dramatically declined over the past years. The number of submissions now overwhelms laboratory capacity and effort has been placed on testing of ticks collected via active surveillance (mostly tick dragging). **It is important to note that tick testing is not a useful part of clinical diagnosis for an individual animal.** There are many reasons for this and if you are interested in learning more, you can read the following blog post, accessible here:

<https://www.petsandticks.com/post/frequently-asked-questions>. Tick testing conducted as part of surveillance efforts is useful to determine the overall level of risk in your area and thus direct prevention efforts.



#### 4. *HAEMAPHYSALIS LONGICORNIS*, THE LONGHORNED TICK, IS AN INVASIVE SPECIES FOUND IN MANY AREAS OF THE WORLD, INCLUDING RECENTLY THE UNITED STATES. HAS THE LONGHORNED TICK BEEN FOUND ANYWHERE IN CANADA AT THIS POINT?

Fortunately, Asian longhorned ticks have not yet been identified on hosts or in the environment in Canada. Because of the recent establishment of this species in parts of eastern USA, this situation might change in the future and parts of Canada are climatically suitable (see Rochlin 2019) and have the hosts that would support populations of this invasive tick species should they be introduced. **It is important that Canadians remain vigilant and report** (to your vet or local public health authority) **when they observe ticks they do not recognize or are atypical, as these may be Asian longhorned ticks.**

Rochlin I. Modeling the Asian longhorned tick (Acari: Ixodidae) suitable habitat in North America. *J Med Entomol.* 2019;56(2):384–391. doi:10.1093/jme/tjy210



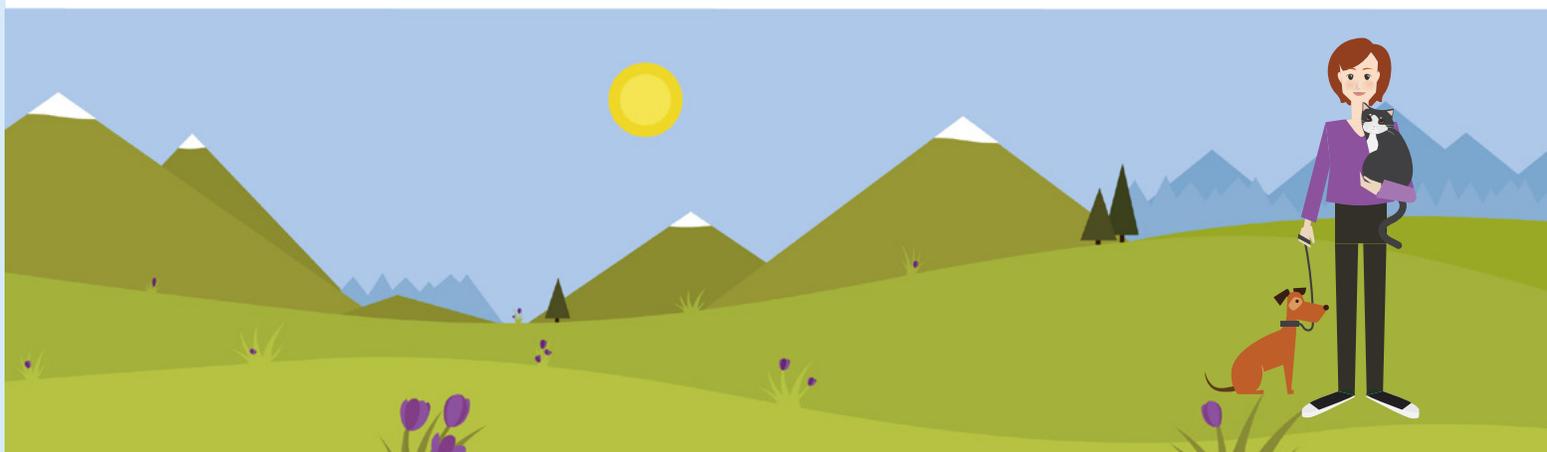
#### 5. IN CANADA, THE MOST COMMON TICKS SUBMITTED FROM DOGS AND CATS ARE *IXODES SCAPULARIS* AND *DERMACENTOR VARIABILIS*, WHICH ARE ESTABLISHED IN MANY REGIONS. DO DOGS AND CATS LIVING IN LOW RISK/NON-ESTABLISHED AREAS STILL REQUIRE TICK CONTROL?

This is a great question. **The first starting point would be to review the Canadian Parasitology Expert Panel Guidelines.**

Canadian Parasitology Expert Panel Guidelines (2019).  
Accessible at <https://research-groups.usask.ca/cpep/documents/cpep-booklet.pdf>

It is important to note that **although ticks may not be established in a particular region, the risk of adventitial tick introduction still exists.** Ticks are excellent at hitch hiking on migratory birds and other mammals, which can introduce them to many areas where they are not typically found and may not be able to survive long term. In a study conducted by Ogden and colleagues (2008), they estimated the number of ticks introduced on migratory birds to be between 50 and 175 million each year! As tick populations grow in both the United States and Canada, this may increase the number of adventitial ticks we see.

Ogden NG, Lindsay LR, Hanincoa K et al. Role of migratory birds in introduction and range expansion of *Ixodes scapularis* ticks and of *Borrelia burgdorferi* and *Anaplasma phagocytophilum* in Canada. *Appl. Environ. Micro.* 2008;74:1780-1790.



**THE VETERINARY COMMUNITY IS IN A UNIQUE POSITION TO TAKE  
A LEADERSHIP ROLE IN THE FIGHT AGAINST TICKS.**



We invite you and your veterinary team to watch the National Tick Awareness Month launch webinars, that are available for online streaming on demand.

To view the presentation recordings, please go to

**[www.canadianveterinarians.net](http://www.canadianveterinarians.net)**

<https://www.canadianveterinarians.net/practice-economics/practice-tools-national-tick-awareness-month>

**NATIONAL TICK AWARENESS MONTH** is an initiative of the Canadian Veterinary Medical Association, in partnership with Merck Animal Health.



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