

Updated April 2022

### Summary:

- Wear long pants
- Seal/tape up the bottom
- Use a good Deet bug spray on your skin
- Treat your clothes with a permethrin solution
- **Tick Check – Tick Check – Tick Check (can't say this enough)**
- Get outside and have fun

Between West Nile, Poison Ivy, Wild Parsnip, Giant Hogweed and Ticks, yes, getting outside has risks (not to mention getting hit by a bus). All these risks (lets skip the bus thing), are not unique to orienteering in the woods but apply to city parks, bike paths, your back yard - and all are manageable. This article is focussed on Ticks – and primarily the blacklegged (or deer tick) that can carry Lyme disease. Sadly, there is the potential for other tick-borne diseases, but Lyme is the main concern in our area.

Tick season in the Ottawa Area starts earlier than some might think. In Mid April 2022 Mountain Bike Riders in the area are reporting their dogs picking up 10s of ticks per outing (see this 2016 [CBC piece](#) that discusses how early the season can be. I thought I would pass on some basic information and one option I started to use a couple of years ago to reduce the risk. A disclaimer: I'm not an expert but there is a great deal of information available from established and respectable sites - [TickEncounter Resource Center](#) being one that I will reference a few times as it has a broad selection of facts and discussions on ticks, Lyme disease and other related issues and the [Ottawa Public Health](#) site has been substantially updated over the last couple of years.

In 2016 Ottawa was not considered a high risk area for Lyme disease but, by 2018, things had changed dramatically as shown on this [2021 map](#) from Ontario Health. Since 2018 the risk in this area has been rated high due to both the number of ticks and the percentage of those testing positive for Lyme disease. It is safe to say that ticks are just becoming a fact of life if you want to go outdoors in the woods or for that matter, city parks. In much of the U.S and many parts of Europe the whole problem is shrugged off with a “so what” as they have been dealing with ticks and Lyme disease (among other tick borne diseases) for years. There are many simple ways to reduce the risk of tick bites and, if bitten, reduce the likelihood of Lyme disease – so why not take precautions?

This [Ontario Health site](#) provides some good information on identification and treatment for Lyme disease and the [Ottawa Public Health](#) site has been substantially updated with excellent content including this [two page summary](#) and this section on [protecting yourself](#). In general, tick testing for Lyme disease is only done with ticks collect by the local public health unit using a method called tick dragging. It is not done to diagnose Lyme disease in humans (so don't expect your doctor to send in a tick you have found for the purpose of diagnosing Lyme).

What do you do if you find a tick latched on? Well, obviously you remove it (which I talked about further down) but the most common question is “do I seek treatment?”. I'm not providing medical advice so please talk to your doctor if you have any doubts, but here is the statement from [Ottawa Public Health](#):

*The prevalence in Ottawa of Borrelia burgdorferi (the agent of Lyme disease) in local Ixodes scapularis (the blacklegged tick vector) meets the threshold for Ottawa Public Health (OPH) to recommend the consideration of post-exposure prophylaxis for persons on whom a blacklegged tick was feeding if ALL of the following criteria are met:*

- *the tick is fully or partially engorged or has been attached for 24 or more hours and*
- *it has been less than or equal to 72 hours since the tick has been removed and*
- *doxycycline is not contraindicated.*

*Individuals who do not meet all of the above criteria for post-exposure prophylaxis should be counselled on the signs and symptoms of early Lyme disease and should be monitored for 32 days for an expanding skin lesion at the*

site of the tick bite (*erythema migrans*) or systemic symptoms and signs of an infectious illness with or without fever.

More information from the [Ottawa Public Health](#) site that notes the very low probability of infection if a tick has been attached less than 24 hours (did I mention **'Tick Check'**?):

*Lyme disease is an infection caused by Borrelia burgdorferi, a bacteria transmitted through the bite of an infected blacklegged tick (Ixodes scapularis). Most humans are infected through the bite of an immature tick (nymph) during the spring, summer and fall months.*

*Risk of transmission of Borrelia burgdorferi from tick to human increases with the duration of tick attachment. When ticks acquired in high-risk areas have been attached less than approximately 24 hours, the probability of infection is low enough not to warrant use of prophylaxis. Nevertheless, in this situation patients should be counselled to observe for rash—especially an expanding red rash at the site of the initial tick bite—or other symptoms of Lyme disease for 32 days, and return for medical assessment should these arise. Partial or full engorgement of nymph and adult ticks would suggest the tick has been feeding longer than 24 hours, and should trigger the recommendation for prophylaxis for those eligible. The general principles of antibiotic stewardship should be applied and an informed consent discussion should include the risks of antibiotic therapy to the individual.*

Ticks do not jump, fly or drop down from trees so they will hitch a ride on you mostly from the grass and low brush/branches, from where they will start to crawl up until they find a nice warm spot to settle in. According to the [CDC](#), a tick, once it finds a good spot, will take from 10 minutes to 2 hours to start to feed. You will not feel their bite!

If you take away only one thing away from all this I hope it is that you should be to do a **'Tick Check'** as soon as you get home from any outdoor activity as part of a normal post-event procedure – and keep in mind that the larva and nymph stages of the ticks are very very small so look carefully!



Left: 3 nymphs of the blacklegged tick in different states of feeding. Right: Adult female blacklegged tick at various stages of feeding. Photos Government of Canada

Here are some more interesting links:

[Ten Top Things you should know](#) – Including the fact that ticks can be active even in cold weather – darn!

How not to remove a tick - Forget about burning matches, cigarettes and other concoctions. The ticks we are most concerned about (Blacklegged/deer ticks) actually glue themselves to the skin and have long mouthparts – they cannot get out fast even if they want. In addition, any shock will cause them to regurgitate into you (yuck) increasing the risk of picking up a disease.

[How to remove a tick](#) - The best method is pointy tweezers or a purpose designed device like the [TickKey](#) (and maybe some alcohol at the same time - to disinfect the site). I would suggest you purchase a few TickKeys (or similar devices) and include one in your glove compartment along with pack, first aid kit, medicine cabinet .....

## Treated Clothing

You might have noticed in the link to the [TickEncounter Resource Center](#) a mention of tick proof clothing. In my past Army life, we often used clothes pre-treated with Permethrin to prevent mosquitoes, ticks and other nasty bugs from biting. Pre-treated clothing is available from many Hiking and Outdoor stores but is expensive (although will last through many, many washings). An alternative is to treat your own clothes by either soaking or spraying with a Permethrin solution. An article from [SectionHiker](#) describes using [Sawyer Permethrin Clothing Insect Repellent](#) product to treat your outerwear. This particular product is .5% Permethrin and can be used by spraying directly on the clothes or using a soaking method – and note that there are other manufactures of similar products (with more showing up all the time). First thing you may notice is that this product will not treat a lot of clothes and is expensive. It can be much cheaper to purchase more concentrated Permethrin and dilute it to the required .5% when needed, although there is a complication with this as it can be hard to find in Canada so may incur a large shipping cost. Although this more concentrated mixture is approved in the US, it currently has limited approval in Canada. One product example I have used in the past is Martin Permethrin 10% as well as the Martin 13.3% product. For the 10% example, you would dilute it 19 to 1 prior to treating your clothes so the bottle will last a long time compared to the .5% spray products (as a matter of interest much of the military clothing is treated with .83%). Farm supply stores may also carry this more concentrated stuff but make sure it is water based not oil based (which can be really messy to clean up). Here is a good piece on how to do the “[soak method](#)”. Regardless of how you do this, the general feedback is that you will get about 6 washings out of the treatment until it will need to be reapplied (it is the agitation of the washing machine that “knocks” the molecules from the fabric). Hand washing with less detergent will likely extend the time between treatments. I keep the left over mixture from the soaking in a spray bottle to spray treat additional clothing or items such as gaiters. As a side note, if you or someone you know is heading down south, that’s a good opportunity to pick up the concentrated stuff!

Before you worry that you will go around smelling like insecticide as your clothes melt away on you, Permethrin is odorless after it dries and will not harm fabrics (you can’t say that about DEET). It is a contact insecticide that will kill the ticks as they crawl up your pant leg looking for that nice warm spot to dig in. Bonus – this will also prevent bites through your clothes from other bugs.

Permethrin safety? You will need to decide for yourself on this but here is an article from the [United States Environmental Protection Agency](#) and another from the [National Pesticide Information Center](#). Both approve the use of pretreated clothes as well as specific treatment products. For the same reasons that Permethrin does not make a good skin insect repellent, it also does not cause any skin irritation or known risk when applied to clothing (one thing to note is that it is dangerous to cats in the liquid form). In the end, you will need to weigh any concerns you may have with treating your clothes with Permethrin against the growing risk of Lyme disease in the area and make your own decision.

One last thing – do you wonder why there is no vaccine for Lyme disease? There is – but it is no longer produced because of unsubstantiated (and seemingly disproved) side effects, coupled with a zealous media campaign by anti-vaccination groups, that caused the maker to pull it. Here is a link to a [2012 CTV article](#).

Oh, and **Tick Check – Tick Check – Tick Check**

Michael Raz

PHO Lyme disease map [Ontario Lyme Disease Risk Areas Map 2021 \(publichealthontario.ca\)](#)  
Canada [Lyme disease: Symptoms and treatment - Canada.ca](#)  
Ontario [Lyme disease | ontario.ca](#)