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Ticks and Risk Communication in Interpretation

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Being prepared before heading into the field seems like a no-brainer for nature interpreters. From packing water bottles to knowing how to read a map, having the right gear and knowledge reduces the risk of injury in the outdoors. When leading a group on an interpretive program, nature interpreters bear the added responsibility of communicating risks about the outdoors to an audience. One of the more challenging conversations an interpreter can have with program participants involves discussing ticks and Lyme disease. How can you communicate safe practices surrounding ticks, while still fostering a love for the outdoors?



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Interpreters seeking to tackle this question should first embrace Sun Tzu's teachings and 'know thine enemy'. The topic of ticks is rife with myths: from the notion that ticks should be removed with a lit match, to the idea that they attack by dropping from above onto unsuspecting victims. There are also many different tick species, each with their own environmental needs and

associated risks. Don't miss out on delivering crucial information to your audience by talking about the wrong tick, in the wrong environment, at the wrong time of year.

"There's so much misinformation about ticks and about Lyme disease," says Dr. Katie Clow, Assistant Professor in the Department of of Population Medicine with the Ontario Veterinary College, University of Guelph. "It's really good to get out there and provide people with evidence-based information."

Two types of ticks can spread Lyme disease in Canada: the blacklegged tick and the western blacklegged tick. Dr. Clow says the hotspots for blacklegged ticks in Ontario are along the north shores of Lake Erie and Lake Ontario, in eastern Ontario down into the Ottawa valley, in the Rouge Valley and Hamilton and Niagara area, around Pinery Provincial Park near Grand Bend, and around the town of Penetanguishene. Not every blacklegged tick carries Lyme disease; however, the Government of Ontario's online primer for Lyme disease notes, "while the probability is low, it is possible to find an infected tick almost anywhere in Ontario." And thanks to climate change, the blacklegged tick's range is expanding. Interpreters that lead programs in forest habitats need to be aware that the blacklegged tick is a forest dweller. The blacklegged tick "has high requirements for humid environments, so it spends most of its time in the leaf litter of the forest, and only really comes out when it's questing," says Dr. Clow. Questing ticks crawl to the tip of leaves, stems, and branches and wait for a host to pass by. "If we're thinking meadows, blacklegged ticks aren't going to survive out there for very long because it's far too dry." While it's possible for a blacklegged tick to find their way into a grassy field, "they're not thriving in those areas," says Dr. Clow.

Understanding tick biology can also help interpreters provide accurate information to an audience about tick risk management. Ticks need to feed during three of their life stages: the larval, nymph, and adult stages. Dr. Clow says larvae stay close to the ground and target small mammals and ground-dwelling birds. Ticks pick up Lyme disease by feeding on infected wildlife, so "if we're thinking about Lyme disease, that stage doesn't yet carry it because they haven't had the chance to pick it up from a wildlife host," says Dr Clow.

The nymph stage quests a bit higher and is active in early summer. "This is what a lot of medical professionals say is the highest risk time," says Dr. Clow, because nymphs are about the size of a sesame seed and can be challenging to spot. "In the spring, and particularly in the fall, that's the heyday for adult ticks," says Dr. Clow. Adult ticks are hungry, reproducing, and preparing for winter. They can crawl onto shrubs and bushes to find food, but Dr. Clow clarifies that they aren't going to be scaling 5-foot tall trees and dropping down from above. "They don't have overly high mobility."

"The main thing I try to convey is that if we're worried about the blacklegged tick, where we're going to encounter them is out in the woods and on brushy things where they're waiting for you. They're not going to come and get you," says Dr. Clow. So interpreters should encourage their groups to stay on marked, well-groomed trails, and cover up in long pants and long shirts. Dr. Clow says the most important method to protect from ticks after being outdoors is to do a thorough tick check. Make sure "you're looking around the hairline, the armpit, the warm moist places of your body that ticks like to hide." Interpreters should instruct program participants to perform a tick check after being outside. They can also suggest that parents help children with a tick check when the kids are taking their nightly bath and putting on pyjamas.

For Dr. Ryan Howard, Director of Director of Research, Risk, and Innovation with Alive Outdoors, tick checks are one part of a larger conversation that Alive Outdoor's instructors have with students about proper hygiene in the field. "We've really tried to simplify what it means to talk about ticks and check for ticks," says Dr. Howard. Alive Outdoors works with several thousand youths in a season, but conversations about ticks happen between instructors and small groups of students to maintain a personal connection throughout the talk. Tick talks are adjusted to fit the age of the students. Keep it simple for young students: "Hey we've just been out walking through the woods'," suggests Dr. Howard. "I want you all to take a moment, right now, just check your legs, check your arms. Look for anything that wasn't there when you started. Something that's not normal. Black dot, brown dot. Any bugs." says Dr. Howard. For older students, explain what ticks are and why it's important to do a tick check.

"We have two choices," Dr. Howard sums up. "One, we could just not go out there. And two, we can go out there and be well-informed, and do our best to try and reduce the likelihood of students getting exposed to ticks, but also if they do, dealing with them appropriately."

This sentiment is echoed by Dr. Clow. "I have had parents come up to me and they're like, 'Why would I ever take my kids outside?'" Her response is, "Because the outside has so many good health benefits! My message is usually try to empower people so that they don't need to be scared go outside."

Sources:

Dr. Ryan Howard

Director of Research, Risk, and Innovation - Alive Outdoors

Dr. Katie Clow - Assistant Professor, Department of of Population Medicine, Ontario

Veterinary College, University of Guelph

Ontario Government - Lyme Disease: <https://www.ontario.ca/page/lymedisease#section-1>

<http://www.gracehunter.ca>

Grace grew up on the shores of Georgian Bay in Ontario, Canada. Throughout her science communication career, she has worked across Canada and developed and delivered educational public programs and events for a number of organizations including aquariums, museums, and nature reserves. She also works as a freelance environmental science writer.

She is passionate about science communication and connecting the public to stories about science and the environment. You can connect with her on Twitter: @GraceC_Hunter

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