



The Zika virus made worldwide headlines in 2016, especially while Brazil - the epicentre of the outbreak - was hosting the Olympic Games. Then summer ended, the mosquitoes that carried the virus left the scene and Zika became old news.

But summer is upon us again. While Zika headlines may not rival those of last year, the disease itself has survived the winter and has even spread northward. And, if a new Canadian study is any indication, it's not just pregnant women who need to worry about it.

Zika spreads to people through the bite of an infected mosquito and can also be transferred through sexual contact. Most affected people experience only mild, flu-like symptoms, and some may not even realize that they have the virus. Pregnant

women face the greatest danger from Zika, which can cause microcephaly (underdeveloped head and brain) in their newborns.

This doesn't mean that Canadians past the child-bearing years can ignore the threat. In a recent study of 41 Canadian travellers who acquired Zika in the Americas, symptoms were all over the map: along with the expected aches and rashes, two subjects developed a complication called Guillain-Barré syndrome (a potentially life-threatening condition causing paralysis) and one got viral meningitis.

"We were surprised to find these complications in such a small group of travellers, given their rarity in other travel-related illnesses," says infectious diseases specialist Andrea Boggild, the study's lead investigator and a professor at the University

of Toronto. Indeed, the study also assessed 41 former dengue patients and didn't find any complications in this group. "Our results reinforce the need for continued vigilance."

Brian Goldman, the Toronto emergency physician who hosts the popular CBC radio show *White Coat, Black Art*, couldn't agree more. "We think of dengue as a serious illness and Zika as mild but, from what I've seen, it's the other way around," he says. What's more, "The risk of contracting Zika - and getting complications - may be greater in older people because immune systems weaken as people age."

In Dr. Goldman's view, "Canadians may not be as well prepared as they should be, given the shifting course of the outbreak." Last year, Zika marched through Central America and the Caribbean. This year has seen



local outbreaks as far north as Florida and Texas. (Other states have also reported Zika cases, but transmission occurred outside of the country.)

Why would Zika settle in new parts of the world? “Researchers believe the disease spreads most readily to the warm places where *Aedes aegypti*, the mosquito thought to carry the virus, can thrive,” says Dr. Goldman. This may explain why Zika has found its way to several parts of Southeast Asia.

Which raises the question: Could Zika ever migrate to Canada? Fiona Hunter, a biology professor at Brock University in St. Catharines, Ont., has devoted months of lab time to answering that question. “If you listen to the news, you hear over and over that we’re safe here because we don’t have the *Aedes aegypti* mosquito,” she says. But that’s not quite true: Last year, both *Aedes aegypti* and *Aedes albopictus* (another good Zika carrier) were collected in Southwest Ontario. “It’s possible the species have overwintered and their populations may increase,” she explains. This doesn’t mean that an outbreak is on the way: “The mosquitoes would have to feed on someone who has Zika virus and then feed on a local human about 10 days later to infect them.”

But there’s another threat to consider: What if different types of mosquitoes could carry the virus? At the end of last mosquito season, Dr. Hunter put this idea to the test. Unfortunately, “it was a very dry season and we couldn’t collect as many mosquito species as hoped,” she recalls. Only one of the species which she tested had a modest transmission success, around 2%. “This bodes well for us Canadians, though our sample sizes were small and we didn’t test every local species.”

For the time being, Dr. Hunter aligns with Dr. Goldman’s cautious stance. “We’re not as safe as some would think,” she says, noting that “we have witnessed the northward expansion of a lot of different fly species, including different types of mosquitoes.” On the plus side, Dr. Boggild maintains that “the risk of acquiring Zika in the Caribbean is lower than it was last year.”

So what does all of this mean for Canadians travelling to Zika-prone areas? Assuming that you’re not pregnant, “just use standard precautions against insects when you’re outdoors,” says Dr. Boggild [see sidebar]. Or put the picnic on hold and splurge on a Michelin-starred restaurant instead.



An ounce of prevention...

There’s no vaccine for Zika yet (though scientists are working on it). In the meantime, here’s how to protect yourself when travelling to a Zika hot spot:

- ▶ Wear light-coloured, long-sleeved, loose-fitting clothing and a hat.
- ▶ Use insect repellent on exposed skin.
- ▶ Apply a permethrin insecticide to clothing and travel gear for greater protection.
- ▶ Use outdoor netting for events such as barbecues and picnics, when biting activity may be intense.
- ▶ Protect living areas from mosquito entry: stay in enclosed or well-screened spaces; if this is not possible, use a bed net.
- ▶ Avoid sexual intercourse or use condoms during the trip.